Software Integration From An Antitrust Perspective

How should technical tying claims be analysed?

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Abstract

This thesis argues that the current EU approach toward regulating unilateral conduct by dominant firms is not firmly anchored to a unified economic theory; thus without a strong emphasis on the welfare of the consumers and the ability to determine whether a particular conduct by a dominant firm is in fact harmful or whether it offered efficiencies for consumers. Nor does it provide adequate flexibility to be applied to certain practices such as technical integration in the software industry, which differs considerably from traditional markets and has unique features that necessitate special consideration.

This approach can negatively impact firms' incentives and the capability to innovate, and it brings new problems for firms operating in such markets by not providing them with legal certainty to check whether their technical integration products infringe competition law. In addition, the current approach can lead to a condemnation of procompetitive practice in such markets, which are more prone to enforcement errors.

There is a strong likelihood that such a perspective will remain entrenched as long as the traditional metrics in competition law, such as price and output, are taken as the essential methods for assessing the competition process in fast-moving innovation markets. Therefore, this thesis argues in favour of the adoption of a consistent framework for assessing an exclusionary tying claim and where the primary objective of the competition rules is consumer welfare, with access to modern microeconomic insights and economic tools.

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Dedication

This thesis is dedicated to the memory of my beloved sister, Samar Abdeen (1973–2018).

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I am grateful to my family members and friends who have supported me along this journey. I am also grateful for my faith, which has given me the strength and determination to complete this research.

Author’s Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

CHAPTER 1: INTRODUCTION

1.1 Research background

Over the last two decades, the EU has brought about drastic revisions in competition rules to move away from the previous form-based approach that condemned practices without considering the economic aspects of the given practice, and its effects, and moved to a more economic-based approach that assesses practices according to their effects and where consumer welfare is posited as a central goal.[1]

Through this process, Article 102 TFEU (ex Article 82 TEC) was the last major component of competition law to be reformed.[2] The aim was to provide an economic foundation to Article 102 with a strong emphasis on the welfare of the consumers and effective distribution of resources to determine whether a particular conduct by a dominant firm was in fact harmful or whether it offered efficiencies for consumers.[3] Particularly, an effects-based approach that, is hoped, would contribute to international convergence across the Atlantic, improving long-run dynamic efficiency and growth.[4] In addition, to accelerate the modernisation of EU industry, the EU Commission has developed various policies to speed up the broad commercialization of innovation and engages in many activities that support innovation in the EU.[5]

The overall contribution by the Commission has been generally applauded for incorporating economic theory, but debates around the appropriate enforcement approach under Article 102 TFEU have continued.

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1 David J Gerber, 'Two Forms of Modernisation in European Competition Law' (2008) Fordham International Law Journal 1235.

2 See EAGCP, An Economic Approach to Article 82 (Report of the Economic Advisory Group for Competition Policy for the European Commission, DG Competition, Brussels, 2005), DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses (Brussels, December 2005), Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7.

3 Wolfgang Wurmnest, 'The Reform of Article 82 EC in the Light of the "Economic Approach' in Mark-Oliver MacKenrodt, Beatriz Conde Gallego and Stefan Enchelmaier (eds), Abuse of Dominant Position: New Interpretation, New Enforcement Mechanisms? (Springer-Verlag Berlin and Heidelberg 2008) 2.

4 Mattias Ganslandt, 'New Rules for Dominant Firms in Europe' (Centre for European Law and Economics: The Research Institute of Industrial Economics, Policy Paper No 2, 2006). See Renato Nazzini, 'The Foundations of European Union Competition Law: The Objective and Principles of Article 102 (OUP 2011): Dynamic efficiency exists when introducing new production technology that increases productive efficiency.

5 EU Commission, innovation policies, https://ec.europa.eu/growth/industry/innovation/policy_en

For example, the assessment of unilateral conduct by dominant firms in high technology markets, which raise problematic considerations and a multiplicity of interacting factors, such as, market realities, business methods, organizational structures and a paradoxical interface between intellectual property rights and competition law.[6]

It is argued that the EU Commission's modernised approach has barely encapsulated an economic approach with a consumer welfare objective. Instead, the new effects-based approach bears great similarity to the form-based approach. A competition policy vis-à-vis Article 102 could be influenced by a structuralist approach focusing on market power that may lead the EU to pursue a concentrated market structure independently of economic efficiency and investments in technology.[7]

With recent developments in the decisional practice under Article 102, it is suggested that the new static effects-based approach is still problematic in high technology markets; it has been ill suited to weighing the procompetitive and anticompetitive effects of the unilateral conducts in fast-moving innovation markets, which are more prone to enforcement error than other markets.[8] In this scenario, competition enforcers face a difficult task in fast-moving innovation markets when assessing an exclusionary unilateral conduct under Article 102 TFEU, which a dominant firm has carried out in a subtle way such as technical tying practice, which occurs when two products are linked technically such that it is physically impossible to separate them.[9] The technical integration of products is a common strategy by dominant firms in high technology markets. For example, the software market promotes products that

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6 Cento G Veljanovski, 'Competition Law Issues in the Computer Industry: An Economic Perspective' (2005) 3 Law and Justice Journal 3.

7 Philip Lowe, 'Consumer Welfare and Efficiency–New Guiding Principles of Competition Policy?' (Speech at the 13th International Conference on Competition and 14th European Competition Day, Munich, 2007) 6.

8 See International Competition Network: The Unilateral Conduct Working Group, Workbook Chapter 1: the objectives and principles of unilateral conduct laws, Presented at the 11th Annual ICN Conference Rio de Janeiro, Brazil April 2012, 13
http://www.internationalcompetitionnetwork.org/uploads/library/doc827.pdf
Errors in enforcement process consist of either over-enforcement, where pro-competitive practices condemned (Type I-errors: false positives) or under-enforcement, where finding anti-competitive practices as being in compliance with the laws (Type II-errors: false negatives)

9 Kai-Uwe Kühn, Robert Stillman and Cristina Caffarra, 'Economic Theories of Bundling and their Policy Implications in Abuse Cases: An Assessment in Light of the Microsoft Case' (CEPR Discussion Paper No 4756, November 2004); see Einer Elhauge and Damien Geradin, Global Competition Law and Economics (2nd edn, Hart Publishing 2011) 562: 'tying is defined as the practice of selling one product (the tying product) conditional on the purchase of another product (the tied product). Technical tying occurs. Classical tying involves contractual ties between normal products engaged in traditional markets'.

have been developed through innovative research and large investment, to benefit consumers in a way that does not usually prevent other competitors from entering the market.

Practically, neither EU legal acts, established case law, nor other sources of soft law have provided sufficient guidelines to dominant undertakings in high technology markets with legal certainty, to check whether their technical integration products infringe competition law. The EU approach does not distinguish adequately between contractual tying that is common in traditional markets and technical tying that is common in high technology markets; both practices are subject to the same static analysis without adequate consideration for the nature or the function of the products.

Therefore, it is suggested that it is counterfactual to depend on static assessment tools in establishing a technical tying abuse in high technology markets, since the traditional assessment tools were created to regulate tying in the traditional markets. The traditional markets competition takes place primarily through price or output and focuses mainly on short-term consumer welfare. These traditional assessment tools are not sufficiently flexible to take account of technical tying practices that involve integrating products of different natures, neither are they adequate in considering the special economics of high technology markets, where the competition process is not merely based on price and output, but on the high rate of innovation.

These static rules will not only deliver incorrect results if applied unaltered to two-sided markets such as software markets, but they may also cause harm to consumers and hinder innovation due to the over-interventionist nature of the approach taken by the competition authorities, in markets that are not fully understood within the law. Therefore, this failure leads to the application of tying law to product-design decisions being an unresolved area of competition law.[10] There are good reasons to reopen the debate into the regulation of the unilateral conducts under Article 102, and in particular, the EU approach toward technical tying practices in high technology markets.

10 David A Heinert, 'Assessing Tying Claims in the Context of Software Integration: A Suggested Framework for Applying the Rule of Reason Analysis' (2005) The University of Chicago Law Review (Symposium: Antitrust) 123.

1.2 Research motivation

Although the European Commission recognises the need for an innovation-friendly approach, which accommodates the particularities of fast innovation markets and also recognises that it must remove the obstacles in investments to stimulate economic growth and to compete on a global scale, the Commission has been reluctant to alter its policy in a way that strives to raise the level of static competition in the market. The European economic policy tends to limit the incentives and capacities to invest in new technologies and in fixed assets that incorporate those technologies.[11]

The Microsoft case is an example of when the EU approach under Article 102 TFEU toward technical tying in practice is an area where there is a divergence between what the law is, as set out in the case law, and the consensus in the antitrust community on what the law should be in fast-moving innovation markets.[12] The case against Microsoft[13] with regard to technical tying provides an ideal starting point towards analyzing the EU approach under Article 102 in high technology markets. The competence and the adequacy of the competition rules toward technical integration first emerged in the *Microsoft* case; it was the first EU legal trial in the digital age wherein the practicality of competition procedures and norms were examined, and the first case concerned with technical tying. It set a remarkable precedent, in which other competitors in the market combined with political pressure exploited the competition rules to attack an aggressive player.[14] The European Commission concluded that Microsoft had violated Article 102 TFEU abusing its dominant

11 Jacques Pelkmans and Andrea Renda, 'Does EU regulation hinder or stimulate innovation?' (2014) Centre for European Policy Studies (CEPS special report 96) 2.

See The European Commission, priorities: Jobs, growth and investment, https://ec.europa.eu/Commission/priorities/jobs-growth-and-investment_en

See Stephane Ciriani and Marc Lebourges, 'The Role of Market Power in Economic Growth: An Analysis of the Differences between EU and US Competition Policy Theory, Practice and Outcomes' (2016) European Journal of Government and Economics 5: 'The EU's record in producing fast-growing high-tech businesses is poor, certainly compared with the US, but also increasingly with Asia. Since the mid-1990s, the economies of the EU Member States have been in relative decline compared with the United States (US), as Europe continues to lag behind the US and Japan in most industries. In the period 2000–2010, only four of the world's 50 largest IT companies by revenue were European'.

12 Philip Marsden, Handbook of Research in Trans-Atlantic Antitrust (Edward Elgar Publishing Limited 2006).

13 *Microsoft v Commission* (Case-COMP/C-3/37.792) Commission Decision [2004] 4 CMLR 965; Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11.

14 Richard B McKenzie, Trust on Trial: How the Microsoft Case is Reframing the Rules of Competition (Perseus Books 2000) 21.

position in the software market by tying its Windows operating system with its proprietary Media Player, which is software for downloading and playing audio/video content.[15] Thus they found that the best remedy was to untie the Windows operating system and Windows Media Player by removing part of the software code from Windows.[16] Such an important case required the competition authorities to predict the long-term effects of Microsoft's practices, including the outcome of the case and the remedies on innovation in high-technology markets.[17]

1.3 Research aims

This thesis aims to demonstrate the level of legal certainty as reflected in the European post-modernisation legal framework and enforcement practice with regard to the technical tying in practice in the software market, a fast-moving innovation market.[18] This is necessary to provide the foundations to justify the need for a new approach to clarify how technical tying claims under Article 102 TFEU can be properly analysed in fast-moving innovation markets.[19] The main focus is on the EU approach under Article 102 as the key provision in

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15 *Microsoft v Commission* (Case-COMP/C-3/37.792) Commission Decision [2004] 4 CMLR 965, para 792.

See Suzanne Van Arsdale and Cody Venzke, 'Predatory Innovation in Software Markets' (2015) 29(1) Harvard Journal of Law & Technology 243: software is part of a computer system that encompasses non-physical components, with two main types: system software, which manages the computer hardware and applications software that cannot operate by itself and depends on system software such as operation system software.

16 *Microsoft v Commission* (Case-COMP/C-3/37.792) Commission Decision [2004] 4 CMLR 965, para 1011.

17 William H Page and John E Lopatka, The Microsoft Case: Antitrust, High Technology, and Consumer Welfare (University of Chicago Press 2009) 218.

18 See Gary Minda, 'Antitrust Regulability and the New Digital Economy: A Proposal for Integrating "Hard" and "Soft" Regulation' (2001) 46 Antitrust Bulletin 2: 'software market is a high technology market and can be defined as market that consists of powerful IT products, which have created global networks of communication'.

See Björn Lundqvist, 'Standardization under EU competition rules and US antitrust laws: The rise and limits of self-regulation' (Edward Elgar Publishing, 2014) 154: 'The innovation market is a market consisting of R&D, directed at new and improved goods or processes and a close substitute for R&D are R&D efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the scrutinized R&D'.

See OECD, 2005, 'The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Innovation Data: Oslo Manual, Third Edition' prepared by the Working Party of National Experts on Scientific and Technology Indicators, OECD, Paris, para. 146: 'An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations'.

19 TFEU Treaty on the Functioning of the European Union, 2010 OJ C 83/88. Consolidated version of TFEU, 2010 OJ C 83/47.

The Treaty on the functioning of the European Union (TFEU) included rules to promote the maintenance of competition, to ensure that free competition prevails and is not restricted or distorted in the internal market by anti-competitive agreements (both horizontal and vertical), cartels or mergers, acquisition or unfair state aid, or abuse of market power.

regulating unilateral conducts, such as technical tying by a dominant firm and its interaction within fast-moving innovative markets.

In order to achieve the research aim, this thesis will set out to answer the following questions:

- How can the legal system adequately reflect the economic objectives underpinning it and risk certain approaches that create Type I or Type II errors?
- How do the realities of software markets affect the analysis of the competition process?
- To what extent does the EU approach under Article 102 TFEU accommodate the particularities of technical tying in software markets?
- How can competition law take account of the impact of conduct on innovation?
- How could Article 102 TFEU be interpreted to match the technological integration standard in software markets and be compatible with modern economic theory in relation to the objectives of EU competition rules?

1.4 Contribution

This thesis contributes to the understanding of technical tying practices in fast-moving innovation markets and provides lex ferenda discussion toward a future legal framework that deals with technical tying practices in high-technology markets, it also includes a solid economic analysis.

In particular, it argues in favour of embracing an approach based on the economic theory of law, suggesting that the endogenous entry approach[20] should lead the EU institutions to consider the issues of market dominance and barriers to entry differently to reach the final proposal with respect to the legal framework toward assessing technical tying practices in fast-moving

20 Endogenous entry occurs when entry is open to outsiders and depends mainly on the profitable opportunities in the market, whereas exogenous entry occurs when outsiders cannot overcome entry barriers, even if there are profitable opportunities.

innovation markets under Article 102 TFEU. A de lege ferenda rule on the amended legal approach will improve legal certainty and, if adopted by the relevant legal bodies, could encourage innovation in the market.

1.5 Thesis structure

Chapter One sets out the background, the research motivation, the aim and the research questions, the methodology, and the scope of the thesis.

Chapter Two sets out the framework of Article 102 TFEU as the key provision in regulating abusive unilateral practice by dominant firms. The chapter begins by providing a background of the EU modernisation process toward EU completion rules under Article 102. Then discusses the old and new approaches toward the economic analysis of abuse of dominance, to understand their assessment tools and their methods in achieving the competition rules' objectives. This discussion is necessary to provide the background information before exploring the stance of these approaches toward tying in practices under Article 102. The last part of the chapter explores the core substantive elements of Article 102 including the difficulties of identifying abuse of dominance.

Chapter Three explores the concept of tying in practice and distinguishes between contractual tying and the technical tying practice. It also analyses the anti-competitive and pro-competitive theories of tying. Then, the chapter reviews how the assessment of contractual tying in practice as exclusionary abuse has been formed in EU decisional practice and assessed according to a form-based approach before the modernisation process.

Chapter Four and Chapter Five are devoted to the second part of the Commission's decision in the *Microsoft* case,[21] which deals with technical tying abuse: specifically, the integration of Window media player functionality into the Windows PC Client Operating System. The first part of chapter four explores the features of software markets that can influence the competitive

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21 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965; Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11.

analysis of the competition process. Then, the second part of the chapter focuses on the Microsoft tying case, mainly criticizing the Commission's approach in its assessment of Microsoft's dominant position in the tying product market as the first prerequisite in establishing a technical tying abuse. Chapter five analyses how the remaining requirements of a technical tying abuse in the *Microsoft* case were examined according to an effects-based approach: the distinct products requirements, the coercion requirement, the foreclosure requirements, and the absence of any objective justification requirements. Both chapters four and five aim to demonstrate the flexibility of the effects-based approach that was followed in the *Microsoft* case in allowing economic consideration. In addition they contribute to the debate regarding the adequacy of the competition rules when applied to the high technology markets, especially the ability of competition agencies to make beneficial enforcement decisions in fast-moving innovation markets.

Chapter Six reviews the guidance paper's theoretical framework that emphasised the effects-based approach that was applied in the *Microsoft* case and more importantly analyses the recent decisional practice to determine if there have been any developments in the EU approach under Article 102; this discussion is important since the authoritative interpretation of EU law remains within the remit of the ECJ in accordance with the TFEU.

Chapter Seven initially clarifies the relationship between innovation and dominance, including the types of competition in dynamic markets, then focuses on innovation consideration under the EU approach; emphasising the indirect consideration of innovation under the EU approach and not merely under Article 102, and the limited scenarios where innovation can be considered as a critical factor. The last part of the chapter suggests a refined legal economic approach that can take into account the innovation consideration under Article 102.

The final chapter, Chapter Eight, will conclude the thesis with academic findings and policy recommendations.

1.6 Research methodology

This thesis will employ the doctrinal legal method to systematically analyse the relevant statutory provisions, legal principles, and case law involved, particularly toward technical tying in practice, to contribute to the consistency and certainty of law. As well as the non-doctrinal legal method to analyse the legal approach from an economic perspective.[22]

The legal economic approach that incorporates behavioural economic principles with competition law will also be used as a fundamental methodology,[23] in order to explain the effects and evaluate which legal rules are economically efficient to process the necessary information and implement the aims of the thesis. This presupposes that there will be economic approaches that describe the effects of rules or other assumptions. Two major approaches considered are: positive economic analysis and normative economic analysis. The positive analysis approach explains the law and predicts its effects and thereby indicates which legal rules will be efficient. Its results can be either predictions of how relevant players will react to different legal rules or even a discussion on what the law should be.[24] Whereas normative economic analysis or welfare economics is concerned with economic efficiency, the identification of situations where efficiency is not achieved, and prescribing alternative corrective solutions and policy recommendations.[25]

This thesis will use both approaches. A positive analysis will be used to explain rules on technical tying and to predict its effects by examining the effects of the EU approach in the relevant case law. A normative analysis will be used to demonstrate how additional considerations are recommended and to propose some guidance regarding the development of integrated products

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22 See Terry Hutchinson and Nigel Duncan. 'Defining and describing what we do: Doctrinal legal research' Deakin L Rev 17 (2012) 83 and S N Jain 'Doctrinal and Non-Doctrinal Legal Research' Journal of the Indian Law Institute 17.4 (1975): 'Non-doctrinal research employs methods taken from other disciplines to generate empirical data to answer research questions and analyse law from the perspective of other sciences'.

23 Erika Arban, 'Interdisciplinary Approaches to Legal Research: Law and Economics and Critical Legal Studies from a North American Perspective' [2011] Amministrazione in Cammino 13.

24 Alession M Paccess and Louis Visscher, Methodology of Law and Economics' in Bart van Klink and Sanne Taekema (eds), Law and Method: Interdisciplinary Research into Law (Series Politika, no 4) (Tübingen: Mohr Siebeck 2011) 85–107.

25 Gento G Veljanovski, 'The Economic Approach to Law: A Critical Introduction' (1980) 7 British Journal of Law and Society 158–193.

without infringing competition-tying rules. Tying can be both procompetitive and anticompetitive, depending on the circumstances surrounding the tying practice itself, as well as other external conditions such as the market structure and the existence of other competitors.

The legal economic methodology as an interdisciplinary field has a number of advantages.[26] Firstly, it is evolutionary, which means that it is possible to construct a simple model based on far-reaching simplifying assumptions and then develop the model gradually, either by relaxing or complicating such assumptions[27]. Secondly, this methodology provides a common language for the analysis where it is possible to focus on the model and its mathematical validity, and on the policy conclusions from the model regarding the real world.[28] Third, when applying an economic methodology to legal questions, where the analysis may cross geographical borders and various legal jurisdictions, it enables an easier import and export of ideas on various legal issues. This approach can reduce any conflict with other jurisdictions and in particular competition policy, as this is considered to be at the heart of making Europe more competitive. However, competition policy alone cannot ensure overall economic stability, growth, and the maximum benefits for consumers.[29] These goals can only be achieved when the rules of competition policy enforcement are in line with economic thinking.[30]

1.7 Scope

The focus of the thesis is technical tying in practice under Article 102 TFEU which prohibits, due to incompatibility with the internal markets, '[a]ny abuse

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26 See Mario Monti, 'Contribution of Competition Policy to Competitiveness of the European Economy' (Institute of European Affairs, Speech/03/264, May 2003); Philip Lowe, 'Current issues of EU Competition Law: The New Competition Enforcement Regime' [2003] Nw J Intl L & Bus 24 567; Neelie Kroes, 'Effective Competition Policy: A Key Tool for Delivering the Lisbon Strategy' (Speech 5, Brussels, Belgium Introductory statement at EMAC open meeting of Coordinators, 2005) 73.

27 Eli M Salzberger, 'The Economic Analysis of Law: The Dominant Methodology for Legal Research?!' [2007] University of Haifa Faculty of Law (Legal Studies Research Paper No 1044382) 24.

28 ibid.

29 Doris Hildebrand, The Role of Economic Analysis in the EC Competition Rules vol 39 (Kluwer Law International 2009).

30 Lars-Hendrik Röller, 'Economic Analysis and Competition Policy Enforcement in Europe' in Modelling European Mergers: Theory, Competition and Case Studies (Edward Elgar 2005) 13.

by one or more undertaking of a dominant position within the internal market or in a substantial part of it' and this insofar as it 'may affect trade between Member States'. Tying in practices can be brought under Article 102 (d) and can be brought under Article 102 entirely, if they do not fall within the precise terms of Article 102 (d).[31]

Tying can also fall under Article 101(1) TFEU when it is a part of an agreement between a nondominant supplier and a buyer. It can also constitute a vertical restraint falling under Article 101 where the result of tying is a single branding type of obligation for the tied product.[32] In addition, tying under Article 101 also falls within the block exemptions under regulation 330/210 and 772/2004 if the market shares of the supplier and the buyer, on the markets of both the tied product and the tying product do not exceed 30%.[33] However, due to the scope of the research questions, this thesis will focus on technical tying in practice under Article 102 and will only review some common themes in the context of restrictive agreements and merger control to the extent that the discussion overlaps with considering innovation under Article 102. This exclusion from the scope is because there have only been a few cases under Article 101,[34] and under the merger control regulation,[35] whereas the majority

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31 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11; see Article 102 (d): 'Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts'.

32 See Article 101(1)(e) that prohibits agreements that 'make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts'.
Guidelines on vertical restraints, OJ L C130/1 [2010], para 214.
See para 129: 'single branding come from those agreements, which have, as their main element, that the buyer is obliged or induced to concentrate his orders for a particular type of product with one supplier'.

33 Tying agreement can benefit from block exemption, see Commission regulation 330/2010 on the application of Article 101 (3) TFEU to categories of vertical agreement and concerted practices [2010] OJ L102/1, Article 3(1): 'the market share held by the supplier does not exceed 30 % of the relevant market on which it sells the contract goods or services and the market share held by the buyer does not exceed 30 % of the relevant market on which it purchases the contract goods or services'.
'Commission Regulation (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 L 102/1: Article 3(2): 'Where the undertakings party to the agreement are not competing undertakings, the exemption provided for in Article 2 shall apply on condition that the market share of each of the parties does not exceed 30 % on the relevant market(s)'.

34 Alison Jones and Brenda Sufrin, EC Competition Law: Texts, Cases and Materials (6th edn, OUP 2016) 800.
See Commission notice regarding the guidelines on vertical restraints [2000] OJ C291, 13.10.2000, para 214–222 of the Guidelines deals with tying under Article 101.
See Case IV/29.395 Windsurfing International [1983] OJ 19/32; Case C-193/83 *Windsurfing v Commission* [1986] ECR 611, FEDETAB Commission decision 78/670/EEC [1978] OJ L 224/29.

35 See Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation), Official Journal L 24, 29.01.2004.

of cases have been labelled as tying conducts and brought under Article 102.[36] In addition, the EU approach toward accommodating the particularities of high technology markets and taking into account innovation considerations in the competitive assessment is less founded in the area of Article 102. Therefore, there is a necessity to conduct more research in this area.

See *General Electric v Honeywell* (Case COMP/M.2220) [2004] O J L48/1, Tetra Laval/Sidel (Case COMP/M.2416) [2004] OJ L43/13, *Guinness v Grand Metropolitan* (Case No IV/M.938) [1998] OJ L 288/24, *Intel v Altera* (COMP/M.7688) [2015] C 7157 final.

36 Richard Whish and David Bailey, Competition Law (8th edn, OUP 2015) 731.

See Case IV/30.178 *Napier Brown v British Sugar* [1988] OJ L284/41, Case IV/30.787 *Eurofix-Bauco v Hilti* OJ 1988 L65/19; Case T-30/89 *Hilti AG v Commission* [1991] ECR II-1439; Case C-53/92P *Hilti AG v Commission* [1994] ECR I-667; Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1; Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755; Case C-333/94P *Tetra Pak International SA v Commission* [1996] ECR I-5951.

Decision 76/642/EEC; Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* (Vitamins) 1979 ECR 461.

CHAPTER 2: COMPETITION THEORY AND ARTICLE 102

2.1 Introduction

This chapter focusses on the framework of Article 102 TFEU as the key provision in regulating abusive unilateral practice by dominant firms. Providing a discussion of this framework will set the context for the analysis of tying in practice in later chapters.

The second section of this chapter provides the background on the EU approach: in essence, the shift from the form-based approach to an economic based approach. Then, the third section discusses the old and new approaches to the economic analysis of abuse of dominance: the Ordoliberalism school of thought, the Harvard school of thought, the Chicago school of thought, and the post-Chicago approach and the endogenous entry approach. The discussion of these approaches is necessary to identify: their influence on the EU competition rules whether before or after the modernisation process; their approaches toward achieving the objective or objectives of EU competition rules; their limitations and methods of assessment. This will provide the necessary background before exploring their stance toward tying in practices that will be discussed in the next chapter.

The third section focuses on the core substantive provisions of Article 102 for finding unlawful unilateral conduct. The aim of this section is to demonstrate the difficulties of identifying dominance and abusive behaviours, especially since Article 102 TFEU has not been changed since its introduction and does not give a definition for the abuse of a dominant position; rather, it lists some examples of conduct that are considered to be abusive when practiced by a firm in a dominant position.

2.2 Background: The shift toward an economic approach

Historically, there has not been a single unified policy underpinning a coherent application of the EU competition rules, nor a convergence on the prioritization of the EU competition objective.[37] Therefore, different objectives have been pursued in the name of competition law such as protection of market structure, protection of consumers, economic efficiency, and market integration.[38]

The integration of the internal market[39] has been the root of the EU competition rules for the stability of the economy and for an efficient allocation of resources as a key driver of growth.[40] Protecting the single market is critical for the interests of consumers and producers; this kind of protection prevents barriers to trade and governmental restrictions from being replaced by similar measures of a private nature.[41] The prominence given to the economic integration of the internal market led the enforcement authorities of EU competition rules to carefully assess practices that run counter to the goal of market integration, and enhance rivalry as the central characteristic of the competitive process.[42] This objective was necessary to achieve an effective level of competition as a driver of an effective EU internal market by imposing a system in which superior performance should be the decisive factor for the success of an undertaking and where businesses' efforts to satisfy consumers' needs are rewarded.[43] This is achieved mainly through Articles 101 and 102 TFEU (ex Articles 81 and 82 TEC),[44] which are considered the very core of the

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37 Massimo Motta, Competition Policy: Theory and Practice (CUP 2004) 17.

38 See Richard Whish and David Bailey, Competition Law (8th edn, OUP 2015) 25: 'Competition policy does not exist in a vacuum: it is an expression of the current values and aims of society and is as susceptible to change as political thinking generally.'

39 Article 26 (2) TFEU states 'the internal market shall compromise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of this treaty'.

40 Mario Monti, Report to the President of the European Commission José Manuel Barroso: A new strategy for the single market at the service of Europe economy and society, 2010, http://ec.europa.eu/internal_market/strategy/docs/monti_report_final_10_05_2010_en.pdf , 61.

41 Anne C Witt, the more economic approach to EU Antitrust law (Hart publishing, 2016) 94.

42 Ahlborn and Padilla, 'From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EC Competition Law', in Ehlermann and Marquis, eds., European Competition Law Annual 2007: A Reformed Approach to Article 82 EC, forthcoming 2008, 5.

43 Thomas Eilmansberger, 'How to distinguish good from bad competition under Article 82 EC: In search of clearer and more coherent standards for anti-competitive abuses' Common Market Law Review (2005) 42.1: 133.

44 The TFEU treaty is an amended and renamed version of the TEC treaty.

competition rules of the Treaty. They have the principal role of structuring the creative environment using certain methods so that firms can compete and cooperate. They were also introduced with the same goals in mind but at different level.[45] Whereas Article 101 TFEU prohibits any agreements or cartels between two or more undertakings that could prevent, disrupt or even affect the free competition within the internal market, Article 102 TFEU is the vital statutory provision that prohibits firms from abusing a dominant position through unilateral practices that pose threats to the competition process.

The competition authorities also pursue the protection of economic freedom in order to facilitate the correct functioning of the single market and ensure that market participants operate with the greatest possible degree of freedom and are unhindered by any barriers to competition.[46] Hence, it is not surprising that fairness and equity considerations were behind the idea of protecting small and medium sized firms against well-resourced firms, that could unduly hamper the competition process over medium and small sized firms that lack adequate market power.[47] According to these Articles, dominant firms should act 'as if' they did not possess that power.[48] The court of justice held that 'a system of undistorted competition can be guaranteed only if equality of opportunity is secured among the various economic operators,'[49] a judgment which is based on the consideration that competition in a concentrated market will only have optimal results, if other competitors are

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45 Case 6/72, *Europemballage and Continental Can v. Commission*, [1973] ECR 215, para 25: 'With a view to safeguarding the principles and attaining the objectives set out in Articles 2 and 3 of the Treaty, Articles 85 to 90 have laid down general rules applicable to undertakings. Article 85 concerns agreements between undertakings, decisions of associations of undertakings and concerted practices, while Article 86 concerns unilateral activity of one or more undertakings. Articles 85 and 86 seek to achieve the same aim on different levels, viz. the maintenance of effective competition within the Common Market.'

46 Marcin Szczepański, 'EU competition policy: key to a fair Single Market', (2014) European Parliamentary Research Service 3 Available at: http://www.europarl.europa.eu/EPRS/140814REV1-EU-Competition-Policy-FINAL.pdf [Accessed 9/10/2017].

47 Kiran Klaus Patel and Heike Schweitzer, The Historical Foundations of EU Competition Law (OUP 2013) 207. See also European Commission, Ninth report of competition policy 1979,10.

48 Jorge Padilla and Christian Ahlborn, 'From Fairness to Welfare, Implications for the Assessment of Unilateral Conduct under EC Competition Law' (2007) 12th Annual Competition Law and Policy Workshop, Robert Schuman Centre 42.

49 Case C-18/88 GB-Inno-BM [1991] ECR I-5941, para 25; Case C-462/99 Connect Austria [2003] ECR I- 5197, para 83; Joined Cases C-327/03 and C-328/03 ISIS Multimedia Net and Firma O2 [2005] ECR I-8877, para 39; Case C-49/07 MOTOE [2008] ECR I-4863, para 51. Stavros S. Makris, 'Applying Normative Theories in EU Competition Law: Exploring Article 102 TFEU.' UCLJLJ 3 (2014): 47.

protected from the constraints of the dominant firms.[50] The competition law rules that evolved before the 1990s are considered structural and interventionist and focused mainly on goals such as fairness and equity.[51] The EU Commission tended to rely on predictable *ex ante* legal certainty and justifiability, hence adopting a 'form-based' approach.[52] The assessment is on the distinguishing practices according to their form or the intrinsic nature of a particular practice.[53]

The form-based approach has been criticised harshly, for not considering the economic aspects of the given practice and its effects. It has, therefore, been difficult to discern abusive practices of dominant firms from legitimate market behaviour, and some practices appear to be anticompetitive under the form-based approach criteria;[54] thus this approach bears the risk of false positive (type 1 error), which would mean that a practice will be held illegal while it is actually legal.

In addition, an approach that includes economic freedom and protection for small and medium sized firms does not necessarily coincide with increasing the welfare of the consumers. A competition policy that pursues the protection of economic freedom may in fact cause harm to consumers, since the interests of competitors might not always be aligned with the interests of consumers. Similarly, aiming for the protection of small and medium sized firms can result in distortions that can reduce overall efficiency and give SMEs undue privileges.[55] Therefore, a plurality of objectives leads to a high level of criticism and a state where the EU Courts have to choose among conflicting goals, and

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50 'A Bundeskartellamt/Competition Law Forum Debate on Reform of Article 82: A 'Dialectic' on Competing Approaches' (2006) 2 European Competition Law Journal 211, 223 in Pinar Akman. The concept of abuse in EU competition law: Law and economic approaches (Bloomsbury 2012) 52

51 Kiran Klaus Patel and Heike Schweitzer, The Historical Foundations of EU Competition Law (OUP 2013) 207.

52 Albertina Albors-Llorens & Alison Jones, 'The Images of the 'Consumer' in EU Competition Law' in Dorota Leczykiewicz, Stephen Weatherill (eds.) (2016) The images of the consumer in EU law: legislation, free movement and competition law. Bloomsbury Publishing 77.

53 Josef Drexl, Wolfgang Kerber and Rupprecht Podszun (eds) Competition policy and the economic approach: Foundations and limitations (Edward Elgar Publishing 2011) 66.

54 Ahlborn and Padilla, 'From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EC Competition Law', in Ehlermann and Marquis, eds., European Competition Law Annual 2007: A Reformed Approach to Article 82 EC, forthcoming 2008, p40.

55 International Competition Network: The Unilateral Conduct Working Group, Workbook Chapter 1: the objectives and principles of unilateral conduct laws, presented at the 11th Annual ICN Conference Rio de Janeiro, Brazil April 2012, 8.

where its findings have not been widely accepted and undermine the legitimacy of its judgements.[56]

The Commission pursues the protection of the competitors as the priority.[57] This is especially true when the Commission condemns a conduct by a dominant firm that limits the economic freedom or equality of opportunity between market players.[58] Regardless whether these practices harm consumers or achieve efficiency for them, as EU competition law mainly aims to focus on the protection of market structures from artificial distortion due to the competition process, protecting the interests of consumer in the long term.[59] More importantly, efficiency considerations were excluded under Article 102 once a practice engaged by a dominant firm restricted the competition process.[60]

A modernisation process of the competition rules has occurred over the last two decades**,**[61] allowing EU competition rules to leave behind former dubious policy orientations, particularly overcoming the alleged European

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56 Stavros S. Makris, 'Applying Normative Theories in EU Competition Law: Exploring Article 102 TFEU.' UCLJLJ 3 (2014): 57

57 Eleanor M Fox, 'We Protect Competition, You Protect Competitors' (2003) 26 World Competition 149; Edward T Swaine, 'Competition, Not Competitors, Nor Canards: Ways of Criticizing the Commission' (2002) 23 University of Pennsylvania Intl Econ L 597.

58 Ahlborn and Padilla, 'From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EC Competition Law', in Ehlermann and Marquis, eds., European Competition Law Annual 2007: A Reformed Approach to Article 82 EC, forthcoming 2008, 40.

59 Case 6/72 *Europemballage and Continental Can v Commission* [1973] ECR 215, para 26: 'As may further be seen from letters (c) and (d) of Article 102, the provision is not only aimed at practices which may cause damage to consumers directly, but also at those which are detrimental to them through their impact on an effective competition structure, such as is mentioned in Article 3 (f) of the treaty.'

60 See Case 322/81 M*ichelin v Commission* [1983] ECR 3461, para 85: 'Neither the wish to sell more nor the wish to spread production more evenly can justify such a restriction of the customer's freedom of choice and independence. the position of dependence in which dealers find themselves and which is created by discount system in question, is not therefore based on any countervailing advantage which may be economically justified'.

See Case 66/86 Ahmed Saeed Flugreisen [1989] ECR803, para 32: 'no exemption may be granted, in any manner whatsoever, in respect of abuse of a dominant position; such abuse is simply prohibited by the Treaty and it is for the competent national authorities or the Commission, as the case may be, to act on that prohibition within the limits of their powers'

This in comparison to Article 101 (3) where an agreement that distorts competition could be allowed if it 'contributes to improving the production or distribution of goods or to promoting technical or economic progress'

61 See Case T-203/01, *Manufacture française des pneumatiques Michelin v Commission* [2003] ECR II- 4071, para 250: 'in order not to infringe Article 253 EC, should have departed from its previous practice in taking decisions and at least have given more explicit reasons for its assessment of the gravity of the infringement in order to allow the applicant to understand the reasons for the high starting point used by the Commission to calculate the basic amount of the fine.'

This is despite the fact that the European Court of Justice (ECJ) had first substantiated a more economically reasoned approach decades ago by asserting that an inadequacy of precise economic analysis leads to frustration of the basics of competition law. For instance in Case 56/65 *Société Technique Minière (LTM) v Maschinenbau Ulm GmbH* (MBU) ECR 1966, para 8: 'Where an analysis of the said clauses does not reveal the effect on competition to be sufficiently deleterious, the consequences of the agreement should then be considered, and for it to be caught by the prohibition it is then necessary to find that those factors are present which show that competition has in fact been prevented or restricted or distorted to an appreciable extent.'

Ordoliberalism and bringing them into line with economic rationality; based on superior post-Chicago insights, an effects-based approach.[62] The modernisation process has occurred in the institutional structure and procedures of competition law and through the enactment of Council Regulation (EC) No 1/2003 on the implementation of the rules on competition, laid down in Articles 101[63] and 102 of the TFEU.[64]

This Regulation permits the enforcement of competition rules previously applied by the European Commission on a decentralised basis by EU countries' competition authorities. This change has enhanced the role of national competition authorities and courts in implementing EU competition law and has allowed the Commission to prioritise its resources, enforcing the most harmful competition infringements with a cross-border dimension.[65] This is necessary to ensure more effective enforcement of the EU competition rules in the interest of consumers and businesses while reducing bureaucracy for companies that operate in Europe.[66] The Commission pursued an economic-based approach, redefining the goals of the EU competition rules: now 'consumer welfare' would be the primary standard for applying Article 101 and Article 102 TFEU.[67]

The modernisation package of EU competition law included various aspects: in the area of restrictive agreements under Article 101 TFEU, the EU commission in the Horizontal Guidelines[68] moved away from listing exempted

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62 Kiran Klaus Patel and Heike Schweitzer. EU Competition Law in Historical Context: Continuity and Change (OUP 2013) 208.

63 Commission Regulation (EC) No. 2659/2000 of 29 November 2000 on the application of Article 81(3) EC of the Treaty to categories of research and development agreements, [2000] OJ L 304/7), Commission Regulation (EC) No. 2658/2000 of 29 November 2000 on the application of Article 81(3) EC of the Treaty to categories of specialization agreements, [2000] OJ L 304/3; Regulations on agreements in restraint of trade (Commission Regulation (EC) No. 2790/1999 of 22 December 1999 on the application of Article 81(3) EC of the Treaty to categories of vertical agreements and concerted practices, [1999] OJ L 336/21.

64 Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 101 and 102 of the Treaty, 2003 OJ L 1/1.

65 Implementing EU competition rules: application of Articles 101 and 102 of the TFEU <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3Al26092> Accessed 21 April 2015.

66 European commission, press release database, 'Commission finalises modernisation of the EU antitrust enforcement rules' IP/04/411, 2004 See Case C-168/01 *GlaxoSmithKline v Commission*, (2006) ECR 11-2969, para 71: 'The objective of the Community competition rules is to prevent undertakings, by restricting competition between themselves or with third parties, from reducing the welfare of the final consumer of the products in question'.

67 David J Gerber, 'Two forms of modernisation in European competition law' (2007) Fordham Int'l LJ 31:1235.

68 Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines), O.J. 2011 C11/1.

clauses and now places greater emphasis on defining the categories of agreements that are exempted, to some extent, of market power and specifying the restrictions or clauses that are not covered in the agreement.[69] It points out that each case has to be analysed in its economic context, taking account of the nature of the agreement, the parties' combined market power, and other structural factors such as barriers to entry, maturity of market, and nature of the goods/services.[70]

The EU Commission also reformed its approach and provided a relatively permissive system to vertical agreements after realizing that many vertical agreements ultimately proved to be conducive rather than harmful to competition.[71] The old block exemption regulations were formalistic and even described (not unjustifiably) for having a 'straightjacket for distribution agreements'.[72] The new vertical block exemption regulations and the accompanying guidelines largely exempted vertical restraints from the general prohibition of Article 101 (1) TFEU.[73]

In the area of merger control, the European Commission adopted a new merger regulation that introduced a significant impediment to effective competition: the SIEC Test, which redefined the wording of the old dominance test to explicitly instruct the European Commission to take a more effects-based approach when assessing mergers, by determining the compatibility of a notified concentration, according to the effects on the structure of the

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69 Mark R Joelson,' An international antitrust primer: A guide to the operation of United States, European Union, and other key competition laws in the global economy' Vol. 22. Kluwer law international, 2006, 312.

70 Slaughter and May, the EU competition rules on horizontal agreements: A guide to the assessment of horizontal agreements (including the European Commission's guidelines on horizontal cooperation and the block exemption regulations on R&D and specialisation agreements), 2016.

71 Florian Wagner-von Papp, 'Comparative Antitrust Federalism and the Error-Cost Framework or: Rhetoric and Reality: You Protect Competitors, We Protect Competition–Except When We Protect Competitors' (2014) in William E Kovacic, An Antitrust Tribute-Liber Amicorum - edited by Nicolas Charbit, Elisa Ramundo Volume II, Institute of Competition Law (2014), 34.

72 Bundeskartellamt, the future of abuse control in a more economic approach to competition law', discussion paper for Meeting of the Working Group on Competition Law on 20 September 2007.

73 See Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices, [2010] O.J. L102/1: Article 2, 3, 4.

See Guidelines on vertical restraints [2010] O.J. C130/1, para 96: 'Outside the scope of the block exemption, it is relevant to examine whether in the individual case the agreement falls within the scope of Article 101(1) and if so whether the conditions of Article 101(3) are satisfied'

market.[74] The issuance of the guidelines on the assessment of horizontal mergers,[75] and the long-awaited Non-Horizontal Merger, followed.[76]

The last phase of the modernisation was in the context of unilateral conducts, which is the legal framework of this thesis. Article 102 was subject to a comprehensive policy review, including roundtable discussions among various governmental and non-governmental parties.[77] This step was necessary to introduce a more economics based approach and increase the attention toward the objective of consumer welfare.[78] Initially, the Economic Advisory Group on Competition Policy (EAGCP) published a comprehensive report with regard to shifting toward an economic approach. The report emphasized that a dominant firm, when constrained by an effective competition process, will adopt aggressive strategies and pursue the expansion of its market share, attempting to be efficient. More importantly, the report indicated that the structural indicators that were for a long time considered proxies for dominance can be a tool in some cases but may not be applicable in all cases. [79] It states:

> *The ultimate yardstick of competition policy is in the satisfaction of consumer needs. Competition is a process that forces firms to be responsive to consumers' needs with respect to price, quality, variety, etc.; over time it also acts as a selection mechanism, with more efficient firms replacing less efficient ones. Competition is therefore a key*

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74 Lars-Hendrik Röller and Miguel De La Mano, 'The impact of the new substantive test in European merger control' (2006) European Competition Journal, 9.

See Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the EC Merger Regulation), 2004, O J L 24/1, recital 6, Article 2(2) and (3) of the EC Merger Regulation.

75 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, [2004] OJ C 31/5.

76 Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, [2008]] C265/6.

77 See Pinar Akman, 'The Reform of the Application of Article 102 TFEU: Mission Accomplished?'(2016) Antitrust Law Journal

78 See Ahlborn and Padilla, 'From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EC Competition Law' 2007, In Claus-Dieter Ehlermann and Mel Marquis, eds. European Competition Law Annual,: A Reformed Approach to Article 82 EC, Bloomsbury Publishing, 2008 61: 'the disagreement whether the goal of competition rules should be consumer welfare or aggregate welfare and whether focusing on short term consumer welfare or on long term (including dynamic efficiency) and whether it should be a direct goal or indirect goal'. See Cases T- 213/01 and T-214/01 *Oesterreichischer Postsparkasse AG v Commission* [2006] ECR II-1601 para 115: 'Recognition that such customers – who show that they have suffered economic damage as a result of an agreement or conduct liable to restrict or distort competition – have a legitimate interest in seeking from the Commission a declaration that Articles 81 EC and 82 EC have been infringed contributes to the attainment of the objectives of competition law''

79 EAGCP, An Economic Approach to Article 82 (Report of the Economic Advisory Group for Competition Policy for the European Commission, DG Competition, Brussels, 2005). 14.

element in the promotion of a faster growing, consumer-oriented and more competitive European economy.[80]

This economic approach involves an analysis of the competition process that takes into consideration the impact of practices on consumers, before an intervention from the EU Commission to ensure a more consistent treatment of practices and one that guarantees that the provisions do not unduly thwart pro-competitive behaviour, and that anti-competitive behaviour does not circumvent legal provisions by attempting to achieve the same end results through the use of different conducts in the market.[81] Therefore, a flexible approach that places a higher burden of proof on the Commission to demonstrate anti-competitive effects, which is subject to false positive where practices can be held to be legal while they are not legal. [82] It is preferable to err on the side of allowing anti-competitive practices (Type II error) than of prohibiting innocuous ones (Type I error), since a Type II error imposes losses over a part of the range of output whereas a Type I error imposes losses over the whole range of output. [83] This applies to the total welfare standard, which is subject to Type I errors, whereas the consumer welfare standard is subject to Type II errors.[84]

In contrast to the old approach where there was an intervention prior to effects analysis, which was determined according to the form of the practice and a separate dominance assessment, the new approach implies that the competition authority must prove the presence of significant harm rather than a separate assessment of dominance. [85] In addition, the dominant undertaking must establish an efficiency justification, and the competition authority

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80 ibid 1.

81 ibid 2.

82 Baker, J.B. ,'Taking the Error out of 'Error Cost' Analysis: What's Wrong with Antitrust's Right' (2015) 80 Antitrust Law Journal 1.

83 Frank H Easterbrook, 'The Limits of Antitrust' (1984) 63 Texas L Rev 1, esp 14–17.

Neven, DJ, & Röller, LH, 'Consumer Surplus vs Welfare Standard in a Political Economy Model of Merger Control', Discussion Paper FS IV 00-15, Wissenschaftszentrum Berlin, 2000.

85 Stavros S Makris, 'Applying Normative Theories in EU Competition Law: Exploring Article 102 TFEU' (2014) 3 UCL Journal of Law and Jurisprudence 43.

assessment must be based on whether a certain conduct is a legitimate tool of competition, i.e. whether consumers benefit from it or not.[86]

The European Commission issued a discussion paper[87] in December 2005 on exclusionary abuses to allow other parties to comment on it in terms of new objectives. Article 102 mainly sets out the possible principles to use for the Commission to deal with abusive conduct according to an effects-based approach, entailing a deep economic assessment that considers the particular facts and circumstances of each case and the likely effects of the practice on the market, as a means of enhancing consumer welfare and of ensuring an efficient allocation of resources.[88]

These objectives were also emphasised by Philip Lowe, Director-General of the European Commission:

> *Consumer welfare and efficiency are the new guiding principles of EU competition policy. Whilst the competitive process is important as an instrument, and whilst in many instances the distortion of this process leads to consumer harm, its protection is not an aim in itself. The ultimate aim is the protection of consumer welfare, as an outcome of the competitive process.*[89]

With regard to the EU Commission, additional oversight by the chief economist unit contributes in assessing the economic impact of the Commission's actions in the competition field, providing some guidance on methodological issues of economics and econometrics, which can be used in establishing the relevant counterfactual.[90] This approach involves considering the effects of other

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86 EAGCP, An Economic Approach to Article 82 (Report of the Economic Advisory Group for Competition Policy for the European Commission, DG Competition, Brussels, 2005) 3.

87 DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses' (Brussels, December 2005).

88 ibid para 54

89 Philip Lowe, 'Consumer Welfare and Efficiency–New Guiding Principles of Competition Policy?' (Speech at the 13th International Conference on Competition and 14th European Competition Day, München, 2007).

See on the protection of consumer welfare as an outcome Case C-501/06P GlaxoSmithKline Services Unlimited v [2010] 4 CMLR 2, para 63: 'for a finding that an agreement has an anti-competitive object, it is not necessary that final consumers be deprived of the advantages of effective competition in terms of supply or price'. Further, see Case C-95/04 *British Airways v Commission* [2007] ECR I-2331, para 107: 'The GC was therefore entitled, without committing any error of law, not to examine whether BA's conduct had caused prejudice to consumers within the meaning of subparagraph (b) of the second paragraph of Article 82 EC, but to examine, in paragraphs 294 and 295 of the judgment under appeal, whether the bonus schemes at issue had a restrictive effect on competition and to conclude that the existence of such an effect had been demonstrated by the Commission in the contested decision'.

90Lars-Hendrik Röller, 'Using Economic Analysis to Strengthen Competition Policy Enforcement‖ in Europe' in Peter AG van Bergeijk and Erik Kloosterhuis (eds), Modelling European Mergers: Theory, Competition Policy and Case Studies (Edward Elgar Publishing 2005) 18.

alternative decisions which have been taken, as these counterfactuals can be obtained from econometric analysis and models. The Commission also made changes such as establishing internal peer review teams, which are considered a part of the DG Competition internal checks and balances and are supplemented by the rigour of the office of the chief economist.[91] These peer review teams aim to review certain aspects of assessment performed by the case team within the directorates of the European Commission.[92]

Lastly, the European Commission has recognised the need to rectify the interpretation and the application of EC competition law. It, therefore, published the official Guidance on the Commission's enforcement priorities[93] in applying Article 102 of the TFEU to abusive exclusionary conduct by dominant undertakings, in December 2008, as the last phase in the modernisation process under Article 102.[94] Notably, this Guidance has already been formulated and implemented in the area of Article 101 and mergers control rules since the late 1990s and in Article 102 cases, such as Microsoft.[95] This guidance, as a soft-law instrument,[96] indicates that the final modernisation application is to be conducted by the Court of Justice, which can approve the Commission's findings or could accept appeals and move forward to a more economic approach. In addition, the guidance paper aims to provide dominant firms with some clarity to better assess whether their practices are likely to

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91 Philip Marsden, 'Checks and Balances: EU Competition Law and the Rule of Law' (2009) 22(1) Loyola Consumer Law Review, art 7, 62.

92 Philip Marsden, 'Checks and Balances: EU Competition Law and the Rule of Law' (2009) 22(1) Loyola Consumer Law Review, art 7, 62.

93 See Pinar Akman, 'The European Commission's Guidance on Article 102TFEU: From Inferno to Paradiso?' (2010) 73(4) The Modern Law Review 605: it is stated that it is a mistake to label the document as a Guidance on 'enforcement priorities', since it has mainly had the effect of substantive guidelines that offer a certain interpretation of the law by reconciling the formalism of some old case law with some economics.

94 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7.

95 EU Commission, Antitrust: Guidance on Commission enforcement priorities in applying Article 82 to exclusionary conduct by dominant firms – frequently asked questions, MEMO/08/761, 2008. http://europa.eu/rapid/press-release_MEMO-08-761_en.htm?locale=en

96 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 3. See Francis Snyder, 'Soft Law and Institutional Practice in the European Community' in Stephen Martin (ed), The Construction of Europe (Springer Netherlands 1994) 198: A soft-law instrument contains 'rules of conduct which, in principle, have no legally binding force but which nevertheless may have practical effects' as in many instances it would be easier to use guidelines rather than changing the legislative rules. See Pinar Akman, 'The European Commission's Guidance on Article 102TFEU: From Inferno to Paradiso?' (2010) 73 The Modern Law Review 605: it is stated that it is a mistake to label the document as a Guidance on 'enforcement priorities', since it has mainly had the effect of substantive guidelines that offer a certain interpretation of the law by reconciling the formalism of some old case law with some economics.

cause an infringement under Article 102.[97] It emphasises the endorsement of an effects-based approach to exclusionary conduct (including tying-in practices) under Article 102.

Several indications in appreciating consumer welfare approaches are given in the document, such as 'the commission will focus on types of conduct that are most harmful to consumers',[98] on the basis that it is better to prevent than to cure. In particular, if a market is not functioning very well, the priority should be to move towards unilateral practice, which undermines the structure of the market itself rather than addressing the symptoms.[99] The guidance also stated, 'the Commission may decide to intervene in relation to such conduct, in particular where the protection of consumers and the proper functioning of the internal market cannot otherwise be adequately ensured'.[100] This recommendation implicitly not only focuses on the consumer welfare objective, but also on the integration of the single market objective. Hence, prohibiting abusive behaviours does not only include practices that have a direct or measurable effect on the final consumer or output.[101]

Additionally, the guidance allows for a more flexible approach by considering whether cognisable efficiencies are proportionate to the goal allegedly pursued by the dominant firm;[102] a dominant firm has the opportunity to justify its practices, by showing that the likely efficiency created by the

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97 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 2.

98 ibid para 5 and para 19: 'The aim of the Commission's enforcement activity in relation to exclusionary conduct is to ensure that dominant undertakings do not impair effective competition by foreclosing their competitors in an anti-competitive way, thus having an adverse impact on consumer welfare, whether in the form of higher price levels than would have otherwise prevailed or in some other form such as limiting quality or reducing consumer choice.'

99 Luc Peeperkorn and Katja Viertiö, 'Implementing an Effects-based Approach to Article 82' in the European Union, Competition Policy Newsletter vol 1 (Publications Office of the European Union 2010) 20.

100 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 7.

101 See Joined Cases C-468/06 to 478/06 *Sot Lelos kai Sia EE v GlaxoSmithKline* AEVE [2008] ECR I-7139 para 57: 'Without it being necessary for the Court to rule on the question whether it is for an undertaking in a dominant position to assess whether its conduct vis-à-vis a trading party constitutes abuse in the light of the degree to which that party's activities offer advantages to the final consumers, it is clear that, in the circumstances of the main proceedings, such an undertaking cannot base its arguments on the premise that the parallel exports it seeks to limit are of only minimal benefit to the final consumers.'

102 See Albertina Albors-Llorens and Alison Jones, 'The Images of the "Consumer" in EU Competition Law' in Dorota Leczykiewicz, Stephen Weatherill (eds) (2016). The images of the consumer in EU law: legislation, free movement and competition law. Bloomsbury Publishing 45: whether the internal market objective and consumer welfare objective complement each other or can clash with each other sometimes.

conduct outweighs any likely negative effects on competition and consumer welfare.[103]

However, in order to demonstrate if the Commission has adequately embraced the effects-based approach toward the assessment of the abuse of dominance claims, it is necessary to discuss the approaches toward the economic analysis of abuse of dominance and the methods taken toward achieving the objectives of the competition rules. Then to clarify the core elements of Article 102 to highlight the issues to be considered in the assessment of unilateral practices under Article 102 and the difficulties of identifying dominance and abusive behaviours.

2.3 The old and new approaches toward abuse of dominant position

When discussing the EU policy approach, it is necessary to refer to the main schools of thought and the approaches toward the economic analysis of abuse of dominance. Exploring these approaches is necessary to understand their methods toward assessment and toward achieving the objective or objectives of the competition rules.

2.3.1 The ordoliberal school of thought

The Ordoliberalism School (the Freiburg School) was founded in the 1930s at Freiburg University in Germany, by a group of economists and lawyers with a neo-liberal attitude.[104] The founders included figures such as Walter Eucken,[105] as well as the lawyers Franz Bohm and Hans Grossmann-Doerth.[106]

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103 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 30.

104 Christian Ahlborn and Carsten Grave, 'Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective' (2006) 2(2) Competition Policy International 211.

105 Walter Eucken, 'Die Wettbewerbsordnung und ihre Verwirklichung' [The Competitive Order and its Implementation], (1949) 2 Ordo, Jahrbuch fur die Ordnung von Wirtschaft und Gesellschaft 1–99; Walter Eucken, The Foundations of Economics: History and Theory in the Analysis of Economic Reality (Springer Science and Business Media 2012).

106 Franz Böhm, Walter Eucken and Hans Grossmann-Doerth, 'The Ordo Manifesto of 1936' In Germany's Social Market Economy: Origins and Evolution (Palgrave Macmillan UK 1989) 15–26.

Before indicating how the Ordoliberalism School has influenced the EU competition laws, it is important to identify the implications for the EU competition policy. The process-oriented Ordoliberal approach identifies the process of competition as an end in itself.[107] This process can also be a requirement for achieving efficiency, but in exceptional circumstances it allows departures, where there are reasons intrinsic to the system when merely guaranteeing an unfettered process of competition would be inefficient.[108] The Ordoliberal belief is that competition is necessary for economic well-being and that economic freedom from powerful economic institutions, especially the economic freedom of small and medium-sized businesses, is an essential concomitant of political freedom that is worth protecting.[109] In order to achieve this end, the Ordoliberals aimed to articulate a new system wherein law was required, but had to be transformed from being a source of social divisiveness, into a method of social integration, with a new version of economic liberalism.[110] This approach was seen as necessary in order to protect the market from the destructive influences of political and economic power and to protect the constructive relationship between economy and society.[111]

Consequently, the Ordoliberals claim that adopting a limited perspective to the competitive process and keeping markets de-concentrated is the ideal, so that no firm can exercise excessive market power. They argue for the legal prohibition against cartels and against all kinds of collusion between competitors. Ordoliberalism expresses hostility toward dominant firms, preferring the government or authorised firms to be dominant[112] Accordingly, this would create an economic constitution, which would need to

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107 Elias Eutscher and Stavros Makris, 'Exploring the ordoliberal paradigm: the competition-democracy nexus' (2017), THE COMPETITION LAW REVIEW 198.

108 Florian Wagner-von Papp, 'Comparative Antitrust Federalism and the Error-Cost Framework or: Rhetoric and Reality: You Protect Competitors, We Protect Competition – Except When We Protect Competitors.' (2014) in William E. Kovacic, An Antitrust Tribute-Liber Amicorum – edited by Nicolas Charbit, Elisa Ramundo Volume II, Institute of Competition Law (2014), 77.

109 Barry J. Rodger, 'Competition Policy, Liberalism and Globalization: A European Perspective' (2000) 6 Columbia Journal of European Law 289.

110 David J Gerber, 'Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the New Europe' (1994) The American Journal of Comparative Law 83.

111 ibid 84.

112 Christian Ahlborn and David S Evans, 'The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe' (2009) Antitrust Law Journal 16.

be part of the legal framework that would protect the economic order and economic freedom of market players, and prevent the growth of political power. The ordoliberal school advocated that individual economic freedom and competition were the primary sources of growth and political freedom.[113]

However, there was another group within this school that adopted a neutral approach to non-agreement-based monopolies, such as natural and legal monopolies achieved on merit, according to which the law was required to prescribe a standard of conduct.[114] One such example is the Ordoliberal economist Leonhard Miksch, who adopted the concept of 'as-if competition'. Miksch stated that any economic policy measure needs a normative reference point for restricting a market power. He also individualised the prospect of comparison between markets with and without market power. [115]Principally, Miksch claimed that dominant firms should be allowed to compete as if they were subject to full competition and had no dominant position.[116] With the belief that a dominant firm has a 'special responsibility,' a notion inspired by perfect competition that predicts lower prices and higher output if various producers are active in the market.[117] Therefore, they must refrain from practices that would not be possible for them if they did not have a dominant position in the market.[118] Furthermore, the state should not be given discretionary power to interfere in the economy other than to apply such standards.[119]

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113 Liza Lovdahl Gormsen, 'The Conflict between Economic Freedom and Consumer Welfare in the Modernisation of Article 82 EC' (2007) 3(2) European Competition Journal 332.

114 Nicola Giocoli, 'Competition Versus Property Rights: American Antitrust Law, the Freiburg School, and the Early Years of European competition policy' (2009) Journal of Competition Law and Economics 747.

115 Pierre Larouche and Maarten Pieter Schinkel, 'Continental Drift in the Treatment of Dominant Firms: Article 102 TFEU in Contrast to § 2 Sherman Act' (TILEC Discussion Paper No 2013-020, 2013) 24 <https://ssrn.com/abstract=2293141 or http://dx.doi.org/10.2139/ssrn.2293141> accessed 7 April 2014.

116 Nils Goldschmidt and Arnold Berndt, 'Leonhard Miksch (1901–1950) A Forgotten Member of the Freiburg School' (Discussion Paper on Constitutional Economics, Walter Eucken Institut 2003).

117 Dieter De Smet, 'The diametrically opposed principles of US and EU antitrust policy' European Competition Law Review (2008) 357.

118 Antonio Bavasso, 'The Role of Intent Under Article 82 EC: From 'Flushing the Turkeys' to 'Spotting Lionesses in Regent's Park' (2005) 26(11) European Competition Law Review 616.

119 Massimiliano Vatiero, 'The Ordoliberal Notion of Market Power: An Institutionalist Reassessment' (2010) 6(3) European Competition Journal 689.

In practice, some authors[120] deny the influence of Ordoliberal thinking in the drafting of Article 102: for instance, an investigation of the *Travaux Préparatoires* (preparatory works) of the original EEC Treaty reveals that increasing efficiency was a fundamental concern for the drafters of the EEC Treaty. This is particularly true of the concept of productive efficiency, which is concerned with providing lower prices for consumers.[121] This view was also reinforced by the lack of merger-control rules in the Treaty and the positive position adopted towards mergers therein, indicating that the drafters were not against the accumulation of power *per se*.

It is especially significant that Article 102 TFEU does not prohibit an undertaking from attaining a dominant position, but is concerned only with preventing the abuse of such a position. This demonstrates that the drafters of the original EEC Treaty accepted a lack of competition may result from an undertaking with a dominant position; but sought to prohibit merely the exploitative abuses of dominant undertakings as reflected in the original French and German versions of the EEC Treaty.[122]

On the other hand, some scholars argue that the thoughts of the Ordoliberal school were of crucial importance to the development of EU competition law and consider that the influence of Ordoliberalism on Article 102 is clear in many instances of case law based on Article 102. Such examples based on an economic-freedom rationale reminiscent of Ordoliberal thinking, may have influenced the early enforcement of Article 102.[123] for a number of reasons

Firstly, the low threshold of dominance and the focus on market share are used as the main indications of market power, even though there are other

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120 See Pınar Akman, 'The Role of 'Freedom' in EU Competition Law' (2014) 34(2) Legal Studies; Pinar Akman, 'The European Commission's Guidance on Article 102 TFEU: From Inferno to Paradiso?' (2010) 73(4) The Modern Law Review and 'Searching for the Long-lost Soul of Article 82EC' (2009) 29(2) Oxford Journal of Legal Studies

121 Pinar Akman, 'Searching for the Long-lost Soul of Article 82EC' (2009) 29(2) Oxford Journal of Legal Studies 271.

122 Erika Szyszczak, 'Controlling Dominance in European Markets.' Fordham International Law Journal 33 (2011) 1752 citing Rene Joliet, Monopolization and abuse of dominant position (1970).

123 See Karel Van Miert, 'The Future of European Competition Policy' (Presentation of the Ludwig Erhard Prize, Bonn 1998) and Renato Nazzini, 'Microsoft Case and the Future of Article 82' (2007) 22 The Antitrust 59.

factors taken into consideration in detecting an abuse, as was stated in *AKZO v Commission*:

> *It should be further observed that according to its own internal documents AKZO had a stable market share of about 50% from 1979 to 1982. Furthermore, AKZO has not adduced any evidence to show that its share decreased during subsequent years.*[124]

Secondly, competition law rules that were introduced before the modernisation process were based on a form-focused approach towards unilateral behaviour, with conduct being categorised into 'good behaviour' (competition on merit) and 'bad behaviour', the latter of which is regarded as being without redeeming features (impediment to competition).[125] There was no clarity in differentiating between, factors that are regarded as competition on merit and factors that are regarded as hindrance of competition. An example of Ordoliberal indication that was apparent in a judicial decision under Article 102 TFEU is in *Hoffman La Roche v Commission*[126], it was stated:

> *The concept of abuse is an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.*[127]

Additionally, Philip Lowe (DG Competition's former Director-General) stated that Ordoliberal thought impacted the Commission's decisional practice before the modernised approach, where '[t]he protection of individual economic freedom—as a value in itself—was regarded as the primary objective of

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124 Case C-62/86 *Akzo Chemie BV v Commission* [1991] ECR I-3359, para 59.

125 Christian Ahlborn and David S Evans, 'The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe' (2009) 75(3) Antitrust Law Journal 16.

126 Case 85/76 Hoffmann-La Roche & Co AG v Commission [1979] ECR 461.

127 ibid para 91.

competition policy,'[128] and accordingly a restriction on the rights and opportunities of market operators was equated as abuse.[129]

Thirdly, the EU antitrust policy is an interventionist policy; it imposes a special responsibility on a dominant firm and supports the intervention of the Competition authority in the market process.[130] The notion of the special responsibility that has been cited in various cases, is that a self-assessment burden requires, the dominant firm to avoid practices that hinder competition or impair the genuine competition process.[131] Thus, considering the positions of other competitors in the market through their business strategies, by not harming the other competitors too much or excluding them from the market. [132]

The fourth consideration is the issue of structural presumptions based on the assumption of a close link between market structure and competition. One instance is presuming consumer benefit when there are losses of market share by a dominant firm.[133] The use of such presumptions means that there is a reliance on the form of the conduct, rather than an assessment of the effects of the conduct on consumer welfare, which leads to uncertain results that may not even be applicable to some hidden abusive conducts. For example, in *Continental Can v Commission*, the ECJ focussed on the likely effects of the structure of the competitive process regardless of its effects on consumers.[134] In the case of *Commercial Solvents v Commission*, the Court

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128 P Lowe, 'Consumer Welfare and Efficiency – New Guiding Principles of Competition Policy?' (Speech given on 27 March 2007 at the 13th International Conference on Competition and 14th European Competition Day) 2.

129 Liza Lovdahl Gormsen, 'The Conflict between Economic Freedom and Consumer Welfare in the Modernisation of Article 82 EC' (2007) 3(2) European Competition Journal 332.

130 Dieter De Smet, 'The Diametrically Opposed Principles of US and EU Antitrust Policy' (2008) 29(6) European Competition Law Review 356.

131 See Case T-111/96 *ITT Promedia v Commission* [1998] ECR II-2937, paragraph 139: '…Undertakings in a dominant position may be deprived of the right to adopt a course of conduct or take measures which are not in themselves abuses and which would even be unobjectionable if adopted or taken by non-dominant undertakings'.

See Case T-228/97 *Irish Sugar v Commission* [1999] ECR II-2969, paragraph 112: '…whilst the finding that a dominant position exists does not in itself imply any reproach to the undertaking concerned, it has a special responsibility, irrespective of the causes of that position, not to allow its conduct to impair genuine undistorted competition on the common market'.

132 Dieter De Smet, 'The diametrically opposed principles of US and EU antitrust policy' European Competition Law Review 29.6 (2008): 357.

133 Christian Ahlborn and David S Evans, 'The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe' (2009) 75(3) Antitrust Law Journal 16.

134 Case 6/72 *Europemballage Corp and Continental Can Co Inc v Commission* [1973] ECR 215, para 26.

'The provision is not only aimed at practices which may cause damage to consumers directly, but also at those which are detrimental to them through their impact on an effective competition structure.'

decided to protect the interests of the competitors without considering the effects of the conduct on consumer welfare.[135]

Fifthly, the continuous attempts towards diminishing the effects of Ordoliberalism through soft law tools and the drastic reforms on the enhancement of the consumer welfare approach, affirm that such an impact exists but does not necessarily require legislative amendment.

Therefore, the influence of Ordoliberalism should not be dismissed, especially when it disregards the legal history of the provisions and misconstrues the concept of abuse. For example, the drafting history of the Treaty of Rome is not legally binding when it comes to the interpretation of Article 102 TFEU.[136] A reading of the preparatory work of the drafting the EEC Treaty indicates that the 'abuse' concept was only incorporated into the provision covering the control of dominant undertakings as a result of proposals repeatedly submitted by the German negotiating team, which comprised a number of second-generation Ordoliberals.[137]

Given these points, this thesis argues that the Ordoliberal school has had an impact on the applicability of Article 102 TFEU as seen through the EU cases. This impact is mostly influenced by the neutral approach that refers to Leonhard Miksch's standard of 'as-if' competition. This is particularly seen in the wording of Article 102 TFEU and the related case law that did not prohibit the dominant position or the competition by market players to acquire higher market share, but rather took the conscientious approach against firms with high market shares and emphasised their special responsibility.

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135 Joined Cases 6 and 7/73 *Commercial Solvents v Commission* [1974] ECR 223, para 32 '… Abuse which may directly prejudice consumers as well as abuse which indirectly prejudice them by impairing the effective competitive structure'.

136 Peter Behrens, 'The Ordoliberal Concept of Abuse of a Dominant Position and its Impact on Article 102 TFEU' (Nihoul/Takahashi, Abuse Regulation in Competition Law, Proceedings of the 10th ASCOLA Conference Tokyo 2015) 3.

137 Peter Behrens, 'The Ordoliberal Concept of Abuse of a Dominant Position and its Impact on Article 102 TFEU' (Nihoul/Takahashi, Abuse Regulation in Competition Law, Proceedings of the 10th ASCOLA Conference Tokyo 2015) 3.

2.3.2 The Harvard school of thought

The Harvard school (also known as the Classical School) has had a real impact on competition policy. It was dominant between the 1940s and the 1960s[138] and was associated with economists such as Mason,[139] Bain,[140] Kaysen, and Turner.[141]

Initially, before indicating to what extent the Harvard school of thought influenced the EU competition, it is worth noting that the Harvard school produced empirical studies for analysing market structure. The main contribution was the structure-conduct-performance paradigm,[142] which postulates that certain market structures lead to anti-competitive effects, irrespective of the conduct of individual firms and the form of their practices. This consideration implies that market structure determines a firm's conduct in the market, which in turn determines market performance.[143]

Harvard school proponents also consider that there is a direct relationship between the structure of the market and its profitability, whereby a high concentration market enables dominant firms to achieve larger profits.[144] This means that a high level of concentration is an indication that firms have market power and allow anti-competitive behaviour. However, such knowledge requires that the number of firms in a certain sector be measured: the fewer the firms, the higher the concentration. This then leads to the conclusion that monopoly and oligopoly markets are less efficient compared to markets with several players.[145]

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138 Liza Lovdahl Gormsen, 'The parallels between the Harvard Structural School and Article 82 EC and the Divergences between the Chicago- and Post-Chicago Schools and Article 82 EC' (2008) 4(1) European Competition Journal 221.

139 Edward Mason, Economic Concentration and the Monopoly Problem (Harvard University Press 1957).

140 Joe Bain, Barriers to New Competition: Their Character and Consequences in Manufacturing Industries (Harvard University Press 1956).

141 Carl Kaysen and Donald Turner, Antitrust Policy: An Economic and Legal Analysis (Harvard University Press 1959).

142 Giorgio Monti, EC Competition Law (CUP 2007) 57.

For the purposes of this discussion, it is useful to define the three terms that form the paradigm.

Market 'structure' is a term used to define the characteristics of the environment within which firms operate in a given product market, such as the number of firms or competitors, their market power, and any barriers to entry. 'Conduct' relates to the conduct and methods of firms, such as their price-setting strategies, product advertising, and research and development. 'Performance' indicates how the conduct of firms is measured and which standards are followed, such as how productivity, dynamic efficiency, or the employment of human resources is measured.

143 Jonathan Faull and Ali Nikpay, The EC Law of Competition (OUP 2007) 6.

144 Joe Bain, Barriers to New Competition: Their Character and Consequences in Manufacturing Industries (Harvard University Press 1956).

145 Giorgio Monti, EC Competition Law (CUP 2007) 58.

Despite the efforts of the Harvard school in the founding of basic economics for competition rules, many of its empirical studies have been criticised, particularly its presumption with regard to the correlation between profit and concentration, even if this were to be proved, the origin of the concentration and the profit rate is not considered.[146] Moreover, its efforts are limited to market structure and performance and are thus focused on the competitive process without considering the effects on consumer welfare.

They did not believe in one single goal of competition, but rather stood behind multiple goals such as distribution of equity, economic stability, and decentralisation of economic power.[147] The Harvard school, focused less on the issue of objectives in their work but rather they determined the effects of practices on total surplus and efficiency, as early as the 1930s.[148] They generally embraced an economic efficiency orientation that emphasised reliance on economic theory in the formulation of competition rules.[149] The academic literature suggested that the Harvard school of thought has had an influence on EU policy. This also includes the structure, conduct, and performance that have shaped the economic reasoning underpinning the Commission's assessments of dominance.[150]

> *Courts have considered the Areeda-Turner test as a starting point, but they have introduced some important modifications. Hence, the legal test established in the AKZO[36] case and refined in Tetra Pak II defines as anticompetitive prices below AVC, and also prices above AVC, but below average total cost (ATC) 'if they are determined as part of a plan for eliminating a competitor.'*[151]

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146 Marcus Glader, 'Innovation Markets and Competition Analysis: EU Competition Law and US Antitrust Law (Edward Elgar Publishing 2006) 49.

147 Liza Lovdahl Gormsen, A Principled Approach to Abuse of Dominance in European Competition Law (The Cambridge Antitrust and Competition Law Series, CUP 2010) 31.

148 Anne Witt, The More Economic Approach to EU Antitrust Law (Bloomsbury Publishing 2016) 82.

149 William E. Kovacic, 'The intellectual DNA of modern US competition law for dominant firm conduct: the Chicago/Harvard double helix.' Colum. Bus. L. Rev. (2007), 36.

150 Malcolm Coate, 'Unilateral Effects Analysis and the Upward Pricing Pressure Model: Evidence from the Federal Trade Commission' (June 1, 2011) in Jacques Bourgeois and Denis Waelbroeck, eds. Ten years of effects-Based approach in EU competition law, Primento, 2012.

See also, Claus-Dieter Ehlermann and Mel Marquis, eds. 'European Competition Law Annual 2007: A Reformed Approach to Article 82 EC' Bloomsbury Publishing, 2008, xxxi.

151 Germain Gaudin, Despoina Mantzari; 'Margin Squeeze: An Above-Cost Predatory Pricing Approach' (2016) 12 Journal of Competition Law & Economics 151. See Case C-62/86, *AKZO v. Commission* [1991]E.C.R. I-3359.

In addition, the concept of workable competition has been influential in the implementation of Article 102, by granting large discretionary powers to the competition authorities.[152] Also, the European Court of Justice referred to the concept of workable competition in its leading Metro judgement, as being the type of competition that was required in order to achieve the economic objectives of the EC Treaty.[153]

The Harvard school of thought's approach with regard to barriers to entry is also significant in the EU Competition policy. On this issue, there is not a specific reason for adopting the Bainian approach towards barriers to entry, but such adoption can be explained by the fact that the Harvard school focussed more on entry barriers in terms of evaluation of market power, compared to other schools of thought. Leading economist Bain defined barriers to entry as:

> *The extent to which, in the long run, established firms can elevate their selling prices above the minimal average costs of production and distribution (those costs associated with operation at optimal scales) without inducing potential entrants to enter industry.*[154]

This definition of barriers to entry includes a wide range of factors, particularly, structural features of the market.[155] Such situations can be seen as competition between exogenous numbers of firms, whereby even if a new firm in the market can achieve positive profits, entry is not possible.[156] Thus, if there are high barriers to entry, a company's market share will not usually have to be excessively high in order to provide it with a dominant position.[157] In contrast, if there are no or very few barriers to entry, a company with a high market share is not necessarily considered dominant.

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152 Van den Bergh, Roger, and Peter D. Camesasca. European competition law and economics: a comparative perspective. Intersentia nv, 2001, 34.

153 Roger Van den Bergh, and Patrick Van Cayseele, 'Antitrust law' Encyclopaedia of Law and Economics 3 (2000), 489. see case 26/76, *Metro v SABA and Commission* [1977] ECR 1875, para 20.

154 Joe Bain, 'Industrial Organization (2nd edn, John Wiley & Sons, Inc 1968) 252.

155 Giorgio Monti, EC Competition Law (CUP 2007) 144.

156 J Bain, Barriers to New Competition: Their Character and Consequences in Manufacturing Industry (Harvard University Press 1956).

157 Mortiz Lorenz, An Introduction to EU Competition Law (CUP 2013) 199.

Harvard school proponents also take the view that the price-cost margin of dominant firms increases when entry barriers are higher and decreases when entry barriers are lower. They give a wide definition to barriers to entry in general. For instance, Harvard proponents do not consider economies of scale as a justification for highly concentrated industries.[158] Therefore, they propose broad approaches toward barriers to entry and market regulation, which is an interventionist approach.

In brief, the Ordoliberal school and the Harvard school share common elements: both condemn practices according to an interventionist form-based approach. They are also both designed to maintain competitive structures in markets and protect the associated processes through structural remedies, rather than behavioural remedies that deal only with motives.[159] This is so even though EU competition policy considers behavioural remedies more appropriate than structural remedies.[160] Ultimately, both Schools give a significant amount of attention to the structure of the market, which can be an indicative factor of dominance, as can the correlation between market concentration and competitive practices.

2.3.3 The Chicago school of thought

The Chicago school[161] of thought was developed in the 1960s and 1970s and is associated with economists and legal scholars such as Robert Bork, George Stigler, Ward Bowman, and Richard A Posner.[162]

The Chicago school considers that the aim of Competition law is to protect, and reinforce powerful economic mechanisms that compel businesses

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158 Giorgio Monti, EC Competition Law (CUP 2007) 58.

159 Alison Jones and Brenda Sufrin, EU Competition Law: Text, Cases, and Materials (5th edn, OUP 2014) 21.

160 For more details, see Frank P Maier-Rigaud, 'Behavioural Versus Structural Remedies in EU Competition Law' in Philip Lowe, Mel Marquis and Giorgio Monti (eds), European Competition Law Annual 2013: Effective and Legitimate Enforcement of Competition Law (Bloomsbury Publishing 2016) 207.

161 Hammed Abayomi Al-Ameen, Antitrust: The Person-centred Approach (Springer 2014) 56: The Chicago School is described as a 'utilitarian approach: An ideology of moral rights that is modelled on the reasoning that right should exist where its outcome promote the happiness of the majority even if the effect is that the interest of the minority is to be sacrificed'.

162 Robert Bork, 'The Antitrust paradox: A Policy at War with Itself' (2011) 13(2) Valparaiso University Law Review ; George Stigler, The Organization of Industry (University of Chicago Press Economics Books 1983); Richard Posner, 'The Chicago School of Antitrust Analysis' [1979] University of Pennsylvania Law Review; Milton Friedman, Robert H Bork, and Ward S Bowman, 'The Crisis in Antitrust' (1965) 6(3) Columbia Law Review.

to respond to the consumers.[163] Hence, they advocate a *laissez-faire* attitude to exclusionary conducts, which is an economic system with self-regulating market relations that decrease market behaviour interference, accepting a broad spectrum of practices in the market in order to promote efficient technologies.[164] Chicago proponents believe that when there are entrants exerting strong competitive pressure in certain sectors, some aggressive conducts are not necessarily anti-competitive.[165]

The Chicago view, suggests that competitive outcomes can occur without interference from the competition authorities.[166] Suggesting that the law should only challenge conduct that leads to a restriction of output, and should only apply to social harm cases that result from resource losses, which are caused by producers failing to increase their production to the extent that satisfies consumers who are willing to pay a competitive price.[167] Therefore, they view efficiency in light of output increases, cost savings, and innovation, and they considered that the test for abusive conducts is not whether the conduct harms competition or excludes competitors, but whether the practice under consideration allows firms to reduce output and raise prices.[168]

Thus, the Chicago school used the term 'consumer welfare' to describe 'the total economic welfare' as the sole aim of competition rules, which can be measured by adding consumer surplus to producer surplus to arrive at the total surplus.[169] Chicago proponents see the promotion of competition as a mediate goal that will often be close enough to the ultimate goal of efficiency.[170] They

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163 See Robert H Bork, 'The Antitrust paradox: A Policy with War at Itself' [1993]The Free Press, New York, 90.

164 Tony A Freyer, Antitrust and Global Capitalism 1930–2004 (CUP 2006) 62.

165 Federico Etro and Ioannis Kokkoris, Competition Law and the Enforcement of Article 102 (OUP 2010) 8.

166 Robert D Atkinson and David B Audretsch, 'Economic Doctrines and Approaches to Antitrust' (Report by the Information Technology & Innovation Foundation 2011) 4.

167 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 39.

168 Giorgio Monti, EC Competition Law (CUP 2007) 65.

169 EE and MC, 'Differences in Schools of Thought on Protecting Competition: Chicago School vs. European School', Competition Competence Report Autumn 2016/2
http://www.ee-mc.com/fileadmin/user_upload/ccr_en/Differences_in_schools_of_thought.pdf
see also Roger J. Van den Bergh, 'Comparative Competition Law and Economics' (2017) Edward Elgar Publishing.

170 Florian Wagner-von Papp, 'Comparative Antitrust Federalism and the Error-Cost Framework or: Rhetoric and Reality: You Protect Competitors, We Protect Competition–Except When We Protect Competitors.' (2014) in William E. Kovacic, An Antitrust Tribute-Liber Amicorum - edited by Nicolas Charbit, Elisa Ramundo Volume II, Institute of Competition Law (2014),77.

favoured a soft anti-trust approach by applying the consumer welfare standard, and improving allocative efficiency without impairing productive efficiency, in order to measure harm to competition (welfare loss).[171] Allegedly, anti-competitive practice can be accepted if it brings benefits to consumers.[172]

As an illustration, the common understanding of 'consumer welfare' is the difference between the highest price a consumer is willing to pay and the price they actually pay for goods or services.[173] They focused on the effect of the competition process and its output, where protecting the structure of the market is required if is to lead to consumer welfare. Whereas, productive efficiency exists when the production of an output is at the lowest possible cost.[174] Comparatively, allocative efficiency exists when products are being produced in the most efficient and least expensive way and close to incremental production costs.[175] When this happens, the consumer surplus[176] is at its largest: the higher the allocative efficiency, the greater the consumer welfare.[177]

In addition, the Chicago school provided vital insights into fundamental issues in competition, as well as a fairer understanding of how monopolistic and perfectly competitive markets work. They offered an elegant, pro-market vision of competition policy, which considered markets to be far more robust than people had previously imagined, and further demonstrated that effective

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171 Liza Lovdahl Gormsen, A Principled Approach to Abuse of Dominance in European Competition Law (The Cambridge Antitrust and Competition Law Series, CUP 2010) 31.
See Robert H Bork, 'The Goals of Antitrust Policy' (1967) 57(2) The American Economic Review 242:
'confining antitrust to consumer welfare permits courts to employ the teachings of economic analysis to estimate whether the net effect of a particular structure, act or agreement is likely to be an increase or decrease in output'.

172 Oles Andriychuk, 'Can We Protect Competition Without Protecting Consumers?' (2010) 6(1) The Competition Law Review 77.

173 Ariel Ezrachi, Article 82 EC: Reflections on its Recent Evolution (Hart Publishing 2009) 75: 'such concept is concerned with the deadweight loss to consumers who would have bought the product at a price higher than the marginal cost, but have switched to an alternative product as a result of monopolistic pricing (allocative efficiency), and with the loss to consumers who bought the product at the monopolistic price, where the wealth was transferred from consumers to producers'.
See also R Shyam Khemani and Daniel M Shapiro, 'Glossary of Industrial Organisation Economics and Competition Law' (Centre for Co-operation with European Economies in Transition, Paris 1993) 28: Consumer welfare refers to the individual benefits derived from consuming the good or the service

174 Renato Nazzini, The Foundations of European Union Competition Law: The Objective and Principles of Article 102 (OUP 2011).

175 R Shyam Khemani and Daniel M Shapiro, 'Glossary of Industrial Organisation Economics and Competition Law' (Centre for Co-operation with European Economies in Transition, Paris 1993) 65.

176 ibid 28: 'Consumers' surplus is a measure of consumer welfare and is defined as the excess of social valuation of product over the price actually paid.'

177 ibid 29.

competition needed far fewer firms than was once believed.[178] Thus, when competition is not sufficient, new entrants will undermine monopoly-pricing attempts.[179]

Significantly, the Chicago school considers firms as profit maximisers indicating that the market usually operates with few firms as profit maximisers.[180] In the competition process, some firms grow at the expense of less effective firms.[181] They view dominant positions to be the result of a competitive market and efficient practices, that will eventually lead to dominant undertakings that offer efficiency, low prices and consumer welfare.[182]

In addition, they contributed towards competition law rules and updated the purely static analysis, supplementing the principles of potential competition and entry analysis to promote economic liberalism and free market economics.[183] This was done by identifying barriers of entry as a type of cost that must be borne by firms seeking to enter the market, rather than being borne by firms that are already in the market.[184] The Chicago's definition focuses on barriers such as intellectual property rights and other kinds of barriers created by governmental regulation and accordingly presume equal access for both incumbents and entrants, which is the usual situation for all competitors that aim to enter a certain market.[185] For instance, economies of scale are not considered as barriers to entry, since in all markets both incumbents and entrants bear these costs as they expand their output.[186] It

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178 Robert H Bork, 'The Antitrust paradox: A Policy with War at Itself' [1978] University of Pennsylvania Law Review 91.

179 Herbert Hovenkamp, Federal Antitrust Policy: The Law of Competition and its Practice (3rd edn, Thomson/West 2005) 273.

180 Nicholas Mercuro and Steven G Medema. Economics and the law: from Posner to post-modernism. Princeton University Press, 1998, 57.

181 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 40.

182 ibid.

183 Andrej Fatur, EU Competition Law and the Information and Communication Technology Network Industries: Economic versus Legal Concepts in Pursuit of Consumer Welfare (1st edn, Bloomsbury Publishing 2012) 36.

184 W Kip Viscusi, John M Vernon, Joseph E Harrington, Economics of Regulation and Antitrust, Fourth Edition (MIT Press, 2005) 169.

185 R Preston McAfee, Hugo M Mialon and Michael A Williams, 'Economic and Antitrust Barriers to Entry' (2003) Pazarlama Araştırmaları, İstanbul seçkin Yayıncılık 1

186 Preston McAfee, Hugo Mialon and Michael Williams, 'Economic and Antitrust Barriers to Entry' (2003) Pazarlama Araştırmaları. İstanbul, Seçkin Yayıncılık 1.

The definition by Stigler caused some confusion by using the present tense 'is' in the definition. This is because sometimes entrants must bear a cost that incumbents do not need to bear, but have already borne in the past when they first entered the market. For this reason, some have assumed that what is meant in the previous definition is that a barrier to entry is a cost that entrants must bear, whereas incumbents do not have to or have not had to.

should therefore be noted that the Chicago definition is narrow and less restrictive than the Harvard definition that includes more factors such as economies of scale and other market characteristics. Thus, this view will have different implications for the legal rules in terms of market definition.

Nevertheless, the Chicago school ignores the role of strategic interaction between incumbents and entrants, the interaction of traditional Bainian barriers to entry with strategic interaction between incumbent firms and entrants,[187] and the progress in the application of game theory, resulting in an insufficient understanding of the behaviour of firms with high market share.[188]

At a pragmatic level, the Chicago school approach has had a limited influence on the EU approach and only appears occasionally in EU cases or soft-law instruments. For instance, the recognition of the role of efficiencies under merger analysis, [189] and the acceptance that some practices have an economic justification by the EU Courts.[190] Additionally, the elements of the Chicago school theory are strongest in vertical agreements, as the Commission takes both actual and likely effects into account in the vertical agreement. Vertical agreements, between non-competing undertakings where the individual market share of the supplier and buyer does not exceed 30 per cent of the relevant market, qualify for exemption from prohibition under Article 101(3) TFEU.[191] Both the Chicago School and the European competition rules

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See Robert H Bork, 'The Antitrust paradox: A Policy with War at Itself' [1993] The Free Press, New York, xi. This includes the Chicago view for artificial barriers as Bork expressed that 'If everything that makes entry more difficult is viewed as a barrier, and if barriers are bad, then efficiency is evil.' This conclusion is inconsistent with consumer-oriented policy. What must be proved to exist, therefore, is a class of barriers that do not reflect superior efficiency and can be erected by firms to inhibit rivals. I think it clear that no such class of artificial barriers exists'.

187 David Harbord and Tom Hoehn, 'Barriers to Entry and Exit in European Competition Policy' (1994) 14 International Review of Law and Economics 411–419.

188 Federico Etro and Ioannis Kokkoris, Competition Law and the Enforcement of Article 102 (OUP 2010) 13.

189 Suzanne Kingston, Greening EU Competition Law and Policy (CUP 2011).

190 Ece Gursoy, 'The Role of Efficiencies under EU Competition Law (Thesis, King's College London, University of London 2012) 271.

191 Dzmitry Bartalevich, 'The Influence of the Chicago School on the Commission's Guidelines, Notices and Block Exemption Regulations in EU Competition Policy' JCMS: Journal of Common Market Studies 54.2 (2016): 267.

See European commission, Guidelines on Vertical Restraints [2010] OJ C130/1: para 97, and Commission Regulation No 330/2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices [2010]OJ L 102: Article 2(4), 3(1).

prefer a system based on market economies, including maximising an aggregate economic welfare, but the interest in social equality is different.[192]

2.3.4 The post-Chicago school of thought

The post-Chicago school of thought was developed during the 1980s and 1990s[193] by scholars such as Foer,[194] Lande,[195] and Sullivan.[196] They valued the promotion of efficiency and their motivation was the enhancement of consumer welfare against the detrimental effects of certain business practices.[197] Equally, they focussed on the distributive goals of antitrust perception where the aim is to prevent unfair acquisitions, or the transfer of consumer wealth by the practices of dominant firms. This is a different rationale to the Chicago school concept of consumer welfare, which prefers the consumer surplus standard as it is easier to apply.[198]

Post-Chicago proponents questioned the assumptions underlying the Chicago School's thinking.[199] In particular, they used game theory to show that firms with a dominant position may have the incentive to engage in unilateral conducts that may reduce consumer welfare and where certain behaviours could prove anti-competitive.[200] They found that the model generated by the Chicago school was insufficient, because it only took a static perspective of the market and was concerned only with short-term profit maximisation.[201]

Thereafter, they were determined to identify different standards when considering what behaviours could be pro-competitive and what could become

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192 EE and MC, 'differences in Schools of Thought on Protecting Competition: Chicago School vs. European School', Competition Competence Report Autumn 2016/2.
http://www.ee-mc.com/fileadmin/user_upload/ccr_en/Differences_in_schools_of_thought.pdf

193 Katalin Judit Cseres, Competition Law and Consumer Protection vol 49 (Kluwer Law International 2005).

194 Albert Foer and Robert Lande, 'Post-Chicago School Paradigm Emerges: A New Foundation For Antitrust Law' (Thesis, University of Baltimore, 1998); Albert Foer, 'The Third Leg of the Antitrust Stool' (2002) 21(2) Journal of Public Policy and Marketing 227-231.

195 Robert Lande, 'Proving the Obvious: The Antitrust Laws Were Passed to Protect Consumers (Not Just to Increase Efficiency)' (1998) 50 Hastings LJ 959.

196 Lawrence Sullivan, 'Post-Chicago Economics: Economists, Lawyers, Judges, and Enforcement Official in a Less Determinate Theoretical, 1994, World' (1994) 63 Antitrust LJ 669.

197 Anne Witt, The More Economic Approach to EU Antitrust Law (Bloomsbury Publishing 2016) 82.

198 Anne Witt, The More Economic Approach to EU Antitrust Law (Bloomsbury Publishing 2016) 82.

199 Katalin Judit Cseres, Competition Law and Consumer Protection vol 49 (Kluwer Law International 2005) 57.

200 Jorge Padilla and David S Evans, 'Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach.' (2005) 72 University of Chicago Law Review 74.

201 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 241.

anti-competitive, they also aimed to identify the possibility of profitable exclusionary strategies. They developed models that reflected the complexity of markets and used more sophisticated tools, which in turn produced robust economic conclusions, which proved to be difficult to test.[202]

Taking a pragmatic approach, post-Chicago ideas are significant in the EU competition policy. For instance, they consider that market characteristics have a fundamental role in determining competitive impacts. In particular, they did not believe in self-correcting markets, especially when firms might exploit market imperfections.[203] They pursue an interventionist approach and considered that competition rules should focus on protecting the competition process in the market as a tool to achieve consumer welfare and efficiency. This approach is similar to the Commission's purported effects-based approach which has been emphasized in the post modernisation process and which will be addressed and evaluated according to its decisional practice in chapter four.

In summary, the post-Chicago ideals agreed with the Harvard school that there is a relationship between the practices of firms and their performance, which affects the structure of the market. Henceforth, both schools supported an interventionist approach. The post-Chicago school was also in line with the major assertions made by the Chicago school; they shared the view that economics is the essence of competition rules and that its goal should be consumer welfare but with different conceptions.[204] This comparison in turn demonstrates that the post-Chicago view is a middle ground approach between the Harvard school of thought and the Chicago school of thought.

2.3.5 The endogenous entry approach

The previous schools of thought on the economic analysis of abuse of dominance is considered as being the cause of competition authorities'

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202 Antonio Cucinotta, Roberto Pardolesi and Roger Van den Bergh, Post-Chicago Developments in Antitrust Law (Edward Elgar Publishing 2002) 3.

203 Liza Lovdahl Gormsen, A Principled Approach to Abuse of Dominance in European Competition Law (CUP 2010) 37.

204 Robert D Atkinson and David B Audretsch, 'Economic Doctrines and Approaches to Antitrust' (Report by the Information Technology and Innovation Foundation 2011) 12.

concerns about market concentration, and sunk costs act as barriers to entry into markets. However, those market theories provide no way of explaining innovation or market concentration in a dynamic competition process.[205]

The recent theoretical advances in terms of the organization of industries in a dynamic context could be applied to fast moving innovation markets, which are based on the analysis of endogenous market structure. This considers the behavioural theory of the firm, and profit maximising strategies by market players and the entry decisions by an endogenous number of firms to verify the impact of practices on consumer surplus and welfare. Thus, the entry condition of markets must be at the core of any economic approach to competition policy.[206]

The endogenous entry and market leaders approach aimed to integrate the Chicago and post-Chicago approaches through building a bridge between the post-Chicago game-theoretic foundation approaches and the Chicago approach with an emphasis on entry pressure and the economics of competition policy that have been dominant in the last few decades. [207]

This is particularly significant since the Chicago approach focuses only on the importance of competition and the free entry in constraining market leaders, but neglects the role of strategic interactions between incumbents and entrants and the asymmetric role of market leaders.[208] The Chicago School inadvertently ignored dynamic competition by embracing static microeconomic theory; therefore, a static understanding of competition.[209] The negligence towards vital advances in the application of game theory meant that the

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205 Jerry Ellig, 'Dynamic Competition, Online Platforms, and Regulatory Policy' (written submission to the House of Lords Select Committee on the European Union, EU Internal Market Subcommittee, 2015) https://www.mercatus.org/publication/dynamic-competition-online-platforms-and- regulatory-policy.

See Roger Van den Bergh and Peter D Camesasca, European Competition Law and Economics: A Comparative Perspective' (Intersentia-Hart 2001) 59: An example of this is the Harvard approach, which only focused its analysis 'in terms of a causative chain' from str ucture to conducts to performance with a very narrow approach to barriers to entry.

206 Federico Etro and Ioannis Kokkoris, Competition Law and the Enforcement of Article 102 (OUP 2010) 10.

207 Federico Etro, 'The Economics of Competition Policy and Dominant Market Position' (The Stockholm Network Experts' Series on Intellectual Property and Competition, Stockholm Network Press, London 2007) 4.

208 Roger Van den Bergh and Peter D Camesasca, European Competition Law and Economics: A Comparative Perspective (Intersentia-Hart 2001) 60.

209 J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5 Journal of Competition Law and Economics 581.

approach to exclusionary practices was usually biased against anti-competitive practices without an updated theoretical support.[210]

In addition, the post-Chicago approach focused its analysis on the strategic interactions between dominant firm and competitors that influence industry structure and performance, taking as given the capabilities of these competitors in terms of the variety and production costs of the products in their portfolios.[211] However, without taking account of the role of the endogeneity of the market structure or the profitable opportunities, which induce other competitors to enter the market, neglecting such consideration can lead to misleading results.[212] Hence, they are disinclined to embrace dynamic competition with these inadequate tools.[213]

The endogenous entry approach considers the strategic interactions between the dominant firm and competitors that influence industry and the incentives of dominant firms or market leaders and their different strategies for competing against each other and gaining advantages over rivals through technological innovation.[214] This includes revealing the fundamental importance of sunk costs and the nature of post-entry competition.[215] For instance, the post-Chicago approach associates any aggressive pricing with predatory purpose, whereas the theory of endogenous entry market leaders shows that aggressive pricing can be a welfare-enhancing role without exclusionary purposes.[216]

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210 Federico Etro and Ioannis Kokkoris, 'Working Paper Series: An Economic Approach to Abuse of Dominance' (No 190, Working Papers, University of Milano-Bicocca, Department of Economics, 2010) 13.

211 Europe Economics Chancery House, the Development of Analytical Tools for Assessing Market Dynamics in the Knowledge Based Economy Ref. Ares (2014) 77083 - 15/01/2014, http://www.europe-economics.com
This will be reviewed in chapter three, section 3.4.2.

212 Federico Etro, 'Stackelberg Competition with Endogenous Entry' (2008) 118 The Economic Journal 531, 1670.

213 J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5(4) Journal of Competition Law and Economics 581.

214 See Frank T Rothaermel, 'Competitive Advantage in Technology Intensive Industries' in Gary Libecap and Marie Thursby, 'Technological innovation: Generating economic results' Vol. 18 Emerald Group Publishing Limited, 2016. 233–256: a firm creates its competitive advantage by creating more economic value than its rivals, and achieving sustained superior performance over a company's direct rivals, is the ultimate challenge in strategy.

215 David Harbord and Tom Hoehn, 'Barriers to entry and exit in European competition policy' International Review of Law and Economics 14.4 (1994): 411–435.

216 Federico Etro, 'The Economics of Competition Policy and Dominant Market Position' (The Stockholm Network Experts' Series on Intellectual Property and Competition, Stockholm Network Press, London 2007) 4.

Additionally, there are various considerations from the analysis of the endogenous entry and the market leader's theory approach, which provide a solid theoretical grounds, as follows: First, the endogenous approach distinguishes between market leaders and dominant firms, both have some strategic competitive advantages over their competitors, but only when they can use such advantages to prevent effective competition and harm consumers, should they be considered dominant and their behaviour potentially abusive; otherwise, when they cannot prevent effective competition, they should be considered as leaders.[217]

Second, the theory emphasises that there should be no correlation between practices and the structure; it is no longer accepted as evidence that structure determines practices, especially since both are equally consistent with 'the feedback loop hypothesis' that both structure and practice in the market influence each other.[218] The theory suggests that investment by market leaders in innovation in high-technology sectors creates much efficiency, and by shifting market structures and related market practices away from market leadership will soften competition and decrease social welfare effects in high-technology markets, such as software markets. These attributes can be determined by the strategic action of firms such as limiting pricing, alteration of industry technology through R&D, endogenous barriers to entry. [219]

Third, the theory focuses on the conditions for entry pertinent to the detection of abuses of dominant positions that are deemed a fundamental factor in the assessment of market power, which must not be neglected or dealt with spontaneously.[220] This is necessary since the practices that reduce entry or partial foreclosure are not necessarily harmful for consumers, especially when entry into the market is only limited and not prevented, and where some

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217 Federico Etro, 'Competition Policy: Toward a New Approach' (2006) 2(1) European Competition Journal 37.

218 David B Audretsch, William J Baumol and Andrew E Burke, 'Competition Policy in Dynamic Markets' (2001) 19(5) International Journal of Industrial Organization 616

219 David B Audretsch, William J Baumol and Andrew E Burke, 'Competition Policy in Dynamic Markets' (2001) 19(5) International Journal of Industrial Organization 616.

220 Roger Van den Bergh and Peter D Camesasca, European Competition Law and Economics: A Comparative Perspective (Intersentia-Hart 2001) 60.

competitors are still active and can exert a competitive pressure on the market leader.[221] This include descripting 'the equilibrium outcomes in function of the entry conditions', demand and supply conditions, and welfare correlations under different set-ups.[222] The proponents of the endogenous approach considered entry in a market as a deliberate choice dependent on the profitable opportunities in the market.[223] Whether entry in a market is exogenous or endogenous has a significant difference to the way leaders behave.

Exogenous entry is a type of entry that emerges in situations where entry is not a decision taken by the firms but is determined by other institutional or regulatory authorities; in such circumstances entry into the market is independent from the profitability conditions.[224] In this type of entry, the incumbent may behave in an anti-competitive way and may adopt an accommodating predatory strategy, such as reducing prices in order to exclude rivals that will not be able to produce enough to cover their fixed costs, or even setting high prices to induce the exist of the rival, which in turn may harm consumers.[225]

This indicates that a large market share can be a result of anti-competitive practice, where other firms cannot overcome barriers to entry even when there are profitable opportunities in the market, due to a variety of reasons such as consumer preferences, natural monopolies, legal barriers, or even governmental intervention.[226] Therefore, in this type of entry, there is a need for more antitrust scrutiny to prevent anti-competitive practices of dominant position firms, raising prices or lowering the standards of their products.

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221 Federico Etro, Competition Policy for the New Economy: Abuse of Dominance (Y Katsoulacos ed, Athens University Press 2007) 48.

222 Federico Etro, Competition Policy for the New Economy: Abuse of Dominance (Y Katsoulacos ed, Athens University Press 2007) 48.

223 Federico Etro, 'Stackelberg Competition with Endogenous Entry' (2008) 118 The Economic Journal 531, 1670.

224 Federico Etro, Competition, Innovation, and Antitrust: A Theory of Market Leaders and its Policy Implications (Springer Science and Business Media 2007) ix.

225 Federico Etro, 'Antitrust Issues in Dynamic Markets' in Loannis Lianos and Loannis Kokkoris (eds), The Reform of EC Competition Law: New Challenges (Kluwer International 2010) 165.

226 ibid.

On the contrary, endogenous entry can be considered as a condition determining the endogenous size of the market power of the active firms as a consequence of profit-maximising decisions on entry; it occurs when entry into the market is open to outsiders and depends on the profitability conditions in the market. It should be regarded as the standard situation in most markets.[227] This occurs particularly in cases such as when firms are active in different markets and the rate of profit must be equalized across these markets; or when there are large fixed costs of entry or limited sunk costs (traditionally considered barriers to entry) that constrain endogenously the entry decision of the firms that interact strategically in a market and therefore their market power; or when patents drive this competition and induce technological progress.[228] In this type of entry, market leaders adopt aggressive strategies that do not cause harm to consumers.[229] Therefore, large market share of a leader results from strong competitive forces and entry conditions and not as a consequence of its market power, and what could be considered as a monopolistic market share may be evidence of a competitive environment with endogenous entry and not a reliable indication of market power.[230]

Noteworthy, the applicability of the endogenous approach depends on the competition authorities aim to correct distortions in the medium and long run, but not in the short run. Whereas if the competition authorities aim to correct short run distortions that result in the absence of entry pressure, the post Chicago analysis is relevant. As most market entry can be regarded as endogenous in the medium or long run, but not in the short run.[231]

Significantly, such an approach is not about dominance and detecting certain abusive behaviour, it is more about how corporate strategies are made and leading firms' reactions to entry decisions. The endogenous entry approach and the market leader's theory gives more prominence to fundamental factors such as barriers and corporate strategy in the competitive analysis. This

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227 Federico Etro, 'Competition Policy: Toward a New Approach' (2006) 2 European Competition Journal 29.

228 ibid.

229 Federico Etro and Ioannis Kokkoris. Competition Law and the Enforcement of Article 102. (OUP 2010) 12.

230 Federico Etro, 'Antitrust Issues in Dynamic Markets' in Loannis Lianos and Loannis Kokkoris (eds), The Reform of EC Competition Law: New Challenges (Kluwer International 2010) 185.

231 Federico Etro and Ioannis Kokkoris, Competition law and the enforcement of Article 102. OUP 2010 14.

approach is perceived as a less interventionist approach toward the competition process in dynamic markets, where the main criterion is considering if certain practices and strategies will harm consumers. This not only indicates more appreciation of the importance of dynamic competition for innovation and consumer welfare by antitrust policy makers, but also toward mitigating the hurtful unintended outcomes of static analysis of the competition process and the implementation of competition policy with specific reference to abuse of dominance [232]

To conclude, although the endogenous approach has not been mentioned in the law and economic literature on competition policy, it has recently been introduced in the theoretical analysis and its application in competition issues. This was necessary due to the fact that this approach has enriched the competition analysis by developing tools to distinguish the anti-competitive behaviours of monopolising firms from those who are competing aggressively. It also sufficiently considers dynamic efficiency and the pursuit toward consumer welfare through considering both the strategic interaction between dominant firms and market players and the profitability of entry as a fundamental criterion**.**

In summary, there are several approaches considering the economic analysis of abuse of a dominant position. The first interventionist approach, the Ordoliberal School, considered that competition rules should aim to protect the competition process itself, therefore ensuring effective competition is the objective of the competition rules to achieve other aims. The second interventionist, The Harvard School, approach considered that competition

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232 J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5(4) Journal of Competition Law and Economics 581. There are different concept of the principal dynamic theories of competition: see Jerry Ellig and Jerome Ellig, eds. Dynamic competition and public policy: Technology, innovation, and antitrust issues. Cambridge University Press, 2001, p.16–44 and Jay B. Barney, 'Competence Explanations of Economic Profits in Strategic Management: Some Policy Implications, ' in Dynamic Competition and Public Policy, Ellig, 45: The most prominent dynamic theory of competition is associated with Joseph Schumpeter, which argued that the most significant advance in human well-being comes in the form of competition that involves new technologies and new forms of business organisation rather than price and quantity.

Evolutionary competition theorists have also considered Schumpeter's modern descendants; firms have different abilities, originality constantly arises, and innovation occurs as firms grow more experienced, and there are limits to the amount of information decision makers can acquire and process. Additionally, theories of path dependence in which small variations in initial conditions can lead to unpredictable changes in the market's evolution. Lastly, the strategic management theories explicitly view the competition process as consistently striving to create superior capabilities to serve consumers in cost-effective ways.

rules should aim to protect the competition process and achieve efficiency. The third approach, taken by the Chicago school, considered that competition rules should aim to achieve consumer welfare as a description of the total welfare. The fourth interventionist approach, Post-Chicago, considered that competition rules should aim to achieve consumer welfare through the proper functioning of the market; therefore, protecting the competition process if it leads to consumer welfare. The fifth approach considered that the competition process should be careful when trying to intervene against a dominant position in a market with endogenous entry, including determining the impact of practices on consumer welfare.

2.4 Article 102: the difficulties of identifying dominance and abusive behaviours

This section focuses on the core substantive provisions of Article 102, which must be met to establish an abusive unilateral conduct claim: first, there must be one or more undertakings in a dominant position; second, such a position must be held within the common market or a substantial part of it; and third, there must be an abuse and this must have an effect on trade between member states. Specifically, Article 102 TFEU states that:

> *Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.*

2.4.1 'An undertaking or more' in a dominant position

An undertaking holding a 'dominant position' is one of the substantive cores of Article 102 TFEU, and indeed Article 102 only applies when an undertaking is in a dominant position. However, neither Article 102 nor any other provision in the treaty has defined the term of an undertaking in a dominant position or its constituent parts. An undertaking was identified in case law, as to encompass every entity engaged in an economic activity, regardless

of the legal status of the entity and the way in which it is financed.[233] The notion of economic activity includes every practice that offers a product or service in exchange of a remuneration on a given market.[234] Before adopting an economics-based approach, the EC competition rules rationalised the definition of a dominant position as a firm being a commercial power and having the ability to use that power when confronted by competition.[235] This definition can be interpreted as a concern for protecting the economic freedom of other market players as an aim of competition policy.[236]

Clearly, defining dominant position as a commercial power leads to broadening of the concept of dominance and results in more firms falling under Article 102 TFEU, by allowing different behaviours to be captured as indicators of independence, including foreclosing other competitors and raising prices without concomitant increases in costs.[237] Furthermore, such a wide definition can hinder some practices that can be pro-competitive.[238] As a result, a 'market' will be falsely defined too narrowly.

The court of justice defined the term 'dominant position' in *United Brands* case as*:*

> *[A] position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers.*[239]

However, as the ECJ stated, that such a position can exist even with the existence of some competition by other firms:

> *Such a position does not preclude some competition, which it does where there is a monopoly or a quasi-monopoly, but enables the*

233 Case 41/90, *Klaus Höfner and Fritz Elser v Macrotron GmbH* [1991] ECR I-01979, para 21.

234 Case C-437/09, *AG2R Prévoyance v Beaudout Père et Fils SARL*, [2011] ECR I-973, para 42.

235 Giorgio Monti, 'The Concept of Dominance in Article 82' (2006) 2 European Competition Journal 31, 1.

236 Wernhard Möschel Möschel, 'The proper Scope of Government Viewed from an Ordoliberal Perspective: The Example of Competition Policy' (2001) Journal of Institutional and Theoretical Economics 3 as cited in Giorgio Monti, 'The Concept of Dominance in Article 82' (2006) 2 European Competition Journal 31, 1.

237 Gunnar Niels, Helen Jenkins and James Kavanagh Economics for Competition Lawyers (OUP 2011), 121.

238 Annalies Azzopardi, 'Dominant Position: A Term in Search of Meaning' (2015) Global antitrust review, 7.

239 Case 27/76 *United Brands v Commission* [1978] European Court Reports 207, para 65.

> *undertaking which profits by it, if not to determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it so long as such conduct does not operate to its detriment.*[240]

Nevertheless, the interpretation of the concept of dominance is not an easy task, as it includes more than one element:

Firstly, there is the ability to prevent effective competition being maintained on the relevant market. This element in the definition is required since 'undistorted competition' is protected by Article 102, which has the objective of promoting long-term social welfare. Secondly, there is the concept of independence that has to be considered to an appreciable extent[241] and which is deemed to be a wide concept which is related to the constraints of competition experienced by a dominant undertaking and not merely the power over price. In addition to these two criteria, the Commission referred to a third criterion in the Continental Can decision. This criterion is the ability to control production or distribution. It can be considered as one aspect of the power to behave independently of others.[242] As the Commission stated;

> *Undertakings are in a dominant position when they have the power to behave independently, which puts them in a position to act without taking into account their competitors, purchasers or suppliers. That is the position when, because of their share of the market, or of their share of the market combined with the availability of technical knowledge, raw materials or capital, they have the power to determine prices or to control production or distribution for a significant part of the products in question.*[243]

To elaborate, every firm has some limitations or an appreciable extent in acting independently in order to protect its position in the market.[244] Regarding this matter, the economic literature has implied that due to the demand curve, when a firm whether it is dominant or not, raises its prices, it will sell fewer

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240 Case 85/76 *Hoffmann-La Roche & Co v Commission* [1979] ECR 461, para 39.

241 Case 27/76 *United Brands v Commission [*1978] European Court Reports 207, para 65, Case 85/76 *Hoffmann-La Roche & Co v Commission* [1979] ECR 461, para 38.

242 John Temple Lang, 'Some Aspects of Abuse of Dominant Positions in European Community Antitrust Law' (1979) Fordham International Law Journal, Vol 3, Issue 1, Article 1, 10.

243 Continental can Commission decision, [1976] OJ L95/1, para II.A.2.

244 Simon Bishop and Mike Walker, 'The Economics of EC Competition Law: Concepts, Application and Measurement' (Sweet & Maxwell, second edition, London 2002) 183.

units.[245] Specifically, firms acting dependently have to mainly consider the behaviours of competitors more than the behaviours of consumers; this situation is particularly apparent when the firm has a considerable number of competitors, and it becomes difficult to raise the prices profitably.[246]

Therefore, firms, whether dominant or not, will lose significant sales to their competitors when they raise the price above the competitive level; as, in this case, the price rise is not profitable. It is difficult for a firm in this situation to act independently of other competitors, when it is constrained by other firms. Although only a dominant firm can raise its prices above the competitive level, to a certain extent where constraints are imposed by the other competitors, its demand curve is still binding.[247] Accordingly this all causes uncertainties to the applicability of Article 102 TFEU.[248]

Another issue remains in defining dominance: the measurement issue, in particular, the ability to 'price above competitive level,' as alluded to earlier, which is virtually impossible to determine.[249] It is true that economists consider the competitive level to be the marginal cost and the radical dimension of the competition; still, this is not always the case, especially in some types of markets where the focus is on other dimensions such as quality, service, and innovation.[250] Hence, the major issue has typically been to identify at what point an undertaking can be considered to be a holder of a dominant position, and further whether the dominant firm, if applicable, is abusing its dominant position. This approach is in contrast to the economic perspective, where market power is recognised as a 'substantial market power' rather than 'dominance'.[251] Including the undertaking's ability to harm consumer welfare where the power of the dominant firm over rivals and customers is not relevant.[252]

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245 Mike Walker and Joao Pearce Azevedo, 'Dominance: Meaning and Measurement,' ECLR 2002, 23(7), 363.
246 ibid.
247 Mike Walker and Joao Pearce Azevedo, 'Dominance: Meaning and measurement', ECLR 2002, 23(7), 363.
248 Alison Jones and Brenda Sufrin, EC Competition Law: Texts, Cases and Materials (5th edn, OUP 2014) 300.
249 Mike Walker and Joao Pearce Azevedo, 'Dominance: Meaning and measurement', ECLR 2002, 23(7), 363–367
250 Mike Walker and Joao Pearce Azevedo, 'Dominance: Meaning and measurement', ECLR 2002, 23(7), 363–367
251 Annalies Azzopardi, 'Dominant Position': A Term in Search of Meaning, Global antitrust review, issue 8, 2015
252 Giorgio Monti, 'The Concept of Dominance in Article 82' (2006) 2 European Competition Journal 31, p.4.

In this scenario, the more economic approach, the guidance paper followed the definition of the ECJ court in *United Brands*. However, the guidance specifically relates to the notion of independence, to the degree that competitive constraints are not adequately effective due to the substantial market power over a period of time. Competitive constraints can be shown to be inadequately effective, when the dominant undertaking's decisions do not respond to the conduct of competitors, customers, or consumers.[253] The Commission implied that an undertaking is dominant if it is capable, over a considerable period of time, of increasing or maintaining its prices, output, innovation and profitably above the competitive level, without needing to respond to effective competitive constraints. A dominant firm is also able to foreclose other competitors through hampering or eliminating actual or potential competition.[254]

Article 102 does not prohibit dominance, as in general a dominant position may result from several factors, such as statutory provisions, exclusive rights, or an essential facility being controlled by the undertaking through intellectual property rights, when the relevant market is limited to the protected product or service.[255] Article 102 only prohibits the exploitation of

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See Article 14(2) Directive 2002/21 on a common regulatory framework for electronic communications networks and services [2002] OJ L108/33; Commission guidelines on market analysis and the assessment of significant market power under the community regulatory framework for electronic communications networks and services [2002] OJ C165/6 paragraph 5, equating dominance with significant market power; see Guidelines on the application of Article 81(3), (2004) OJ C 101/27, para. 26: 'The creation, maintenance or strengthening of market power can result from a restriction of competition between the parties to the agreement. It can also result from a restriction of competition between any one of the parties and third parties, e.g. because the agreement leads to foreclosure of competitors or because it raises competitors' costs, limiting their capacity to compete effectively with the contracting parties. Market power is a question of degree. The degree of market power normally required for the finding of an infringement under Article 81(1) in the case of agreements that are restrictive of competition by effect is less than the degree of market power required for a finding of dominance under Article 82'.

253 Commission, Guidance on the Commission's enforcement priorities in applying Article 102 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (24 February 2009) [2009] OJ C 45/7, para 10.

See Maurits Dolmans and Henry Mostyn (editors) 'the dominance and monopolies review', law business research edition 4, 2016 https://thelawreviews.co.uk/edition/the-dominance-and-monopolies-review-edition-4/1136446/european-union.

The Guidance Paper equates the concept of competitive independence with the ability to profitably raise prices above the competitive level and whether the company under investigation already has such power, whereas in the context of merger control, the question is whether the merged entity will prospectively gain power to raise prices.

254 See guidance on the Commission's enforcement priorities in applying Article 102 to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 11,19. See European Commission, 'DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses: Public consultation' (Brussels, December 2015) para 23: 'For dominance to exist the undertaking(s) concerned must not be subject to effective competitive constraints. In other words, it thus must have substantial market power'.

255 Van Bael and Bellis, Competition Law of the European Community (Kluwer Law International 2010) 109.

such position, since a dominant position has a special responsibility. This was emphasised by the court of justice in *Michelin v Commission* that stipulated:

> *A finding that an undertaking has a dominant position is not itself a recrimination but simply means that, irrespective of the reasons for which it has such a dominant position, the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market.*[256]

Accordingly, a dominant position occurs when an entity has the economic strength to enable it to behave in a way that can influence the competition process, and may even harm the competitive process and thereafter abuse such a position.

2.4.2 Abuse

The identification of abuse of a dominant position creates some challenges and problems of interpretation when applying Articles 102 TFEU. This is due to various reasons: firstly, Article 102 does not define the term 'abuse', and there are some abusive conducts which are not covered by any of the established categories of abuses under Article 102 TFEU.[257] Article 102 only provides some forms or examples and not an exhaustive list of the kind of abuses of a dominant position,[258] as follows:

(a) '*Directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions*'. This paragraph usually tackles exploitative abuses that occur when monopoly profits are earned at the expense and to the detriment of other market participants.[259] Exploitative abuses usually exploit consumers directly and harm them without excluding other competitors or

256 Case 322/81 *Nederlandsche Banden-Industrie-Michelin v Commission* [1983] ECR 3461, para 57.
See Cases T-125/97 and T-127/97 *The Coca-Cola Company and Coca-Cola Enterprises Inc. v Commission of the European Communities* [2000] ECR II-1733, para 80: 'where an undertaking is in a dominant position it is obliged, where appropriate, to modify its conduct accordingly so as not to impair effective competition on the market regardless of whether the Commission has adopted a decision to that effect.'

257 Eirik Østerud, Identifying exclusionary abuses by dominant undertakings under EU competition law: the spectrum of tests (Vol. 45. Kluwer Law International, 2010) 316.

258 Case C-6/72, *Continental Can v Commission*, [1973] ECR 215, para 26.

259 Mortiz Lorenz, An Introduction to EU Competition Law (CUP 2013) 221.
See Case 27/76 *United Brands v Commission* [1978] European Court Reports 207, para 249: 'made use of the opportunities arising out of its dominant position in such a way as to reap trading benefits, which it would not have reaped if there had been normal and sufficiently effective competition'

having negative effects on the market structure. An example of this is imposing abusive trading conditions or charging unfair prices.[260]

(b) '*Limiting production, markets or technical development to the prejudice of consumers'*. This paragraph of Article 102 tackles exclusionary practices that impact competitors and consumers, which can be defined as practices that are likely to exclude other competitors from the market and restrict the competition process. Identifying exclusionary practices from other practices that benefit consumers is one of the most challenging tasks in competition policy.[261] This category includes practices such as margin squeeze, predatory prices, rebates, refusal to supply, and exclusive dealing. [262]

(c) '*Applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage*.' This paragraph tackles discriminatory abuses that occur when firms discriminate between different types of customers by charging different prices for goods or services to different customers, or even different classes of customers.[263] Hence, discriminatory abuses will automatically lead to placing trading parties at a competitive disadvantage.[264]

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260 ibid para 252: the ECJ court determined a two-step test to determine if the prices are reasonable 'whether the difference between the costs actually incurred and the price actually charged is excessive, and, if the answer to this question is in the affirmative, whether a price has been imposed which is either unfair in itself or when compared to competing products.'

261 Massimo Motta, Competition Policy: Theory and Practice (CUP 2004) 411.

See 'DG Competition discussion paper on the application of Article 102 of the Treaty to exclusionary abuses: Public consultation' (Brussels, December 2015) para 1:'The behaviours by dominant firms which are likely to have a foreclosure effect on the market, for example which are likely to completely or partially deny profitable expansion in or access to a market to actual or potential competitors and which ultimately harm consumers.'

262 See exclusive dealing Case 85/76 Hoffmann-La Roche & Co. AG v Commission (Vitamins) 1979 ECR 461, para 7: 'An undertaking which is in a dominant position on a market and ties purchasers-even if it does so at their request- by an obligation or promise on their part to obtain all or most of their requirements exclusively from the said undertaking abuses its dominant position'.

263 Vivien Rose and David Bailey (eds), 'Bellamy & Child European Union Law of Competition' (OUP Seventh edition, 2013) 793.

264 Rebates can be tackled also under paragraph c of Article 102 if the rebates were applied using discriminatory methods 'applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage'

see Case-COMP (IV/D-2/34.780 - Virgin/British Airways) [2000] OJ L 30, para 48.

'Commissions given discriminated between travel agents. In addition, because of these features of the schemes, that is the fact that the extra discounts were awarded on an increasing scale so giving them a very large effect at the margin and the fact that the effect would increase from year to year if an agent increased its sales of BA tickets, the Commission took the view that they were illegal 'exclusionary' Commission schemes. The additional benefits and cash payment made under some of the Commission schemes for travel agents had the effect of reinforcing the discriminatory and exclusionary effect of the schemes.'

(d) '*Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts*.'

This paragraph tackles tying in practices, which is the focus of this thesis.[265] Tying in practices can qualify as exclusionary or exploitative.[266]

Secondly, the Courts' interpretation of Article 102 has been significantly broader than its strict wording; it has been speculative to reconstruct the legislator intent.[267] the ECJ in the Hoffmann-LaRoche case defined the concept of abuse as follows:

> *The concept of abuse is an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing on the market or the growth of that competition.*[268]

Thirdly, the language of Article 102 imposes additional difficulty by prohibiting abuse of dominant firms and not abusive behaviours by dominant firms; thus, practices do not necessarily need to be the result of the economic power of the dominant firm in order for it to be considered as an abuse.[269] This accordingly widens the concept of abuse of dominance. It is necessary to

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265 Tying in practices will be explored in detail in Chapters 3 and 5.

See Case-COMP/C-3/37.792 *Microsoft v Commission* [2004] 4 CMLR 965 para 794: 'Tying prohibited under Article 102 of the Treaty requires the presence of the following elements: (i) the tying and tied goods are two separate products; (ii) the undertaking concerned is dominant in the tying product market; (iii) the undertaking concerned does not give customers a choice to obtain the tying product without the tied product; and (iv) tying forecloses competition'.

266 See Allen and Overy, comment on the DG discussion paper on the application of Article 102 of the treaty to exclusionary abuses, http://ec.europa.eu/competition/antitrust/art82/055.pdf

Some practices such as tying in, refusal to supply, and discounts can qualify as exclusionary or exploitative.

267 Frédéric Marty, 'Towards an Economics of Convention-based Approach of the European Competition Policy' (2015) 40(1) Historical Social Research 94.

268 Case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR 461, para 91.

See Case 322/81 *Nederlandsche Banden-Industrie-Michelin v Commission* [1983] ECR 3461, para 30:

'Article 102 prohibits any abuse by an undertaking of a dominant position on the common market or a substantial part thereof in so far as it may affect trade between member states, that is to say, in so far as it prohibits any abuse of a position of economic strength enjoyed by an undertaking, which enables it to hinder the maintenance of effective competition on the relevant market by allowing it to behave to an appreciable extent independently of its competitors and customers, and, ultimately, of consumers.'

269 Vivien Rose and David Bailey, European Union Law of Competition (7th edn, OUP 2013) 756.

demonstrate both the dominance element and the abuse element to establish an infringement under Article 102 TFEU. In effect, some practices that are considered as being beneficial or at least benign by market players can be prohibited when they are practiced by a dominant firm and as such incorrect findings lead to condemning a procompetitive practice and more type 1 errors. [270] In this scenario, there are some conflicting ideas in the decisional practice whether it is necessary to identify a requirement of a causal relationship between abuse and dominance. For instance, the ECJ stated in the AKZO case, [271]

> *… contrary to the literal sense of Article 102 of the TFEU, there need not be any relationship of cause and effect between the dominant position and its abusive exploitation. In particular, Article 102 does not require that the dominant undertaking in the market should have used its economic power to bring about the abuse.* [272]

However, in *AstraZeneca v Commission*, the situation was different, as the ECJ suggested the requirements of a kind of nexus between dominance and abuse.[273] As the court stated:

> *… presumption of a causal link between the deregistration of the Losec capsule MA in Denmark and the cessation of the parallel imports of that product in that country is incompatible with the principle that doubt must operate to the advantage of the addressee of the decision finding the infringement.*[274]

Despite the fact that there is a presumption of a link between dominance and abuse, which defines the concept of abuse under Article 102, the implication drawn from the causation requirement is not well based. It may also differ with the link between the dominance and the anti-competitive effects of the conduct or between dominance and conduct, as some judgments dismiss only the narrow variant; namely, a strictly causal nexus between dominance and

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270 Alison Jones and Brenda Sufrin, EU Competition Law: Text, Cases, and Materials (5th edn, OUP 2014), 272.

271 Commission Decision 85/609/EEC, ECS/AKZO, O.J. 1985, L 374/1.

272 Commission Decision 85/609/EEC, ECS/AKZO, O.J. 1985, L 374/1, para 41.

and Case T-65/89, *BPB Industries Plc and British Gypsum Ltd v Commission* [1993] ECR II-389 para 70: 'The conduct of an undertaking in a dominant position may be regarded as abusive within the meaning of Article 86 of the EEC Treaty, even in the absence of any fault'.

273 Thomas Eilmansberger, 'How to distinguish good from bad competition under Article 82 EC: In search of clearer and more coherent standards for anti-competitive abuses', Common Market Law Review 42.1 (2005) 142.

274 Case C-457/10 *AstraZeneca v Commission*, [2012] ECLI:EU:C:770, para 199.

abuse, where the economic power associated with the dominant position constitutes the instrument for the perpetration of the abuse.[275]

Specifically, the causation requirement can vary depending on the nature of the abusive conduct; there are two types of conducts. The first category comprises practices that are considered normal, and may be used by non-dominant firms, but which may have abusive dimensions through its effects on the market. In this case, a causation requirement does not need to be strict and effects that do not require a market power will be excluded.[276] This category, where market power is indispensable for the harmful effects to occur rather than for the conduct to take place, includes practices abusive by effect, such as volume based rebates, technological tying, price discrimination, selectively low prices and margin squeeze.[277] The second category comprises practices that by their very nature are capable of having a negative impact on the competition process and of distorting it through the improper use of market power such as contractual tying, contractual restrictive practices, exclusive dealing, and loyalty rebates.[278] In this category, market power is necessary, and the causation requirement will only be satisfied if the practice is tainted by the instrumental use of the market power. In such practices that are considered as abusive by nature/object, it is sufficient to ascertain that the concerned practice has the capability to harm the competition process in contrast to the first category where there is need to demonstrate that the practices are likely to cause anti-competitive effects.[279]

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275 Valentine Korah, 'Interpretation and Application of Article 86 of the Treaty of Rome: Abuse of Dominant Position within the Common Market', [1978].' Notre Dame Lawyer 53: 775.

Renato Nazzini, The Foundations of European Union Competition Law: The Objective and Principles of Article 102 (OUP 2011) 178: The causation requirement may not be the basis for distinguishing between abusive practices per se. it may be abusive because of their effects. This distinction is based on how market power is implemented as a means by which the abuse was committed or the condition for anticompetitive effect occurs in the form of a manipulation of market structure.

276 Thomas Eilmansberger, 'How to distinguish good from bad competition under Article 82 EC: In search of clearer and more coherent standards for anti-competitive abuses', Common Market Law Review 42.1 (2005): 143.

277 Hedvig Schmidt, 'Market power – the root of all evil? A comparative analysis of the concepts market power, dominance and monopolisation' (2012) in Ariel Ezrachi, ed. 'Research handbook on international competition law', Edward Elgar Publishing, 2012, 387.

See Case C-280/08 P Deutsche Telekom AG v Commission [2010] ECR I-09555; para 250–251.

278 Hedvig Schmidt, 'Market power – the root of all evil? A comparative analysis of the concepts market power, dominance and monopolisation' (2012) in Ariel Ezrachi, ed. 'Research handbook on international competition law', Edward Elgar Publishing, 2012. 387.

279 Thomas Eilmansberger, 'How to distinguish good from bad competition under Article 82 EC: In search of clearer and more coherent standards for anti-competitive abuses', Common Market Law Review 42.1 (2005): 143

Noteworthy here is that the words 'object' or 'effects' can be found in Article 101 of the Treaty dedicated to anti-competitive agreements. However, the basic distinction between by nature and by effect infringements can also be found in abuse of dominance cases under Article 102, even if the dichotomy is not mentioned in Article 102 itself. [280]

2.4.3 Within the internal market

Within the internal market, or in a substantial part of it, Article 102 TFEU requires an additional geographic criterion for a finding of 'dominance': the dominant position must exist within the European Common Market or at least a substantial part thereof. In this regard, it was stated that:

> *For the purpose of determining whether a specific territory is large enough to amount to 'a substantial part of the common market' …the pattern and volume of the production and consumption of the said product as well as the habits and economic opportunities of vendors and purchasers must be considered.*[281]

Determining the boundaries of the competition process between the firms where competition policy rules apply is necessary, since Article 102 implies that it is sufficient to show a member state's territory of the common market has been affected without the need for an actual cross-border transaction.[282] Such a rule of jurisdiction that defines the boundaries between practices is subject to EU law and other practices are regulated solely by national law. [283]

2.5 Conclusion

This chapter has provided a background for the following chapters by discussing the framework of Article 102 TFEU. The second section provided a background on the EU modernisation process and its components,

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Case 85/76 *Hoffmann-La Roche & Co AG v Commission* [1979] ECR 461, para 89 , Case C-457/10 *AstraZeneca v Commission*, [2012] ECLI:EU:C:770, para 112.

280 Speech by Alexander Italianer Director-General for Competition, European Commission, 'The Object of Effects 'CRA Annual Brussels Conference – Economic Developments in Competition Policy Brussels, 2014.

281 Joined cases 40 to 48, 50, 54 to 56, 111, 113 and 114–73, *Coöperatieve Vereniging 'Suiker Unie' UA and others v Commission of the European Communities*, [1975] ECR 01663, para 371.

282 Case 322/81 *Nederlandsche Banden-Industrie-Michelin v Commission* [1983] ECR 3461, para 28.

283 Vivien Rose and David Bailey, European Union Law of Competition (7th edn, OUP 2013) 63.

The third section of this chapter highlighted the old and the new approaches toward the economic analysis of a dominant position and those that have influenced the EU approach; some directly while others to a limited extent. The Ordoliberal School of thought has had a significant impact on the EU competition approach before the modernisation process, where an interventionist form-based approach has been followed. In addition, some objectives of the EU policy go hand in hand with the Ordoliberalism School of thought, such as protecting the competition process itself and economic freedom. The Harvard School of thought and the based economic approaches such as the Chicago and the post Chicago schools of thought are considered to be the root for the economic approach, whereas the endogenous entry has not had any impact.

Subsequently, the fourth section of the chapter discussed the core substantive elements of Article 102 and clarified the difficulties of identifying dominance and abusive behaviours; the interpretation of Article 102 is significantly broader than its strict wording; as neither a dominant position, nor abuse has been defined in the Article or the TFEU treaty. Equally important, the prohibition is toward abuse of dominant firms and not abusive behaviours by dominant firms. Additionally, some abusive conducts are not covered by any of the established categories of abuses under Article 102 TFEU.

Lastly, after considering the core elements of Article 102 TFEU, it has become necessary to explore the notion of tying, which is the focus of this thesis, and to discuss the founding legal framework that assessed the majority of tying cases under Article 102 TFEU in the next chapter.

CHAPTER 3: TYING-IN AS AN EXCLUSIONARY ABUSE

3.1 Introduction

The aim of this chapter is to explore the concept of tying-in practice, as one of the potentially exclusionary practices, which were regulated under Article 102 TFEU before the modernisation process. Following on from the previous discussion which established the legal framework of Article 102 TFEU, as the key provision regulating abusive unilateral conducts by dominant firms and the difficulties in defining the core substantive elements of Article 102, This was necessary to indicate how different economic schools of thought underlying Article 102 have different stances toward the treatment of tying-in practice.

Within this chapter, the second section describes the tying-in practice; the third section clarifies types of tying; the fourth section explores anticompetitive theories of tying; the fifth section demonstrates the procompetitive effects of tying; and the sixth section discusses the case law concerning contractual tying-in practice under Article 102 TFEU and in particular the EU approach before the modernisation, where the Commission followed a structural approach that assessed the unilateral conducts by distinguishing practices according to their form. This practice itself was assessed to determine if there is dominance, instead of determining whether there is an abuse of a dominant position.[284]

Addressing these matters is crucial to obtain a better understanding of tying-in practice which currently poses a dilemma for competition authorities. Tying-in practice is widely used and accepted by market players in various types of industries, and both economic and legal literatures have demonstrated that tying can provide pro-competitive rationales and may also give rise to anti-competitive effects. However, there is a strict treatment of tying-in practice, which can be found in EU cases, with different degrees of success.

284 John Ratliff, 'Abuse of Dominant Position and Pricing Practices: A Practitioner's Viewpoint' [2003] European Competition Law Annual 427.

3.2 What is tying?

The basic concept of tying can be described as that which occurs 'when the supplier makes the sale of one product (the tying product) conditional upon the purchase of another distinct product (the tied product) from the supplier or someone designated by the latter.'[285] The product that the buyer wishes to purchase is called the 'tying product,' and the product that the buyer is required to purchase in order to get the product the buyer actually wants (the tying product) is called the 'tied product'.

Tying practices may be caught under Article 102 when they do not fall within the precise terms of Article 102 (d).[286] In general, tying-in practices are assessed under Article 102 TFEU (d), which explicitly refers to the practice of tying as one of the common practices that can be assessed under Article 102 TFEU, as an exclusionary abuse by a dominant position. Article 102 (d) specifies tying as:

> *Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.*

The crucial factor here is that purchasing a product is conditional in some way and imposes supplementary obligations, which can be direct or indirect. These additional obligations have no connection with the nature of the contracts; accordingly, an inquiry into any contractual tying case requires examining the main contract. It must also be clarified whether additional obligations outside those of the main contract complained against, can be regarded as inherent in carrying out business activities within the main contract or whether they are outside it and within the realm of competition law.[287] These supplementary obligations can severely restrict the freedom of the parties to the contract to trade with other parties in the industry on the same terms as the dominant

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285 European Commission, 'DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses: Public consultation' (Brussels, December 2005) para 177.

286 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11.

287 Femi Alese, 'Federal antitrust and EC competition law analysis' Routledge, 201, 241.

party, or are the cause of reduced output or price increase in the market under review.[288] In determining the relevance of the imposed supplementary obligations, Article 102 (d) requires that the assessment should primarily demonstrate that supplementary obligations are not connected in the form of commercial usage or the nature of the products.

It is also argued that the text and literal interpretation of Article 102 (d) is an express and a *per se* prohibition of the purest form of tying, and arguably of market power leveraging in general, namely, contractual tying and not technical tying.[289] Contractual tying is prohibited not only because of its presumed (distortive) effects on performance-based competition on the secondary market, but also because of its exploitative effects.[290] Therefore, it is necessary to clarify the difference between contractual tying and other forms of tying such as technical tying.

3.3 Forms of tying

Differentiating between forms of tying and similar practices is an issue that has grown in importance.[291] Tying can take various forms such as contractual tying, technical tying, bundling, or refusal to deal.

3.3.1 Contractual tying

Contractual tying occurs when customers would have purchased the tied good from an alternative source if it were possible, but it was impossible for them to do so, because the supplier of the dominant tying product did not offer any other choice except the purchase of that firm's tied good.[292] Therefore,

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288 ibid.

289 Josef Drexl, Warren S Grimes, and Clifford A Jones (eds), More Common Ground for International Competition Law? (Edward Elgar Publishing) 100.

Valentine Korah, Intellectual Property Rights and the EC Competition Rules' (Bloomsbury Publishing 2006) 158.

290 Lennart Ritter and David Braun, 'European competition law: a practitioner's guide' (2004) Kluwer Law International, 420 cited in Josef Drexl Warren S Grimes and Clifford A Jones, eds. More Common Ground for International Competition Law? (Edward Elgar Publishing) 100; Iwo Małobęcki, 'Per Se approach v Rule of Reason: Tying and Bundling in European Competition Law – A Legal and Economic Analysis' (Committee of 3rd Polish Law and Economics Conference, 2012) 10.

291 Keith Hylton, Antitrust Law: Economic Theory and Common Law Evolution (CUP 2003) 302.

292 Robert O'Donoghue and A Jorge Padilla, The Law and Economics of Article 82 EC (Hart Publishing 2006) 500, 492.

competitors may reduce their prices to below the market level to attract purchasers away from the dominant firm's products. Competitors who sell their products at below-market prices for an extended period can suffer enormous losses or go out of business as a result. For such reasons, tying can be prohibited when it has an influence on the competition process or when it restrains competition and has the effect of predatory pricing.[293]

3.3.2 Technical tying

Technical tying is a new type of tying in practice, which has emerged in the last few decades in high-technology markets and it is the focus of this thesis. Technical tying occurs when two products are linked technically in such a way that it is physically impossible to separate them.[294] This may involve the integration of non-rival products or services that can allow consumption or possession from multiple users.

The issue of technical integration came to light for the first time in 1980 when the Commission accused IBM (International Business Machines) of abusing its dominant position by integrating the memory devices with the central processing unit (CPU) and tying them with the basic software application.[295] In the Commission's view, IBM's customers were being coerced into purchasing the memory devices and the software applications, which they could have purchased elsewhere. After informal discussions between the Commission and IBM, with no formal decision taken, the issue was settled when IBM was forced to offer its mainframe computer CPUs in the EU either without memory devices or with the minimum capacity required for testing.[296]

The *Microsoft* case[297] represents the emergence of technical tying. The Commission launched an investigation on its own initiative regarding Microsoft's integration of Windows Media Player in its Windows 2000 operating

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293 Jean Tirole, 'The Analysis of Tying Cases: A Primer' (2005) Competition Policy International 9.

294 Kai-Uwe Kühn, Robert Stillman and Cristina Caffarra, 'Economic Theories of Bundling and their Policy Implications in Abuse Cases: An Assessment in Light of the Microsoft Case' (CEPR Discussion Paper No 4756, November 2004).

295 Decision 1984/233/EEC IBM Personal Computers OJ L118/24, Decis.

296 Robert O'Donoghue and A Jorge Padilla, The Law and Economics of Article 82 EC (Hart Publishing 2006) 495.

297 Case-COMP/C-3/37.792 *Microsoft v Commission* [2004] 4 CMLR 965; Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11.

system. The Commission claimed that Microsoft abused its dominant position by tying its dominant tying product (Windows operating system) to its tied product (Windows Media Player) and exposed itself to an antitrust investigation. The Commission took its stance, even though, there were other operating systems and other media players, including some that had tied their operating systems with their media players. The allegation was based on the fact that tying Windows Media Player with Windows Operating System guaranteed the ubiquity of Windows Media Player, since the Windows operating system constituted a very high share of the market. The allegation was exclusively directed at Microsoft, because of its dominant position.

In this regard, unlike earlier tying cases, the Commission and the Court alleged that an effect-based approach was applied towards technical tying. However, the assessment of the *Microsoft* case was extremely complex and attracted a great deal of commentary because of its consideration of economic theories, especially in terms of treating technical tying to the same as contractual tying. Therefore, it is significant to critically evaluate the EU approach to technical tying as an exclusionary practice under Article 102 TFEU and the extent in which it accommodated the particularities of technical tying-in high-technology markets, such as the software market; this is the focus of Chapters Five and Six.

3.3.3 Bundling

Bundling practice is closely related to tying-in practices, as it refers to a situation where two products are sold as one package at a single price. Bundling can come in the form of pure bundling and mixed bundling. Pure bundling occurs where it is only possible to buy the two or more products together.[298] An example is when cable providers allow consumers to choose only their preferred channels, but limit them to buying a package that contains them. The consumers may need to pay for more than one package in order to have their preferences. Whereas mixed bundling (a.k.a. financial tying) occurs when a firm offers a lower price to customers purchasing two or more products

298 Richard Whish and David Bailey, Competition Law (8th edn, OUP 2012) 729.

together than if purchasing them separately, and customers have a choice to either buy the package or the separate product with no contractual or direct coercion.[299] Another example: when a consumer may choose to buy a mobile phone with unlimited minutes for a certain period, whereas if the bundle was bought individually it would cost the consumer more.

3.3.4 Refusal to supply

Refusal to deal is an exclusionary practice that can be prohibited under Article 102. It shares features with tying, but whereas tying is usually practiced to protect a dominant position in the tying market, refusal to deal is usually used to prevent competitors from gaining access to the downstream market to avoid a challenge to their dominant position, by trying to subsequently enter the upstream market.[300] Similarly, tying as the practice of selling one product (the tying product) conditional on the purchase of another product (the tied product) can share effects with refusal to deal;[301] as some ties can be achieved where an undertaking de facto refuses to supply the tied product, which can be for the purpose of keeping the product for itself and tying it with another product it offers.[302]

It follows that, determining whether a practice is a refusal to deal or tying, or even both, is not always simple. For instance, in the *Hugin v Commission* case,[303] Hugin was a major manufacturer of cash registers having a small market share in the market for cash registers and a dominant position in the maintenance and repairs market of Hugin cash registers, which required a supply of Hugin spare parts.[304] Hugin terminated the supplies of spare parts for its own cash registers to some distributors, such as Liptons, that were active in the business of servicing and repairing cash registers. In effect, it tied its services to its cash registers without an explicit tying arrangement, whereas the facts of the case demonstrate that Hugin refused to supply spare parts in

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299 Robert O'Donoghue and A Jorge Padilla, The Law and Economics of Article 82 EC (Hart Publishing 2006) 500.

300 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart 2010) 229.

301 Einer Elhauge and Damien Geradin, Global Competition Law and Economics (2nd edn, Hart Publishing 2011) 562.

302 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart 2010) 228.

303 Case 22/78 *Hugin Kassa register AB and Hugin Cash Registers Ltd v Commission* (1979) ECR-1869.

304 ibid para 3

order to tie. Therefore, the Commission considered that Hugin had abused its dominant position by refusing to supply spare parts to Liptons and other independent firms outside its distribution network, and ultimately concluded that Hugin's actions led to the exclusion of a substantial competitor in the sector of the maintenance and repair of Hugin machines.[305]

This decision demonstrated that refusal to deal can have various similarities with tying. In particular, there is a unique relationship between refusal to deal and tying due to the fact that contractual tying can be enabled through formal contracts that commit buyers or licensees to exclusive arrangements or manage refusals to deal with potential competitors.[306] Also, both practices, require the following: 1) the existence of two separate products, but in tying, the condition of a separate product is limited to establishing that the two products belong to different product markets, and 2) the alleged abuser holding a dominant position in at least one of the markets. In refusal to deal one of the markets is an input for the other, whereas in the case of tying one of the markets is complementary to the other.[307]

If a case is to be considered a tying case, it is necessary to consider whether the products are separate and, as a result, undertaking a more complicated analysis to ascertain whether the two services are truly independent and do not comprise a third market.[308] Thus, it might be argued that some cases have been labelled as refusal to deal rather than tying, in order to make analysis easier and to reduce costs.

3.4 Tying and anti-competitive theories of harm

Now that tying has been identified from a legal point of view and its forms described, it is necessary to indicate how different economic schools of

305 ibid para 11.

306 Michael Einhorn, 'Tying, Refusal to Deal and Patents' (Economics at the Summit, 14 May 2002).

307 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart 2010) 228.

308 ibid.

thought underlying Article 102 have different stances toward tying, by approaching its elements differently.

3.4.1 The classical leverage theory and the Chicago critique

The classical leverage theory emerging from the Harvard School is considered to be the foundational theory underpinning tying law in the EU and the key intellectual rationale for the harsh treatment of tying-in practices.[309] The proponents of the Harvard School suggest that certain market structures encourage dominant firms to use tying as a leverage tool to expand their market power into other markets.[310] This is particularly prevalent when a product's marketing is not as strong as that of another product: in such cases, by tying them together, the dominant firm will extend its market strength to the tied product's market.[311]

The scholars supporting this approach consider that tying by a dominant firm has the capacity to create an additional monopoly in a second market by making the sale of one product conditional on the purchase of another: by creating a second monopoly in the other market, the dominant firm can exclude other competitors who sell products similar to the tied product by creating barriers to entry and thus strengthening its position there.[312] To illustrate this, if the tying seller is maximising its return on the tying product and the same output of the tied product is produced, no additional monopoly effect should be assumed. However, if the amount of production of the tied product is less than any output, which could exist when the return on the first product can be maximised, a new monopoly in the tied product has been created.[313]

To summarise, the theories developed by the Harvard School have led to *per se* prohibition of some practices such as tying-in and consider it a highly

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309 Jay Pil Choi, 'Tying and Innovation: A Dynamic Analysis of Tying Arrangements' (2004) The Economic Journal 83–101.

310 See Amato Giuliano and Claus-Dieter Ehlermann, EC Competition Law: A Critical Assessment (Hart Publishing 2007) 298: 'a distinction must be made between direct and indirect leveraging. Direct leveraging focuses on transferring market power from the main market to the adjacent market by preventing consumers from buying products or one of the products on a stand-alone basis, or even charging a higher price for the product on a stand-alone basis. Whereas indirect leveraging occurs depending on the price legality of the tie itself; if the price is very low, it might be illegal under competition law, such that a tie's price results in predatory pricing to drive competitors out of the market.'

311 Donald F Turner, 'The Validity of Tying Arrangements Under the Antitrust Laws' [1958] Harvard Law Review 66.

312 Alison Jones and Brenda Sufrin, EC Competition Law: Texts, Cases and Materials (2nd edn, OUP 2004) 45.

313 Wards S Bowman, 'Tying Agreement and the Leverage Problem' (Yale Law School Faculty Scholarship Series Paper 4246, 1957) 20.

uncompetitive practice in the market.[314] This in turn has influenced the Commission and the European Courts who before the modernisation process adopted a form-based approach and considered tying practice abusive, by its nature.[315]

In contrast to the Harvard School, which considered tying as a leverage mechanism, the Chicago School regarded business strategies such as tying as motivated by the act of profit maximisation and rejected the idea that tying by a dominant firm could leverage market power into a second market.[316] They argued that tying is anti-competitive when a dominant undertaking aims to provide the consumer with a lower level of product or service than that provided by other competitors.[317]

The Chicago School has strongly criticised the leverage theory for failing to explain how a seller can increase its monopoly profits by tying-in practices and that the theory makes no sense in economic theory.[318] This critique arises because monopolists can only extract one-monopolist profits and cannot use them to leverage market power in a secondary market that is competitive, or even increase their profits.[319] In addition, the dominant firms can only make profits in the market through their pricing of the tying product.

More importantly, the Chicago school demonstrated the efficiency of tying and its pro-competitive effects, and identified the conditions under which tying is unlikely to have anti-competitive effects, and thus in these latter cases should be regarded as adhering to a *per se* legality approach. In particular, Chicago proponents suggest that the theory of a single monopoly depends on perfect competition without barriers to entry and price-taker firms, conditions

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314 Iwo Małobęcki, 'Per Se approach v Rule of Reason: Tying and Bundling in European Competition Law – A Legal and Economic Analysis' (Committee of 3rd Polish Law and Economics Conference, 2012) 9.

315 See case C-193/83 *Windsurfing v Commission* [1986] ECR 611, para 59: 'tying must therefore be held also to be of such a nature as to restrict competition'.

316 Nicholas Mercuro and Steven G. Medema. Economics and the law: from Posner to post-modernism (Princeton University Press, 1998) 57.

317 Margret E Slade, 'The Leverage Theory of Tying Revisited: Evidence from Newspaper Advertising' (1998) Southern Economic Journal 204.

318 Herbert Hovenkamp, Federal Antitrust Policy: The Law of Competition and its Practice (3rd edn, Thomson/West 2005) 420.

319 Richard A Posner, 'The Chicago School of Antitrust Analysis' (1979) University of Pennsylvania Law Review 925.

which ensure that the tied products are sold in fixed proportions and the tied products are complementary, not substitutes.[320]

The Chicago School based its analysis on a simple economic model (i.e. the single monopoly theory) without considering the influence of imperfect conditions, which can lead to different results under deviations from the conditions assumed under the perfect competition model.[321] Therefore, in order for the Chicago School approach to succeed in justifying its *per se* legality approach of categorical non-liability for all ties, there must be enough empirical evidence about all ties.[322] Further, differentiation must occur between types of products and forms of markets in order to be applicable to other cases. Only in this way can each case be considered on its own merits.

To sum up, in contrast to the Harvard School, which condemned tying due to the leverage theory, the Chicago School challenged the leverage theory through the single monopoly theory: they considered tying as an efficient practice and stated that firms using it do not have an incentive to exclude other competitors from the market.

3.4.2 The Post-Chicago School: the potential anti-competitive effects of tying

The Post-Chicago school developed a series of models to recognise the implications of tying-in practices and determined that tying could have both pro-competitive and anti-competitive effects. The proponents of this school did not support a *per se* prohibition of tying practices by dominant firms, but considered that tying could in certain cases be anti-competitive.

Post-Chicago scholars demonstrated in their models that relaxing the assumptions of the single monopoly profit theory, that the Chicago School worked within, can invalidate this theory and revive the leverage theory,

320 Einer Elhauge, 'Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory' [2009] Harvard Law Review 397.

321 David Harbord and Tom Hoehn, 'Barriers to Entry and Exit in European Competition Policy' (1994) International Review of Law and Economics 411–419.

322 Einer Elhauge, 'The Failed Resurrection of the Single Monopoly Profit Theory' (Harvard Public Law Working Paper No 10–16, 2010) 159.

revealing a distinctive way in which tying can increase monopoly profits. [323] On the whole, the single monopoly profit theory is valid only if the following restrictive assumptions hold: consumers do not use varying amounts of the tied product with the tying product; consumer demand for the two products has a strong positive correlation; consumers do not use varying amounts of the tying product; and the competitiveness of the tied market and the tying market is fixed.[324]

3.4.2.1 Offensive leverage

A scholar of the Post-Chicago school, Whinston, demonstrated that a monopolist could use tying to extend its dominance from the tying-product market to the tied-product market and thus could affect the market structure of the tied-good market. This phenomenon is called offensive leverage.[325]

Whinston demonstrated that when both tying and tied products are used in variable proportions and when competition for the tied market is imperfect (i.e. oligopolistic), a dominant firm can use tying as a mechanism to foreclose a substantial share of the tied market and monopolise it.[326] Specifically, the monopolist lowers its implicit price of the tied product to reduce other competitors' competitiveness and sales in the tied product market, by depriving them of adequate scale, thereby lowering their profits below the level that would justify remaining active in, or entering, that market'.[327] This implies that tying will only be profitable if customers have a reasonably high valuation for the tying product and if the monopolist's version of the tied product is of a

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323 Jarkko Vuorinen, 'Better Together: The Evolution of Tying Theory and Doctrine in EU Competition Law and US Antitrust Law' (2015) Nordic Journal of Commercial Law 1, 11.

See Commission Notice, 'Guidelines on Vertical Restraints' 2010, OJ C 130,1–46, para 217: 'Tying may also directly lead to prices that are above the competitive level, especially in three situations. Firstly, if the tying and the tied product can be used in variable proportions as inputs to a production process, customers may react to an increase in price for the tying product by increasing their demand for the tied product, while decreasing their demand for the tying product. By tying the two products, the supplier may seek to avoid this substitution, and, as a result, be able to raise its prices. Secondly, when the tying allows price discrimination according to the use the customer makes of the tying product, for example the tying of ink cartridges to the sale of photocopying machines (metering). Thirdly, when in the case of long-term contracts or in the case of after-markets with original equipment with a long replacement time, it becomes difficult for the customers to calculate the consequences of the tying.'

324 Einer Elhauge, Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory Harvard Law Review [2009]; Harvard Law and Economics Discussion Paper No. 629, 2.

325 Ariel Ezrachi, Article 82 EC: Reflections on its Recent Evolution (Hart Publishing 2009) 150.

326 Michael Whinston, Tying, Foreclosure, and Exclusion, American Economic Review, Vol. 80, No. 4, September 1990, 838.

327 Einer Elhauge, 'Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory' [2009] Harvard Law Review 397.

reasonably high quality. Otherwise, the tie will be ineffective in excluding the rival, because the monopolist will be unlikely to capture a sufficient proportion of the rival's sales.[328]

It is noteworthy that such results depend on the dominant firm's pricing strategy, as it is presumed that the dominant firm never prices below marginal cost and that other competitors with lower marginal cost on one of the products are excluded when they face high fixed costs of entry. If fixed costs do not deter entry, then the bundling strategy is pro-competitive and leads to lower prices for customers because entry into the tied goods market occurs. Thus, it is difficult to argue based on this theory that a firm is bundling for exclusionary reasons, since that argument would require proof that the firm knew that entry costs were above the relevant cut-off level.[329]

Whinston also considered situations where the undertaking has a dominant position over one of a pair of complementary products, and where both products are complementary, but there is a group of customers who demand the tied product alone. In this case, when the dominant firm ties both products, tying emerges as a profitable exclusionary strategy: it enables the dominant firm to extract a second 'monopoly' rent from those customers with independent demand for the tied product.[330] Accordingly, if a large number of customers view the products as complements, the demand is reduced for the product of other competitors in the tied product market to cover their fixed costs of operation.[331]

3.4.2.2 Preserving monopoly through strategic tying

Carlton and Waldman extended Whinston's analysis and developed a dynamic model; they concentrate on the monopolist's ability to use tying of a tied complementary product to protect an initial monopoly position in the tying

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328 Andrea Renda and Diego Valiante, 'Legal and Economic Approach to Tying and Other Potentially Unfair and Anti-competitive Commercial Practices: Focus on Financial Services' (Centre for European Policy Studies (CEPS), Libera Università degli Studi Sociali, 2010) 14.

329 Kai-Uwe Kühn, Robert Stillman, and Cristina Caffarra, 'Economic theories of bundling and their policy implications in abuse cases: an assessment in light of the Microsoft case' (2005) European Competition Journal 85.

330 Michael Whinston, 'Tying, Foreclosure, and Exclusion' (1990) American Economic Review 837, 840.

331 Andrea Renda and Diego Valiante, 'Legal and Economic Approach to Tying and Other Potentially Unfair and Anti-competitive Commercial Practices: Focus on Financial Services' (Centre for European Policy Studies (CEPS), Libera Università degli Studi Sociali, 2010) 60.

product market. This is especially true in the presence of network externalities or entry costs for the complementary tied good market.[332]

Specifically, when dominant firms, that operate in both the tying product market and the complementary tied market, compete with an alternative producer that has the same constant marginal cost for producing an identical tying product, tying both products by the dominant firm will deter future entry of efficient firms into the monopolist's primary market and newly emerging market. This is because tying will eliminate the profits related to the alternative product by the other producer and will make it impossible to cover the fixed costs of entry and even stop potential entry from other competitors.[333] This situation is called defensive leverage, and it occurs where foreclosure in the tied market may effectively protect the market power in the tying market.[334]

Carlton and Waldman also argued that a monopolist might use tying to transfer or extend its initial monopoly power from the primary market to a newly emerging market that is characterized by network externalities.[335] Particularly, the dominant firm will attempt to monopolize the tied-good market to protect its profits and make it impossible to extract profits from the tied market for the complementary product. This is because other undertakings would find it costly to raise their price in the tying market due to the competition from the newly established entrant.[336]

However, attention should be paid to the fact that if the primary product (the tying product) is essential for all users of the complementary product (the tied product), tying-in practices cannot be used to increase monopoly profits, especially if the products are used in fixed proportions.[337] In this case, the

332 Dennis W Carlton and Michael Waldman, 'The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries' (2002) Rand Journal of Economics 194.

333 ibid.

334 Ariel Ezrachi, Article 82 EC: Reflections on its Recent Evolution (Hart Publishing 2009) 153.

335 Dennis W Carlton and Michael Waldman, 'The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries' (2002) Rand Journal of Economics 194.

336 Christian Ahlborn, David Bailey, and Helen Crossley, 'An Antitrust Analysis of Tying: Position Paper' (GCLC Research Papers on Article 82 EC, 2005) 176.

337 Dennis W Carlton and Michael Waldman, 'The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries' (2002) 30 Rand Journal of Economics 194.

monopolist could capture all the potential monopoly profits through the primary-market monopoly. This means that by setting the price for the complementary good at marginal cost and the price for the primary good at the optimal bundle price minus the complementary goods price, the monopolist will achieve the same profits with tying or without it.[338]

Carlton and Waldman demonstrated that a firm might tie a product that consumers do not use often, in order to shift profits from a rival producer, without exclusion. This is common practice when the firm needs to improve its position in the pricing game by shifting some profit from its competitors to its itself without the exclusion or exit of the other competitor, and without consumers having to pay a higher total price for the system.[339] Thus, the tie becomes a clever strategic tool to transfer profits from the producer of the complementary good to either the tying firm when there is no competition, or to consumers when there is competition among the primary good producers.[340]

Furthermore, they developed another model based on there being a monopolist in the tying product market and a complementary product produced both by the dominant firm and the other producer. In this case, the tying product is essential for all users of the complementary product, whereas the complementary product is durable and can acquire upgrades in some instances, which implies that both the dominant firm and the other producer need to invest in R&D to provide an upgraded product.[341] These expenses include the switching cost, as the monopolist needs to capture the switching cost profits especially if the monopolist fails to sell their complementary products, otherwise the consumers may choose to consume the other producer's complementary product.[342] Therefore, the dominant firm might have

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338 ibid.

339 Dennis W Carlton, Joshua S Gans and Michael Waldman, 'Why Tie a Product Consumers Do Not Use?' (2010) American Economic Journal: Microeconomics, American Economic Association 102.

340 Dennis W Carlton, Joshua S Gans and Michael Waldman, 'Why Tie a Product Consumers Do Not Use?' (2010) 2(3) American Economic Journal: Microeconomics, American Economic Association 102.

341 Dennis W Carlton and Michael Waldman, 'Tying, Upgrades, and Switching Costs in Durable-Goods Markets' (NBER Working Paper No 11407, 2005).

342 ibid, 19.

an incentive to tie the products together to capture future rents from the sale of upgrades of the tied product.[343]

3.4.2.3 Tying as an entry barrier

Nalebuff, a scholar of the Post-Chicago school, claims that when products are subject to independent demand by consumers, sold in variable proportions, and the demand for the tied product is independent, tying can be used as an entry-barrier strategy for potential competitors and reduce the entrant's potential profits.[344] In practice, this occurs when the dominant firm decides to charge less in the dominant tying market and charge more in the tied market in order to increase demand in the dominant tying market, to overcome the reduced income that occurs in the tying product market.[345] According to the model, this situation can be beneficial for the dominant incumbent, especially when the incumbent is unsure of which market the entry will take place in.[346] In this way, the tying practice supports the incumbent by defending the market position of both products without having to lower the prices in either market.[347]

Similarly, Choi and Stefanadis[348] investigated research and development (R&D) expenditures and developed dynamic models to demonstrate that an incumbent can use the tying of complementary products as a commitment device to protect its position, by engaging in cost-cutting research and development, thus making market entry more difficult.[349] The potential entrant for both markets can only enter if they have sufficient investment and can develop superior technology. Tying makes the entry of one component dependent upon the success of the other product and thus makes the prospects of investment less certain.[350] Accordingly, there tends to be an influence on the entrant's incentive for investing and innovating in the presence

343 ibid.

344 Barry Nalebuff, 'Bundling as an Entry Barrier' [2004] The Quarterly Journal of Economics 159.

345 Andrea Renda and Diego Valiante, 'Legal and Economic Approach to Tying and Other Potentially Unfair and Anti-competitive Commercial Practices: Focus on Financial Services' (Centre for European Policy Studies (CEPS), Libera Università degli Studi Sociali, 2010) 63.

346 Barry Nalebuff, 'Bundling as an Entry Barrier' [2004] The Quarterly Journal of Economics 159.

347 Jay Pil Choi, 'Antitrust Analysis of Tying Arrangements' (CESifo Working Paper Series No 1336, 2004) 10.

348 ibid.

349 Barry Nalebuff, Bundling, Tying, and Portfolio Effects – Conceptual Issues,' DTI Economics Paper No. 1, 2003, 61.

350 Jay Pil Choi and Christodoulos Stefanadis, 'Bundling, Entry Deterrence, and Specialist Innovators' (2006) The Journal of Business 2575.

of a risky, up-front R&D investment, because if the firm's R&D is successful, that firm does not get a return from its investment since there is no other product that it can be tied with.[351] However, this also depends on the probabilistic nature of investment, which is the nature of R&D competition, whether the prospects of investment are certain and regardless of the existence of a threat of entry.[352]

In sum, the theories underlying Article 102 TFEU take different approaches toward tying and have differed in their models. Some considered tying as pro-competitive (such as the proponents of the Chicago School), while others condemned it (such as the proponents of the Harvard School). In comparison, the proponents of the Post-Chicago School considered the compelling factors that increase the likelihood of achieving anti-competitive effects in more details and considered tying-in practices to be competitive in some cases and anti-competitive in others. However, what can be concluded from their models is that different factors increase the tendency of tying to achieve anti-competitive effects. These factors include: 1) the market power of the tying firm and the ease of entry, since without dominance, tying cannot usually be used to achieve anti-competitive effects; 2) the imperfect competition in the tied market where exclusionary effect is more common; 3) the entry cost for the tied product, which depends on the marginal cost of the tied products, if it is high, then foreclosing other competitors will be easier; 4) differentiating between substitutable products and non-substitutable, complementary and non-complementary products. It has been suggested that tying exclusionary effects may became more common if products are not substitutable or not complementary; 5) the position of other competitors and their ability to differentiate their products and add new features. If this is possible, tying will be less likely to achieve anti-competitive effects; 6) negative correlation demand for the tying products.

351 Dennis W Carlton and Michael Waldman, 'Theories of Tying and Implications for Antitrust' (2005) Johnson School Research Paper Series 24–06.

352 Jay Pil Choi and Christodoulos Stefanadis, 'Tying, Investment and the Dynamic Leverage Theory' [2001] RAND Journal of Economics 52.

Significantly, these theoretical models are also based on one-sided market processes, which is apparent from the fact that they consider a single set of customers and their attitude towards the change in the supply, the reaction of the suppliers to changes in demand, and the timing of entry into the market.[353] In effect, these models cannot provide a reasonable checklist that can be used by competition authorities in implementing an appropriate economic approach that can be applicable to multi-sided markets where R&D investments are common.[354] Applying such models to cases involving two-sided markets means that such beneficial practices will be prevented and thus consumer welfare will be negatively impacted.[355] In addition, the absence of a simple extension tool for single-sided markets does not mean giving a licence to apply the traditional models of single-sided markets to multi-sided markets. Otherwise, the results would be prone to serious errors and efficiency motivation could be excluded.[356] Hence, this thesis argues that traditional assumptions and models of traditional markets should be altered to match the required approach to multi-sided platforms.

3.5 Tying and efficiency rationale

Even though the Post-Chicago School disagrees with the Chicago School about certain assumptions, the former does affirm that tying can be welfare enhancing and a legitimate competitive response. Accordingly, both schools have provided pro-competitive explanations and efficiency rationales behind tying-in practice that can be employed as objective justification in tying claims under Article 102 TFEU.

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353 Alfonso Lamadrid de Pablo, 'The Double Duality of Two-sided Markets' (Speech delivered at the 2014 'Pros and Cons' Conference' Stockholm, 2014).

354 Keith N Hylton and Michael A Salinger, 'Tying Law and Policy: A Decision Theoretic Approach' (Boston University School of Law, Working Paper 01–04, 2001) 52.

355 Alfonso Lamadrid de Pablo, 'The Double Duality of Two Sided Markets' (Speech delivered at the 2014 'Pros and Cons' Conference' Stockholm, 2014).

356 David S Evans and Richard Schmalensee, 'The Antitrust Analysis of Multi-sided Platform Businesses' (No w18783, National Bureau of Economic Research, 2013) 7.

3.5.1 Economies of scale and scope in production and distribution

Tying permits productive efficiency by enabling the manufacturer to take advantage of economies of scale and scope in production and provides consumers with more choices and reductions in transaction and search costs, especially when time and effort are required to make informed decisions.[357] For instance, in the computer industry, it was common in the beginning to offer stand-alone products such as toolbars for power management, but with an increased level of technological sophistication, technical integration enabled components to be offered in one product for better technology.[358] For example, a customer who is familiar with the Microsoft Word software for the Windows operating system, will favour an upgrade of this product instead of switching to another product which will cost more and take time to learn the new word processing program.[359]

3.5.2 Metering and price discrimination

Economists have considered that tying-in practice enables beneficial price discrimination among customers by varying output to enhance social welfare and stimulating demand for the complementary products. This is clearer when the valuations for both products are negatively correlated and a deadweight loss is avoided.[360]

For instance, in cases when an undertaking ties a durable product such as a photocopier, requiring consumables (e.g. toner), which can otherwise be competitively supplied. If the consumers place a high value on the durable product and will use large amounts of the consumable, the undertaking can mark up its price for the consumable above the competitive level and lower the price for the durable product to keep the total cost the same as the marginal

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357 David S Evans, Tying: The Poster Child of Antitrust Modernisation (November 2005) 7.

358 David Evans, Jorge Padilla and Michele Polo, 'Tying-in Platform Software: Reasons for a Rule-of-Reason Standard in European Competition Law' (2002) 25 World Competition 509.

359 Carl Shapiro, 'Aftermarkets and Consumer Welfare: Making Sense of Kodak' (1995) Antitrust Law Journal 483.

360 Daniel Gifford and Robert Kudrle, 'The law and economics of price discrimination in modern economies: time for reconciliation' (2009) UC Davis L. Rev. 43, 1241: 'A deadweight loss results in situations in which price and marginal cost are not equated'.

cost. This tying enables the undertaking to charge different prices to different types of consumers. This pricing strategy is referred to as metering.[361]

Similarly, a beneficial price discrimination occurs when consumers value two products differently: when a consumer prefers one product over another product, the valuation for the bundle or the tie demonstrates lower variance compared to the variances of the valuations of the two products separately.[362] In this case, the tie price extracts more consumer surplus than the setting of separate prices for the two goods. Accordingly, consumers who prefer the first product assign a larger portion of the tie price to the first product, whereas consumers who prefer the second product consider the tie price to apply more to the second product. Therefore, the firm effectively charges different prices for each product to different customers and thus stimulates demand.[363]

In addition, tying enables a firm monopolizing the market for two complementary products to price discriminate beneficially, by charging lower prices compared to two monopolists that sell the two products separately. This practice can eliminate double marginalisation by producing the complementary products and tying them. This leads to a positive effect on demand for the second product with a reduction in the price of the first product, and vice versa. In effect achieving allocative efficiency.[364]

Price discrimination through tying may have other desirable welfare effects, since limited information and risk aversion may lead to consumer preferences for a pricing strategy for a new product system that can discriminate on the basis of intensity of use. This situation is especially common in telecoms contracts which can be based on downloads per month, as well as with new products that embody non-obvious or non-intuitive

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361 Dennis W Carlton, Patrick Greenlee and Michael Waldman, ‘Assessing the Anti-competitive Effects of Multiproduct Pricing’ (NBER Working Papers 14199, National Bureau of Economic Research, Inc 2008) 13.

362 Simon Bishop and Mike Walker, The Economics of EC Competition Law: Concepts, Application and Measurement (2nd edn, Sweet & Maxwell 2002) 214.

363 Dennis W Carlton, Patrick Greenlee and Michael Waldman, ‘Assessing the Anti-competitive Effects of Multiproduct Pricing’ (NBER Working Papers 14199, National Bureau of Economic Research, Inc 2008) 600.

364 Thomas Lambert, ‘Appropriate Liability Rules for Tying and Bundled Discounting’ (2011) Ohio St LJ 909.

information, where consumers are not sure about their need for the product. Therefore, *ex ante* the producer cannot precisely confirm the price elasticity of demand for the new product, which may lead to a difficulty in recognising a single profit-maximising price.[365]

3.5.3 Quality assurance

Quality assurance is a key standard in competition, since it reflects the trust that consumers have in a firm and sometimes in a certain brand. Therefore, some undertakings tie both the tying and the tied product, which they have manufactured to guarantee the efficiency and improve performance.[366]

Undertakings differ in the level of expertise and skills required of their employees and the manufacturing standards; this includes the quality of their products; if a malfunction occurs due to incompatible components manufactured by other manufacturers, the producer of the main product will be blamed and be the target of consumer dissatisfaction, and will face the full retribution of the market.[367] In contrast, when the products are produced by the same manufacturer and a malfunction occurs, the supplier of that product will be liable to the consumer for such defect without the consumer having to establish which component led to that malfunction. Since only one firm is responsible for the entire product, the possibility that suppliers of the other components might seek to escape liability for quality control is avoided.[368] Therefore, it is common for consumers to be advised to refrain from using third-party components, in order to reduce the rate of malfunction and not affect the expected function or the quality of the main products. They may also be told that having another party repair a product may lead to the guarantee being invalidated by the original firm.

365 J Gregory Sidak, 'An Antitrust Rule for Software Integration' (2001) Yale Journal on Regulation 8.

366 Christian Ahlborn, David Bailey and Helen Crossley, 'An Antitrust Analysis of Tying: Position Paper' (GCLC Research Papers on Article 82 EC, 2005) 184.

367 J Gregory Sidak, 'An Antitrust Rule for Software Integration' (2001) Yale Journal on Regulation 1–83.

368 Eugène Buttigieg, Competition Law: Safeguarding the Consumer Interest: A Comparative Analysis of US Antitrust Law and EC Competition Law (Wolters Kluwer 2009) 223.

Tying-in practices lead firms to invest more in product quality to increase profit and consumer surplus, because tying can have an effect equivalent to increasing the frequency of buying, so firms will aim to sustain high quality in their products.[369] Consumers will not necessarily observe the quality of certain products at the time of the purchase, leading to a firm being tempted to manufacture a lower-quality product to reduce its costs, especially when consumers buy the product only once or infrequently; thus, high quality cannot be sustained in equilibrium. However, with frequent buyers and tying practices, the firm will have an incentive to invest more in its product quality.[370]

3.5.4 Product improvement

Tying is an efficient strategy in competitive markets to improve and develop products gradually, to achieve specialised final products, particularly so in the high technology markets. This can be hard to achieve when different firms manufacture one of the integrated products but is less difficult when the same firm manufactures both products and achieves more benefits for consumers. It is often the case that when two products are tied together, that the whole will be worth more than the sum of its parts.[371]

For example, developers of multimedia applications will find it more efficient to establish the presence of multimedia application program interfaces (APIs) on all systems where the operating system is already installed. This can motivate the developer to focus on the innovative features of the developed products instead of adding standard functionality to an application, that will be compatible with an operating system.[372] This example implies that technical tying-in in software markets promotes the development of new software products by taking advantage of existing integrated systems, because

369 James D Dana and Kathryn E Spier, 'Do Tying, Bundling, and Other Purchase Restraints Increase Product Quality?' (2015) International Journal of Industrial Organization 142–147.

370 ibid.

371 Hedvig Schmidt, Competition Law, Innovation and Antitrust: An Analysis of Tying and Technological Integration (Edward Elgar Publishing 2009).

372 David Evans, Jorge Padilla and Michele Polo, 'Tying-in Platform Software: Reasons for a Rule-of-Reason Standard in European Competition Law' (2002) World Competition 509.

developers appreciate the components of applications that are already integrated into an operating system.[373]

3.5.5 Protection of intellectual property rights

The technical integration of products serves to protect intellectual property rights and to prevent aftermarket entrants from free riding on the investments of the system developer.[374] For example, when developing an external application to run on an operating system of a different undertaking, there is a necessity to disclose proprietary information or access to proprietary source code for the operating system to achieve compatibility. In this case, the manufacturer of the operating system will usually be against licensing the source code with other competitors, in order to protect its intellectual property rights and preclude them from using the source code to develop competing operating system software. For this reason, even though tying may cause short-term consequences such as reduced choice for consumers, tying technical products protects the intellectual property rights of the operating system manufacturer and the interests of consumers as it provides the necessary incentives for future valuable innovations.[375]

Lastly, after demonstrating the economic rationale behind tying, the following section will review the decisional practice of contractual tying claims according to a form-based approach, which was applicable before the modernisation approach.

3.6 Contractual tying claims

Having considered the notion of tying, its forms, and the economic rationale behind it, this section focuses on contractual tying claims before the modernisation process; the Commission followed a form-based approach

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373 ibid.

374 Daniel Gaynor, Technological Tying (August 2006). FTC, Bureau of Economics Working Paper No. 284.

See OECD Glossary - Khemani RS and Shapiro DM, 'Glossary of Industrial Organisation Economics and Competition Law' (Centre for Co-operation with European Economies in Transition, Paris 1993): 'Free riding occurs when one firm benefits from the actions and efforts of another firm without paying or sharing costs'.

375 Andrea Coscelli and Geoff Edwards, 'Efficiency and Anti-competitive Effects of Tying' (2007) 12 Annual Competition Law and Policy Workshop (Robert Schuman Centre) 8.

under Article 102 with reference to the form of the conduct rather than its effects. Accordingly, under such an approach, a tying abuse claim could be satisfied when the following elements were met: 1) an undertaking is dominant in the tying market; 2) the tying and tied products are distinct products, which can be determined if products 'have no connection by their nature' or 'according to commercial usage' or separate demand; 3) coercion, where customers cannot obtain the tying product without the tied product; and 4) the absence of objective justification.

3.6.1 Tying products and services

The Commission established that, in the 1994 case of *Tetra Pak II*[376], Tetra Pak held a dominant position in the market for aseptic machines and cartons, abused its position by tying the sale of cartons to the equipment for filling them and imposed a contractual clause on its customers, which obliged them to purchase only Tetra Pak cartons and the maintenance and repair services and supplies of any spare parts for the Tetra Pak machines from the company itself.[377] The Commission focused on the realm of commercial usage to determine that the products are distinct and considered that machines and cartons were offered separately on the closely related market for non-aseptic packaging and thus should be deemed separate products on the market for aseptic packing.[378] This decision means if the tied products are offered independently, this is a presumption that there is independent demand for it and therefore a market.[379]

As an illustration, the separate demand test must meet two objectives: firstly, it provides a screening device to check efficiency gains that result from tying of separate products, distinguishing it from other antitrust assessment practices that have an obvious efficiency justification that benefits consumers; and secondly, it determines the boundary of the tying category, as opposed to

376 Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1; Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755; Case C-333/94P *Tetra Pak International SA v Commission* [1996] ECR I-59521.

377 Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1, para 99–104.

378 ibid, para 29–35.

379 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 232.

practices involving one product.[380] If there is no demand for acquiring the components separately from different sellers, there is no competitive issue, although there may be an excessive pricing issue if buyers are forced to take a product they do not want at all.[381] The Commission also held that Tetra Pak coerced customers to use its cartons on its machine, this is especially true since there was a contractual obligation, whereas if it was for technical reasons, the contractual obligation would be unnecessary. Competition was already limited.[382]

Tetra Pak put forward the justification that machines and cartons formed an integrated product, and tying them was necessary on grounds of public health but this was refused.[383] The Commission implied that if Tetra Pak was worried about the suitability of competitors' cartons for its machines, it should have disclosed the technical specifications that cartons needed to meet to be used on its machines.[384] On appeal, the GC court supported the Commission's findings and emphasised that Tetra Pak is in a dominant position and is an inevitable partner especially with the presence of one competitor in the concerned market, and technological barriers and numerous patents prevented new competitors from entering the market of aseptic machines, which contributed to maintaining and strengthening Tetra Pak's dominant position.[385] Also, there was no need to demonstrate the casual link between the abuses allegedly committed in the non-aseptic sector and Tetra Pak's dominant position on the non-aseptic market taken in isolation.[386]

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380 Nicholas Economides and Ioannis Lianos, 'The Elusive Antitrust Standard on Bundling in Europe and in the United States at the Aftermath of the Microsoft Cases' (2009) Antitrust Law Journal 483.

381 Maurits Dolmans and Thomas Graf, 'Analysis of Tying under Article 82 EC: The European Commission's Microsoft Decision in Perspective' (2004) World Competition 225.

382 Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1, para 119: 'The proportionality rule excludes the use of restrictive practices where these are not indispensable. This rule is all the more vital in the case in hand since the restrictions of competition involved are particularly serious and are brought to bear on markets on which – even without them – competition is already extremely limited'.

383 Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1, para 118.

384 ibid, para 176.

385 ibid, paras 109, 110.

386 ibid, para 122: 'that undertaking' s leading position on the non-aseptic markets, combined with the close associative links between those markets and the aseptic markets, gave Tetra Pak freedom of conduct compared with the other economic operators on the non-aseptic markets, such as to impose on it a special responsibility under Article 102 to maintain genuine undistorted competition on those markets'.

In addition, when Tetra Pak claimed that Article 102 (d) only prohibited tying, where the supplementary obligations imposed had, 'by their nature or according to commercial usage, no connection with the subject matter of the contract,' the General Court confirmed the Commission's decision and held that a tie may constitute an abuse even if there is a natural link or the tied sales are in accordance with commercial usage, especially where the competition is already restricted.[387] This finding implies that common usage was not sufficient to justify recourse to a system of tied sales by an undertaking in a dominant position. It could be argued that the reasoning behind this is the responsibility of the dominant firm not to impair competition on the Common Market. Also, there were only two manufacturers and limited practice in the aseptic sector to demonstrate commercial usage.[388]

The GC also refused Tetra Pak's argument related to product liability problems or considerations relating to the protection of public health or the protection of reputation. They held that it is not the task of the dominant firm to exclude products which could be regarded as dangerous or inferior in quality to its own products, and as such consideration could be guaranteed by other means.[389] Additionally, the GC implied that the tied-sale clauses went beyond their ostensible purpose to strengthen Tetra Pak's dominant position by reinforcing its customers' economic dependence on it and excluding competition in the relevant market.[390]

Tetra Pak appealed to the ECJ, which upheld an abuse under TFEU Article 102 and contradicted the legal rule of Article 102, when it held that both products were distinct, denying the existence of a natural link between the tied and the tying product.[391] The ECJ ruling emphasised again that even with the existence of a natural link between both products, tying may still constitute an abuse under Article 102 TFEU unless it is objectively justified.[392]

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387 ibid, para 137.

388 ibid, paras 82, 118.

389 ibid, paras 83, 84, 183.

390 ibid, paras 135, 140.

391 ibid, paras 35, 36.

392 ibid, para 37.

In light of the above, several points are significant regarding the negative decision in this case. It can be noted that abuses were considered to have occurred in both the aseptic and non-aseptic markets, in spite of the fact that the dominant position was only in the non- aseptic market. This imbalance led to an extension of the law under Article 102 to markets where firms do not use their dominant position to extend their market power to another market, referring to a presumption of leverage from one market to another. This change has made the situation more complicated and may trigger debate on whether a justified tying should also be considered to be abusive conduct.

In addition, despite the fact that the text of Article 102 (d) considered commercial usage as a criterion for determining if two products are distinct, the commercial usage criterion was treated very strictly, and a very narrow approach was adopted regarding commercial usage. It was considered that it is not enough to show that both products are dominant business practices in the concerned market, but rather that the common existence of both tying and tied products together and separately do not justify the tying practice all of the time. Therefore, it is still possible to consider an undertaking to be in violation of Article 102 even if commercial usage shows that the products are sold together. Under these circumstances, there is no legal certainty regarding applying a two-product test when a dominant firm is concerned. In turn, this lack of certainty leads to confusion and instability regarding this issue. Including that the commercial usage standard has been undermined and been treated similarly to objective justifications that may take tying outside the scope of Article 102 TFEU.[393]

3.6.2 Tying products in the same range

The 1979 case of *Hoffman La Roche*[394] involved tying the purchasers by a formal obligation, including fidelity rebates for products in the same range. In this case, the Commission established that the Swiss company Roche was in

393 Christian Ahlborn, David Evans and Jorge Padilla, 'The Antitrust Economics of Tying: A Farewell to Per Se Illegality' (2003) Antitrust Bulletin 287.

394 Case IV/29.020 – (Vitamins) *Hoffmann-La Roche v Commission* 1976, OJ L 223, Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* (Vitamins) (1979) ECR 461.

a dominant position, due to their high market share and being the world's largest producer of vitamins. The court held that Roche abused its dominant position in the market in the case of seven of the eight groups of vitamins by tying the products, which were in the same range (vitamins A, B2, B3, B6, C, E and H), as each group of vitamins was judged to constitute a separate market and the products were deemed to be distinct due to being used for different purposes.[395]

The Commission also held that the conduct of Roche 'constitute[d] an abuse of a dominant position, because by its nature it hampers the freedom of choice and equality of treatment of purchasers and restricts competition'. The Commission judged that Roche had coerced its consumers through preferential purchasing commitments, by obtaining a large proportion of their requirements either as a result of an express obligation of exclusivity, or fidelity rebates. Therefore, by its very nature had removed all freedom of choice from purchasers in their selection of sources of supply, tying them to one supplier.[396]

Later, Roche appealed the decision, arguing that the dominant position concept had been incorrectly applied; however, the court rejected Roche's argument as follows: 'an abuse implies that the use of the economic power bestowed by a dominant position is the means whereby the abuse has been brought about cannot be accepted'.[397] The court also emphasised that the coercion element was satisfied when customers were obliged, by fidelity rebates as an incentive, to buy all or most of their vitamin requirements exclusively from Hoffman La Roche.[398] Therefore, the court condemned the tying practice and held that the behaviour of a dominant undertaking that ties purchasers, even if it does so at the customers' request or by an obligation or promise on their part to obtain their requirements exclusively from the

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395 Case IV/29.020 – (Vitamins) *Hoffmann-La Roche v Commission* 1976, OJ L 223, paras 20–22.

396 ibid, paras 22, 24.

397 ibid, para 91.

398 ibid, para 7.

dominant undertaking, is considered to be abusive conduct.[399] In addition, the court held that:

> *The prohibitions contained in Articles 101 and 102 must be interpreted and applied in the light of Article 3 (f) of the treaty which provides that the activities of the community shall include the institution of a system ensuring that competition in the common market is not distorted.*[400]

Significantly, it can be concluded that when utilising fidelity rebates or other practices such as mixed bundling, coercion is indirect and often considered a motivation, such as a discount that encourages customers to buy both the tying and the tied product. Meanwhile, in contractual tying, coercion usually takes a direct form: for instance, if there is a contractual clause that implies that the purchase of the tied products or services is an absolute condition for the selling of the tying products.[401] Therefore, the coercion requirement can be used to show the difference between different forms of tying-in practices or other practices involved, as the main standard of this recognition is the restriction of consumer choice in obtaining the tying product without the tied product.

In addition, offering the bundle at the same price as the stand-alone tying product is similar to the above and is treated as granting a discount on the dominant product equal to the value that the buyer assigns to the tied product. It has an equivalent effect to a refusal to supply the tying product alone, where customers are forced to pay the price of the bundled product even if they want to buy only the tying product.[402]

In brief, the Commission and the EU court, through applying a form based approach failed in articulating a convincing theory of economic harm by not demonstrating how certain conducts significantly affected the market.[403] It was

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399 ibid, para 89.

400 ibid, para 125.

See para 38: 'Article 102 is an application of the general objective of the activities of the community laid down by Article 3 (f) of the treaty namely, the institution of a system ensuring that competition in the common market is not distorted'.

401 Maurits Dolmans and Thomas Graf, 'Analysis of Tying under Article 82 EC: The European Commission's Microsoft Decision in Perspective' (2004) World Competition 225.

402 Maurits Dolmans and Thomas Graf, 'Analysis of Tying under Article 82 EC: The European Commission's Microsoft Decision in Perspective' (2004) World Competition 225.

403 Richard Whish and David Bailey, Competition Law (6th edn, OUP 2012) 199.

held that the abusive behaviour led to distorting competition, but without implying what it really constituted except the fact that Roche enjoys complete freedom of action on the relevant markets enabling it to impede effective competition within the common market where they had a dominant position.[404] The Commission usually has a low standard of proof to establish coercion and the two distinct products criteria, whereas a relatively high standard of proof is required of the dominant undertaking to justify its actions.

3.6.3 Tying between the product and its accessories

The 1991 case of *Hilti v Eurofix-Bauco*[405] involved tying between the product and the accessories which were needed to make it function.[406] The Commission held that Hilti had abused its dominant position within the meaning of Article 102 TFEU '*inter alia* by making the supply of cartridge strips conditional on the purchase of nails'.[407] Despite both products being inter-related and a user possibly needing an equal complement of them, the Commission held that both products are distinct, including the considerations that they are produced with different technologies, have different sets of supply and demand conditions, and constitute separate product markets.[408]

This implies that the Commission tends to focus on commercial usage as a standard to determine whether products are normally sold together or not, based on evidence from the market, instead of examining their functional relationship, which is based on the relationship of dependency between two products. This occurred despite the language of Article 102 (d), specifically using the word 'nature,' which invites the competition authorities to focus on the functional relationship between the products instead of focusing on more objective criteria, for instance, whether competitors offer the products separately.[409] The Commission also considered that Hilti coerced customers to

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404 Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* (Vitamins) (1979) ECR 461, para 36.

405 Case IV/30.787 and 31.488 *Eurofix-Bauco v Hilti* (1987) OJ L 65, Case T-30/89 *Hilti AG v Commission* (1991) ECR II-1439; Case C-53/92P *Hilti AG v Commission* [1994] ECR I-667.

406 Jonathan Faull and Ali Nikpay, The EC Law of Competition (OUP 1999) 372.

407 Case IV/30.787 and 31.488 *Eurofix-Bauco v Hilti* (1987) OJ L 65, paras 28, 55, 57, 66–69

408 ibid, paras 55, 57.

409 David Hull, 'Tying: A Transatlantic Perspective' in Philip Marsden (ed), Handbook of Research in Trans-Atlantic Antitrust (Edward Elgar Publishing Limited 2006) 302.

rely on both its cartridges and nails for their Hilti nail guns, and further refused Hilti's view they must be deemed as an integral system and that its behaviour was based on safety and reliability concerns.[410]

Hilti appealed to the GC which affirmed the Commission findings, including its conclusion that nails and cartridges are distinct since they are in two separate product markets; as there had been independent nails producers since the 1960s, some producing only nails, whereas others producing nails specifically designed for Hilti tools and thus a specific market for Hilti-compatible nails.[411] The GC emphasized that Hilti deprived the customers from choosing and attempted to exclude other competitors from the market.[412]

The GC explained that the coercive behaviour in Hilti's case took various forms: for instance, a refusal to supply the tying product without the tied product alongside it, and a refusal to honour the guarantee for special discounts on tools with consumables of non-Hilti provenance for the purchase of cartridge strips and nails.[413] The GC also refused Hilti's quality argument related to dangerous or inferior products by stating that any abuse pursuant to Article 102 TFEU could be justified by safety and quality considerations, as it was not Hilti's responsibility to ensure the quality of products traded on the markets.[414]

In brief, the Commission found Hilti had a dominant position in the tying product market, the Commission carried out a separate product test as a condition for finding an abuse and found that the two products were distinct since they fell into separate product markets without giving consideration toward the nature of the product and whether it was complementary or not. In effect, it condemned the practice without considering the effects on the market.

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410 Case IV/30.787 and 31.488 *Eurofix-Bauco v Hilti* (1987) OJ L 65, paras 57, 87.

411 Case T-30/89 *Hilti AG v Commission* (1991) ECR II-1439, para 67.

412 ibid, para 21.

413 ibid, para 27.

414 ibid, paras 109, 118.

See para 20: 'With regard to Hilti's expressions of concern on the question of safety, the decision states that if it was concerned it should have referred the matter to the competent United Kingdom authorities and asked them to take action against the independent producers, whose products it considered dangerous. Hilti's behaviour cannot therefore be described as being motivated solely by a concern to ensure the safety and reliability of its nail guns and the use of consumables complying with the requisite standards'.

3.7 Conclusion

This chapter explored the notion of tying as one of the exclusionary practices that can be tackled under Article 102 TFEU by identifying it and distinguishing it from other similar practices. The discussion then highlighted the stance of several schools of thought toward tying-in practices. The Harvard School's leverage theory appears to be the crucial rationale for the harsh treatment of tying-in practices. The post-Chicago School did not question whether tying could be welfare enhancing, but rather demonstrated that tying can lead to anti-competitive effects in certain cases. Both the Chicago School and the post-Chicago School affirmed that tying can be a legitimate competitive response and results in greater efficiencies that benefit consumers.

The chapter also revealed that before the modernisation process, the Commission consistently applied a form-based approach towards tying-in practices, that is, ruling by reference to their form rather than their effects. Both the Commission and the EU Courts were quick to condemn tying practices if the two products were deemed to fall into separate product markets, without giving consideration toward the nature of the product or even to the commercial usage in some instances. Therefore, plausible arguments were required rather than concrete evidence.[415] In addition, efficiency considerations were excluded under Article 102 when a practice engaged by a dominant firm restricted the competition process, without assessing whether a particular practice by a dominant firm was in fact harmful or whether it offered efficiencies for consumers.

Having considered tying-in practices and leading cases regarding contractual tying according to a form based approach, which was followed prior to the modernisation process, the next two chapters focus on the effects-based approach and specifically on the assessment of technical tying practice according to an effect-based approach.

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415 Dieter De Smet, 'The diametrically opposed principles of US and EU antitrust policy' (2008) European Competition Law Review 357.

CHAPTER 4: MICROSOFT AND DOMINANCE IN THE SOFTWARE MARKET

4.1 Introduction

The previous chapter demonstrated that the *EU approach* has consistently applied a form-based approach towards tying-in practices with reference to the form of the conduct, which could be satisfied by the finding of dominance in the tying product market, two separate products and coercion, rather than assessing whether a particular tying practice is in fact harmful to or efficient for consumers.

This chapter and the next chapter focus on the effects-based approach, which was applied in the *Microsoft* case, a complex high-profile case, which occurred before the publication of the guidance paper, the latest step in the modernisation process of Article 102.[416] Such an analytical framework is satisfied when there is dominance in the tying product market, the tying and tied products are separate products, customers were coerced to obtain both products and tying can lead to foreclosure of the competition.

To prepare for this discussion, section 4.2 explores the software market as a fast-moving innovation market by giving an overview of the development of the competition process in the software market and identifying the software market. Followed by a discussion of the unique characteristics of software markets that have special importance for the antitrust analysis of market dominance, which might cause uncertainties for firms operating in these markets.

Section 4.3 provides an overview of the *Microsoft* case and critically assesses Microsoft's dominance in the software market as a prerequisite for

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416 EU Commission, Antitrust: Frequently asked questions, Guidance on Commission enforcement priorities in applying Article 82 to exclusionary conduct by dominant, MEMO/08/761, 2008 <http://europa.eu/rapid/press-release_MEMO-08-761_en.htm?locale=en>: 'in recent Article 102 cases, such as Microsoft and Télefonica, the Commission has already been applying an effects-based approach, but what was lacking thus far was a document that provided guidance to stakeholders, in particular the business community and competition law enforcers at national level, on how the Commission articulates such an effects-based approach to exclusionary conduct under Article 102. This Guidance Paper fills this void.'

finding a technical tying abuse under Article 102. This is required to demonstrate to what extent the effects-based approach, that was applied in the Microsoft case, brings the EU enforcement in line with mainstream economic principles and consumer welfare, and whether such an approach accommodated the particularities of the software market during the assessment of technical tying in abuses in the software market. The remaining requirements of a technical tying abuse are: the existence of two separate products, the coercion of customers into purchasing the products together and the tying foreclosing the competition. The absence of any objective justification will be analysed in the next chapter (chapter five). Both chapters are devoted to the second part of the *Microsoft* case, which deals with the integration of specific media player functionality into the Windows PC Client Operating System as a tying abuse.[417]

4.2 The software market as an innovative market

This section identifies the software market and address briefly its development, discussing the characteristics of the software market to provide an understanding of the nature of software markets, before exploring technical tying abuse as assessed in the Microsoft case.

4.2.1 Software market definitions

EU competition rules under Article 102 TFEU did not include a definition of a software market, a high technology-market, an innovation market or network industries.[418] This is in contrast to rules under Article 101 TFEU: for example, the previous horizontal guidelines under Article 101 include a definition for

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417 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965: para 793–993; Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11: para 814–1129.

418 Nicholas Economides, 'Competition Policy in Network Industries: An Introduction' (NYU, Ctr for Law and Business Research Paper 03-10, 2004) 3, Raghu Garud, Arun Kumaraswamy and Richard Langlois, Managing in the Modular Age: Architectures, Networks and Organizations (John Wiley & Sons 2009) 4: there are two types of networks industries: first, traditional network industries (physical connection network) such as communications networks, where a user can access a large network of users with whom to communicate, such as compatible telephone systems and fax machines; second, virtual networks (hardware-software networks), being a collection of compatible products that share a common technical platform. There is no actual connection, but users are connected through adherence to the same set of standards; for instance, the value of a certain hardware depends on the availability of complementary hardware and software, which depends on the number of users choosing the standard of compatibility.

technology markets that can be applied to software markets.[419] It defines technology markets as those markets that 'consist of the intellectual property that is licensed and its close substitutes, i.e. other technologies which customers could use as a substitute', [420] whereas the new horizontal guidelines uses the term 'competition in innovation'.[421]

4.2.2 The development of the competition process in software markets

Mainframe computers became a significant business in the 1950s and were considered a mature industry by the end of the 1970s. The subsequent development and improvement of microprocessor speeds, a decrease in the cost of providing bandwidth, and the development of the Internet all encouraged the birth of a computing industry more accessible to a wide range of users, which has dynamic dimensions.[422]

In the early 1980s, Microsoft and other manufacturers changed the computer industry by creating a distinct software industry with the distribution of commercial PCs.[423] This was led by computer hardware manufacturer and original designer IBM, the manufacturer of microprocessors Intel, and the manufacturer of Microsoft operating systems.[424] These operating systems were considered vital components in the computer hardware industry and operated the main functions needed by users or other software[425] and were supplied by various computer hardware manufacturers, and every function

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419 Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements, OJ C 3/2 (2001).

420 ibid para 47.

421 Communication from the Commission: Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines) OJ 2011 C11/1, para 119.

422 David S Evans and Richard Schmalensee 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' (National Bureau of Economic Research, No w8268, 2001) 6

423 Martin Campbell-Kelly, 'Development and Structure of the International Software Industry:1950–1990' (1995) 24(2) Business and Economic History 73.

424 Timothy F Bresnahan and Shane Greenstein, 'Technological Competition and the Structure of the Computer Industry' (1999) 47(1) The Journal of Industrial Economics 1–40.

425 Suzanne Van Arsdale and Cody Venzke, 'Predatory Innovation in Software Markets' (2015) 29(1) Harvard Journal of Law & Technology 243.

was programmed separately. Over time, operating systems were programmed in high-level languages to enable them to operate on different hardware.[426]

With regard to the Microsoft Windows operating system software, there are particular strategies that have helped Microsoft obtain the leading position in personal computers, such as: 1) offering lower prices to consumers in contrast to other competitors; 2) intensely promoting API-based[427] software services to developers; 3) developing software services that provide value to developers directly and to end users indirectly; and 4) developing peripheral devices through direct subsidies to increase the value of the Windows platform to developers and users.[428]

4.2.3 The characteristics of the software market

There are several key economic concepts that are useful in the competitive analysis of the computer industry: these include a number of crucial features that distinguish the software market as a high technology market.

4.2.3.1 Dynamic competition and rapid technological change

The competition process in traditional markets is considered to be mainly *in the market*, as it takes place primarily through traditional price or output competition, and even via incremental improvements that are new to the firms, but already known in the firm's market.[429] This is in contrast to the nature of competition in high-technology markets such as the software market, which is characterized by being competition *for the market*; it is seen as a sequence of races to develop new technologies in order to attain leadership in a market. To maintain such leadership, the leading firm needs to immediately enter a new

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426 Luca Rubini, Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case (Edward Elgar Publishing 2010) 6. Application programmes need to request the underlying operating system with a service, and the software interface that is used is called the application programming interface (API).

427 Steven J Davis, Jack MacCrisken and Kevin M Murphy, 'Economic Perspectives on Software Design' (2001) (National Bureau of Economic Research, Working Paper 8411, 2001) 4. A software platform contains APIs that clarify the way a software developer can access the platform through modules of code, and such APIs enable software developers to economize on writing new code for application software.

428 David S Evans, Andrei Hagiu and Richard Schmalensee, Invisible Engines: How Software Platforms Drive Innovation and Transform Industries (MIT press 2008) 113.

429 Alfred Kleinknecht, Kees Van Montfort and Erik Brouwer, 'The Non-trivial Choice between Innovation Indicators' (2002) 11(2) Economics of Innovation and New Technology 114.

race.[430] This means a firm cannot rely on their high market power in the market but rather must innovate to compete, to enter a new market, or simply to protect their market position and survive.[431] This sort of race to innovate produces paradigm shifts that create 'winners' who achieve temporary product market dominance until a new round of competition in innovation is experienced.[432] The natural equilibrium is to find inequality in market shares, whereby the most innovative products are the prevailing ones for a certain period of time.[433]

Accordingly, the competition in high-technology markets can be characterized as being dynamic; these platforms are constantly redefining their boundaries as well as those of entire industries.[434] Furthermore, undertakings operating in such markets are exposed to greater risk and uncertainties due to the fragility of market positions, as it is not possible to know when a new innovative product will appear and thus render all other products obsolete.[435] For example, a disappearance of the market share held by Nokia and Blackberry occurred when the evolution of smartphones and new devices without a physical keypad occurred.[436] Another example of loss of dominance in the computer industry was that of IBM, whose loss was due to the dynamic development in such markets (in particular, exogenous technological advances in microchip technology). These technological advancements encouraged smaller and cheaper computing platforms such as

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430 David Encaoua and Abraham Hollander, 'Competition Policy and Innovation' (2002) 18(1) Oxford Review of Economic Policy (OUP) 63–79.

431 OECD/Eurostat, Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd edn, The Measurement of Scientific and Technological Activities, OECD Publishing (2005), Paris <http://dx.doi.org/10.1787/9789264013100-en>: 'This include[s] product innovation that involves a good or service that is new or significantly improved such significant improvements in technical specifications, components and materials, software in the product, user friendliness or other functional characteristics; Process innovation that involve a new or significantly improved production or delivery method such significant changes in techniques, equipment and/or software; Marketing innovation that involves new marketing methods involving significant changes in product design or packaging, product placement, product promotion or pricing.'

432 Hans-Werner Gottinger, 'Innovation, Dynamics of Competition and Market Dynamics' (2015) 4(1) Archives of Business Research 9.

433 Miguel Rato and Nicolas Petit, 'Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered' (2013) 9(1) European Competition Journal 7: 'Hitherto seen as the dominant market player will see its market share evaporate and be demoted to an also-ran within a very short time period'.

434 Alfonso Lamadrid de Pablo, 'The Double Duality of Two Sided Markets' (Speech delivered at the 2014 'Pros and Cons' Conference, Stockholm, 28 November 2014).

435 Thomas A Piraino Jr, 'A Proposed Antitrust Approach to High Technology Competition' (2002) 44(1) William & Mary Law Review.

436 Luisa Affuso and George Hall, 'Does Competition Policy Need to Adapt to the Digital Age?' (PwC, November 2016) <http://pwc.blogs.com/economics_in_business/2016/11/does-competition-policy-need-to-adapt-to-the-digital-age.html> accessed 10 December 2016.

the minicomputer and PC to undertake similar work to what mainframes had done but more cost-effectively.[437]

This means that even dominant undertakings during moments of discontinuities or appearance of new innovative products may find it difficult to take advantage of economies of scope and accordingly will find themselves at an unforeseen detriment compared to new entrants.[438] Advantages enjoyed by dominant firms in these markets depend on various factors, such as the protection of intellectual property rights of the innovation and the strategic decisions of the firm in determining the appropriate return methods from such inventions, as well as the speed of imitability by other competitors in the market, which in turn depends on the technological and engineering difficulty of the underlying innovation.[439]

4.2.3.3 Economies of scale and scope

The costs of entry in high-technology markets are usually high, and firms tend to spend large investments on developing products; R&D involves researching the market and customer needs, which is time- and resource-intensive. However, the rewards of success are correspondingly higher; this is especially true in the software market. Additional units of production lead to a decrease in the marginal cost of licensing additional customers, which is almost zero since the sale of software products involves significant economies of scale. Accordingly, it is common that writers of applications (programs) tend to write for those operating systems or hardware systems that have large numbers of users.[440] Also, whereas hardware design and manufacture are costly, many software firms can be created with limited resources and very little by way of equipment. The software market due to its low cost of entry and being an industry where a good idea can breed commercial success and

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437 Daniel L Rubinfeld, 'Antitrust Enforcement in Dynamic Network Industries' (1998) 43 Antitrust Bulletin 875.

438 Timothy F Bresnahan, Shane Greenstein and Rebecca M Henderson, 'Schumpeterian Competition and Diseconomies of Scope: Illustrations from the Histories of Microsoft and IBM' in The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 203.

439 Frank T Rothaermel, 'Competitive Advantage in Technology Intensive Industries' in Gary Libecap and Marie Thursby, Technological Innovation: Generating Economic Results vol 18 (Emerald Group Publishing Limited 2008) 224.

440 John Temple Lang, 'European Community Antitrust Law: Innovation Markets and High Technology Industries' (1996) 20(3) Fordham International Law Journal 717.

attract the best technical minds. It is usually the long development cycle and the commercialization process that restrict the ability of small firms to get their products to market.[441]

4.2.3.4 High tech markets as multi-sided platforms

High technology markets are considered to be multi-sided platforms (MSPs). An MSP is a virtual network or foundation that enables interactions between multiple groups of surrounding complementary manufacturers and consumers and helps these customers come together, creating value for them that could not be obtained without the platform coordination.[442] This access to information on interfaces enables users to link to the platform and utilize its capabilities, abiding by the rules governing the use of the platform, and in some cases paying the cost of access (such as patent or licensing fees).[443] An example of MSP is the Google online search platform that provides online search functionality between web users and advertisers.[444] Another is the Microsoft window operating system platforms that provide services for applications developers to obtain access to the hardware for a computing device and where users can run these applications only if they have the same software platform as that relied on by the developers.[445]

The complexity that arises with MSPs introduces practical problems in the competitive assessment, which involves the number of the relevant markets and whether there are two or more classes of agents or customers that are unique but interdependent. The analysis also needs to consider the following: the responses of those agents or customers to the platform owner; the responses of platform owners to those agents or customers; and the responses of one set of agents to changes in the other's behaviour and vice

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441 Rowena Barrett, Management, Labour Process and Software Development: Reality Bites (Routledge 2004) 13.

442 Kevin J Boudreau and Andrei Hagiu, 'Platform Rules: Multi-sided Platforms as Regulators' in Annabelle Gawer (ed), Platforms, Markets and Innovation (Edward Elgar Publishing 2009) 2.

443 Annabelle Gawer and Michael A Cusumano, 'Industry Platforms and Ecosystem Innovation' (2014) 31(3) Journal of Product Innovation Management 417.

444 Petri Kuoppamaki, 'Tying and Two-sided Digital Platform' (10th ASCOLA Conference, Tokyo 2015).

445 David S Evans, Michael Noel, Defining Antitrust Markets When Firms Operate Two-sided Platforms, 2005 Colum. Bus. L. Rev. 667.

versa.[446] As well as the demand conditions change on each side, since this pattern of cross-responses will influence each step of competition analysis such as entry, market definition, and efficiencies.[447]

4.2.3.5 Network effects

There are two types of network effects: direct and indirect network effects.

A direct network effect occurs when the value of the service increases with the number of users. Direct network effects are relevant for two-way telecommunications systems such as fixed and mobile networks, the Internet, instant messaging, and other communications networks. For example, the more people there are with telephones, the more useful and the more valuable telephones are to the user.[448] By contrast, indirect network effects (network externalities) arise when the value a consumer derives from a good or service increases with the number of additional users of identical and/or interoperable complementary goods.[449] Indirect network effects are mostly common in the computer sector, as a network effect can arise when consumers use a system of hardware and complementary software products, and when the increase in the availability of different software varieties increases the benefit for all consumers who adopt compatible hardware. The consumers who purchase hardware/software systems thus constitute a virtual network.[450]

Network effects can also have implications for the conduct of firms, because the size of a network has an influence on price; for example, some firms price their products low to build a larger network, and then raise prices to reap the profits generated by a larger network size.[451] These network effects

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446 The Delegation of the European Commission, 'Roundtable on Two-sided Markets' (Note submitted to the Competition Committee DAF/COMP/WD (2009) 69).

447 ibid.

448 Cento G Veljanovski, 'Competition Law Issues in the Computer Industry: An Economic Perspective' (2005) 3(1) Law and Justice Journal 3.

449 Nicholas Economides, 'Antitrust Issues in Network Industries' in The Reform of EC Competition Law (Kluwer Law International 2008) 24.

450 Neil Gandal, 'Compatibility, Standardization, and Network Effects: Some Policy Implications' (2002) 18(1) Oxford Review of Economic Policy 80–91.

451 Emanuela Arezzo, 'Is there a Role for Market Definition and Dominance in an Effects-based Approach?' in Mark-Oliver MacKenrodt, Beatriz Conde Gallego and Stefan Enchelmaier (eds), Abuse of Dominant Position: New Interpretation, New Enforcement Mechanisms? (Springer-Verlag Berlin and Heidelberg 2008): '…there is a need to distinguish an analysis where competition authorities look at whether the conduct is (ultimately) aimed at strengthening or maintaining market power (intended as power over price), from an analysis where competition authorities look at the actual undertaking's power over price as sole and exclusive parameter to infer anti-competitiveness of the conduct…'

on the demand side and scale economies in production lead to low costs for firms that enjoy a large share of the market, and thus consumers benefit. However, breaking up consolidated networks in order to achieve a market fragmentation for the purposes of stimulating competition runs the risk of reducing consumers' satisfaction and welfare.[452]

Similarly, in the presence of significant network externalities, a monopolist firm in a high-technology market has the tendency to invite other competitors or to subsidize them in such markets, thus intensifying the competition process. This is particularly so because a dominant firm will operate more efficiently and increase its output with more competitors, since its output range depends on other firms.[453] This will then create a competitive effect as an impact of the increase in the competition process, because of the increase in the numbers of firms, leading to a greater network effect that stimulates the incentives to pay the market price due to the high-expected sales.[454] The same applies under conditions of incompatibility between competing platforms, where a dominant firm can maximise its social surplus.[455] This is because with the existence of strong network effects, a significant market share of a certain platform will lead to more network benefits for this platform, which in turn will increase the surplus of consumers and producers. In contrast, breaking up a dominant position between two competitive firms can reduce the social surplus, since the benefits of network externalities are reduced due to the reduction in network externalities themselves.[456] The network effect can have a negative effect on the dominant firm, since the position of a dominant firm based on successful investment will come to an end at some point, as any success in the market is due to actuation to investments with other innovative products, especially technologies that will

452 Christian Ahlborn and others, 'DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries' (2006) 4 <http://ec.europa.eu/competition/antitrust/art82/057.pdf> accessed 18 July 2014.

453 Nicholas Economides, 'The Economics of Networks.' (1996) 14(6) International Journal of Industrial Organization 691.

454 ibid.

455 Social surplus is also known as the total welfare.

456 Nicholas Economides, 'The Microsoft Antitrust Case' (2001) 1(1) Journal of Industry, Competition and Trade 7–39.

gain network effects and erode the dominant firm and replace the most innovative product.[457]

4.2.3.6 Lock-in and tipping

Markets characterised by network effects may 'tip' in favour of the product that achieves an early lead.[458] A 'tip' or 'snowball' is a concept that has recently been introduced into the application of network effects to competition law. The concept implies that under certain conditions, indirect network effects create a snowball effect that can lead to one dominant product and one dominant company.[459] This can lead to a 'lock-in' of customers to a particular network and technological dependence.[460] This occurs when a network awards benefits to other firms to gain leadership in market penetration, particularly when production exhibits increasing returns of scale, and thus consumers become attracted to the networks that offer the largest benefit. Hence, consumers can become locked into such networks, especially in the absence of interconnection or interoperability among competing networks, which in turn can make entry or expansion by other competitors more difficult.[461]

It is noteworthy that when tipping occurs in virtual networks such as the computer industry, between operating systems and software, it is necessary to consider the following factors: first, distinguishing between platforms, as they can be differentiated in two ways, either vertically or horizontally. Vertical platforms distinguish their products or services by producing at a certain level of quality, and consumers choose a higher or lower quality of platform according to their income and quality demands. [462] Horizontal platforms distinguish themselves by choosing specific features and prices that attract

457 Ronald Cass, 'Antitrust and High-Tech: Regulatory Risks for Innovation and Competition' (2013] 14 Engage 25, 29.

458 John Hogan, 'Competition Policy for Computer Software Markets' [2001] Journal of Information, Law and Technology 4.

459 Daniel L Rubinfeld, 'Antitrust Enforcement in Dynamic Network Industries' (1998) 43 Antitrust Bulletin 859: 'Tipping can occur in any market, including traditional old-economy ones, both on the supply side and the demand side. All that are required are substantial scale-related economics, and not necessarily network effects.'

460 Jean-Pierre Dubé, G Hitsch and Pradeep Chintagunta, 'Dynamic Standards Competition and Tipping: The Case of 32/64 Bit Video Game Consoles' (manuscript, Chicago GSB, 2007) 2.

461 Howard A Shelanski and J Gregory Sidak, 'Antitrust Divestiture in Network Industries' [2001] 68(1) The University of Chicago Law Review 8.

462 David S Evans, Michael Noel, 'Defining Antitrust Markets When Firms Operate Two-sided Platforms' 2005 Colum. Bus. L. Rev. 667.

particular groups of customers,[463] such as when consumers can pay a premium for one version of a product and others can pay a premium for a different version of the product.[464] Such vertical or horizontal differentiation between products plays a vital role in determining how innovation will influence the competition process.[465] For instance, one of Microsoft's efficiency strategies is differentiating and moving horizontally in the software market by developing products that are compatible with other products. This is in comparison to IBM that differentiated its platform vertically, attempting to develop and produce every component of its products.[466] Secondly, contrary to a simple network industry, lock-in is not considered to be a vital element in the software industry, since rapid change and continuous innovation occur all the time, and leading products are continuously displaced by better or more developed products.[467]

For instance, in operating systems, MS-DOS displaced CP/M, and after a struggle with OS/2, Windows displaced MS-DOS.[468] Thirdly, tipping can be influenced and could be limited to some extent due to product differentiation and sustaining multiple networks.[469] In particular, product differentiation contributes to leading consumers to use and search for more than one product and thus to multi-homing that allows the user to participate in more than one platform in a particular industry.[470] For example, software developers that create programs for horizontal markets typically have a broad audience but also face high levels of competition. In this case, the tipping is distributed on

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463 David S Evans and Richard Schmalensee, 'The Industrial Organization of Markets with Two-sided Platforms' (Working Paper 11603, National Bureau of Economic Research, 2005) 18.

464 Robert T Masson, Serdar Dalkir, and David Eisenstadt. 'A Note on Complementary Goods Mergers between Oligopolists with Market Power: Cournot Effects, Bundling and Antitrust. Review of Law & Economics' 10.1 (2014) 59–79.

465 Hans-Werner Gottinger, Economies of Network Industries (Routledge 2003). A distinction from another perspective can be made between horizontal innovation and vertical innovation: 'Horizontal innovation entails the discovery of a new product, which, setting aside price considerations, is considered better than existing products only by some users (or for some uses). By contrast, vertical innovation entails the discovery of a new product which, setting aside price considerations, is considered better than existing products by all users (for all uses); hence the idea that products can be ranked according to a "quality ladder".'

466 Amy C Page, 'Microsoft: A Case Study in International Competitiveness, High Technology, and the Future of Antitrust Law' (1994) 47 Fed Comm LJ 99.

467 David S Evans and Richard Schmalensee 'The Antitrust Analysis of Multi-sided Platform Businesses' (2013, No w18783, National Bureau of Economic Research) 192.

468 ibid.

469 Michael L Katz and Carl Shapiro, 'Systems Competition and Network Effects' (1994) 8(2) The Journal of Economic Perspective 93.

470 Vardit Landsman and Stefan Stremersch, 'Multihoming in Two-sided Markets: An Empirical Inquiry in the Video Game Console Industry' (2011) 75(6) Journal of Marketing 39: 'Single homing refers to the choice of an agent in a user network to use only one platform in a particular industry'

more than one side of the market. It can also be influenced by consumer expectations that are affected by various factors such as a firm's installed base of users and its current products, and a firm's reputation from other markets.[471]

Fourthly, firms in such network industries tend to increase the incentives for standardisation and interoperability and offer compatible products, a strategy of allowing additional firms to enter the platform which has led to higher profits by a dominant firm.[472] Therefore, a dominant firm in a software market aims to create a de facto standard, a uniform platform where software developers can write programs and applications without facing the cost, time, and resources to develop applications that run across a variety of platforms,[473] as a result leading to significant boosts in productivity and innovation.[474]

Most operating systems have compatibility tools in the event that there is a different version, as well as software that include different versions for different kinds of operating systems. This has become especially common after the spread of IT programmes and software in different versions and systems, and with the spread of multi-homing. An example of this is Microsoft's practices in the market of the operating system, where it continually develops and adds new functionality and interoperates with various hardware and software manufacturers, where it can be a common platform for various software programs, in order to protect its position. Resorting to interoperability is vital for a successful strategy in high technology markets where other firms cannot reverse engineer the licensed products to make them compatible due to their licenses.[475]

For these reasons, high technology firms have an economic incentive to coordinate product standards with each other to address potential network

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471 John Hogan, 'Competition Policy for Computer Software Markets' [2001] Journal of Information, Law and Technology 4.

472 Nicholas Economides and Fredrick Flyer, 'Compatibility and market structure for network goods' (1997) NYU Stern School of Business Discussion Paper No 98–02. Available at SSRN: <https://ssrn.com/abstract=81268> or <http://dx.doi.org/10.2139/ssrn.81268>, 30.

473 Rafael Alves de Almeida, 'Market Dominance in the New Economy' Revista Direito GV 2/2 (2006) 76.

474 ibid.

475 Amy C Page, 'Microsoft: A Case Study in International Competitiveness, High Technology, and the Future of Antitrust Law' (1994) 47 Fed Comm LJ 99.

effects, to guarantee that the potential benefits from network effects are realised without the need to choose a single technology,[476] and accordingly eliminate the possibility of technology lock-in. Hence, network effects and tipping can enhance the diffusion rates of new technologies.[477] However, this does not mean that network effects and tipping do not enhance technology lock-in, as there are some circumstances that need to be carefully securitised such as when firms, especially those protecting their software through patents, deny access to other firms, or even refuse to interoperate. This can lead to a strengthening of their market position with less incentive to innovate and more importantly making market entry more difficult.

This section highlighted the various issues that need to be considered when analysing a specific practice under Article 102 in high technology markets such as software markets, the next section will focus on the *Microsoft* case and, in particular, on Microsoft's dominance in the software market.

4.3 The Microsoft case

The previous section identified the concept of a software market as a high technology market and outlined its characteristics, this section will give an overview of the *Microsoft* tying case and then critically analyse the effects-based approach with regard to the requirement of dominance in the tying product market, as it was assessed in this case.

4.3.1 Overview of the Microsoft case

Sun Microsystems complained to the Commission in 1998 claiming that Microsoft was abusing its dominant position in the operating system market, by refusing to supply the essential information that made Sun Microsystems' work group server operating system (Solaris) compatible with Windows in order to reduce the interoperability of Windows with other products produced

476 Daniel F Spulber, 'Unlocking Technology: Antitrust and Innovation' (2008) 4(4) Journal of Competition Law and Economics 919.
477 Daniel F Spulber, 'Unlocking Technology: Antitrust and Innovation' (2008) 4(4) Journal of Competition Law and Economics 947.

by competitors.[478] The Commission launched its own investigation and extended it to cover allegations of software integration, which resulted in a lengthy Commission decision, published in March 2004, which found Microsoft guilty of infringing Article 102 TFEU by abusing its dominant position.[479] The report claimed that Microsoft did this in two ways: firstly, by refusing to supply interoperability information that was indispensable for vendors competing in the operating system market; secondly, by tying the Windows Media Player product to the Windows PC operating system.[480] Therefore, with regard to the first abuse, the Commission required Microsoft to reveal interoperability information, to provide accurate specifications for the protocols used by Windows work group servers, in order to allow other firms interested in developing a work group service operating system. In addition, the Commission requested Microsoft to provide an unbundled version of Windows Operating System, which was not to include Windows Media Player (unbundled Windows OS).[481] On the second matter, the Commission prohibited Microsoft from charging more for the unbundled version of Windows than for the bundled version, but also did not require Microsoft to lower the price for the Windows N, the operating system version without the media player.[482]

The Commission imposed what was at that time the highest fine in its history, totalling €497,196 million.[483] This fine reflected the powers and

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478 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 548.

479 European Commission, 'Commission Initiates Additional Proceedings Against Microsoft' (Press Release) IP/01/1232 (30 August 2001); *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965.

480 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, Article 2. See also Article 1(5) The term Windows Client PC Operating System refers to: 'any of the software products marketed by Microsoft Corporation as Windows 98, Windows 98 Second Edition, Windows Millennium edition, Windows NT Workstation 4.0, Windows 2000 Professional, Windows XP Home and Windows XP Professional, and updates (including, without limitation, security patches), upgrades and successors to the latter, as well as updates and upgrades of such successors' and para 402: Media players are 'client-side software applications, the core functionality of which is to decode, decompress and play (and further allow to process) digital audio and video files downloaded or streamed over the Internet (and other networks)'.

481 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, Article 4–6; see para 1013: 'The Commission prohibited Microsoft from charging more for the unbundled version of Windows than for the bundled version but also did not require from Microsoft a lower price for the Windows N (Windows operating system version without the media player).'

482 ibid, para 1013.

483 ibid, art 7; see Peter Willis and Taylor Wessing, 'Competition Authorities' in Peter Willis (ed), 'Introduction to EU Competition Law' (Informa Law from Routledge 2013) 263: 'the EU competition enforcement imposes heavy fines on firms infringing the competition rules, where the maximum fine is 10 per cent of one year's worldwide turnover'; see also European Commission, 'Commission Concludes on Microsoft Investigation, Imposes Conduct Remedies and a Fine' (Press Release) IP/04/382 (24 March 2004).

capabilities of the Commission in its mission to prevent any infringement of EC competition law. The EC wanted to guarantee that it was being taken seriously and that the EU was recognised as promoting the critical role of free competition, in order to stimulate the competitiveness of an industry that is considered a fundamental pillar of economic performance and growth.[484] However, Microsoft appealed the decision to the General Court, arguing that the Commission's findings were wrong on several points.[485] However, apart from the appointment of an independent monitoring trustee,[486] the General Court dismissed Microsoft's arguments, including its claim that no fine should be imposed because the infringements resulted from 'novel theories of law'. The court upheld the Commission's decision upholding the Microsoft infringements of Article 102 TFEU paragraph (d) in its judgement delivered on 17 September 2007.[487]

4.3.2 The requirement of dominance

This section explores the requirement of dominance in the Microsoft case as a prerequisite for finding a technical tying violation under Article 102 TFEU. The primary step in establishing an abuse of dominance under Article 102 is identifying the relevant market to analyse the undertaking's market power in the concerned market, which can be concluded from several factors such as market share, barriers to entry and others.

4.3.2.1 Identifying the relevant market

The relevant product market definition has an impact on a tying claim, especially regarding the dominance requirement, where it is sufficient to show dominance in the tying product market without requiring proof of dominance in the tied market.[488] In addition, there is a powerful link between the analysis of the relevant market, which the EU Court embarks upon in all Article 102 cases, and the potential finding of a product tied to another product in a tying abuse

484 Francisco J Lorca, 'Microsoft Corporation vs. the US Court of Justice and the European Community' (2009) 9(10) Jean Monnet/Robert Schuman Paper Series 13.

485 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11.

486 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11, Order 1.

487 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601.

488 Ariel Ezrachi, EU Competition Law: An Analytical Guide to the Leading Cases (2nd edn, Bloomsbury Publishing 2010) 23.

case, as a tying case can be won or lost according to the determination of the relevant product market.[489] Determining the relevant market is the primary step in establishing a dominant position in an abuse of dominance under Article 102. It allows the identification of all actual competitors of the undertaking concerned, in which the undertaking is capable of constraining their behaviours and preventing them from acting independently.[490] This step occurs by identifying both the product and geographic market. [491]

The aim of defining the geographic market is to identify the boundaries of the competition process between the firms where competition policy rules apply. The Commission indicated that 'the relevant geographic market for client PC operating systems, work group server operating systems and media players is worldwide [and] the objective conditions for competition are essentially the same across the world.'[492] In addition, the aim behind identifying the product market is determining in a systematic way the competitive constraints that the undertakings are subject to: demand substitution, supply substitution and potential competition. [493]

In light of the above, there are basic principles behind defining the relevant markets, and in particular toward measuring demand substitution and supply substitution. The Commission used the Small but Significant Non-transitory Increase in Prices (SSNIP) test, better known as the hypothetical monopolist test, to enable a determination of whether a particular product is within the same market by testing whether the consumers of the investigated firm will switch to another product in response to a hypothetical small price increase and the likelihood of being able to replace it with other similar products that are of a better quality or price.[494] Determining demand

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489 Hedvig Schmidt, Competition Law, Innovation and Antitrust: An Analysis of Tying and Technological Integration (Edward Elgar Publishing Ltd 2009) 60; see section 5.4.

490 European Commission, 'Commission Notice: on the definition of relevant market for the purposes of Community competition law' OJ C 372 [1997), para 2.

491 ibid, para 7–9.

492 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 427.

493 European Commission, Commission Notice: on the definition of relevant market for the purposes of Community competition law' OJ C 372 [1997), para 2, 13, 24

494 Commission Notice: on the definition of relevant market for the purposes of Community competition law' [1997] OJ C 372/5, para 15.

substitution entails looking at products that are considered as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices, and their intended use.[495] Supply substitution is more related to producers that can compete in the market and can switch their production process from one product to another. Determining supply substitution requires examining the ability to shift production.[496] It should be considered while defining the relevant market.

The case is different for potential competition, which is a similar concept to supply substitution; both notions have been differentiated by the length of time between the price increase decided by a dominant firm and the commencement of supply by the later producer. However, potential competition is not considered when defining markets, but in the later stages.[497] Potential competition is less immediate and may take longer than a year to start supplying the market with their products. Whereas supply side substitution involves entry at a low cost and without incurring irreversible investment. For instance, product repositioning may require fundamental changes in the nature of the product or it may mean the establishment of a new brand or the modification of an existing brand through changes in marketing strategy.[498] This consideration implies that supply-side constraints are considered an effective competitive restraint in high technology markets since the timing of entry may not be as relevant.[499]

In the Microsoft case, the Commission established the relevant product market in the Microsoft case by identifying the market for the tying product (the client PC operating system); and the market for the tied product (the streaming Media Player).

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495 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 321. See 'Commission Notice: on the definition of relevant market for the purposes of Community competition law' [1997] OJ C 372/5, para 7.

496 European Commission, 'Commission Notice: On the definition of relevant market for the purposes of Community competition law' OJ C 372 [1997), para 20, 22, 23.

497 ibid, para 24.

498 Directorate for Financial And Enterprise Affairs Competition Committee, Note by the European Commission, 'Roundtable on barriers to entry' DAF/COMP/WD (2005) 59, para 24 <http://ec.europa.eu/competition/international/multilateral/2005_oct_barriers_entry.pdf>.

499 Jorge Padilla, 'The role of supply-side substitution in the definition of the relevant market in merger control' (2001) a report for DG enterprise A/4, European Commission, 76.

(a) The market for the tying product, 'the client PC operating system'

The market for the client PC operating system was identified by considering both demand substitution and supply substitution. Regarding demand substitution, the Commission did not find any realistic substitutes on the demand side for the client operating system. Considering that demand substitution only describes a situation where a client PC operating system has special characteristics that make it suitable for a particular use, such as to manage the PC hardware, and to offer the user an interface to interact with the computer and run applications. [500] Significantly, the Commission excluded non-Intel PC operating systems as part of the Window IOS market, since these operating systems were intended for different computers such as servers, and vendors sell them at different prices according to the products' functionalities. Additionally, the Commission excluded other operating systems for other client appliances, such as personal digital assistants (PDAs) and mobile smart phones, even though they perform similar functions to client PCs, there are some differences between these devices and a client PC, such as the size of the screen and their limited functionalities compared to a client PC.[501]

Similarly, the Commission did not find any realistic substitutes on the supply side for client PCs, as the Commission described supply substitution within the market for Windows operating systems as, a situation when other undertakings active outside the PC operating system market have the ability to switch production into the client PC operating system, and market them in the short term without incurring significant additional costs or risks in response to small and permanent changes in relative prices.[502] The Commission considered that developing new OPs is very costly and that such production is also subject to increasing returns at all output levels. This includes vendors having to overcome barriers to entry and convince OEMs that there would be consumer demand for the new Ops by engaging in costly advertising.[503] In effect, the Commission

500 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965 paras 324, 333.

501 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965; para 325, 326, 328, 329, 332.

502 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR, para 334: 'it has to be determined whether in response to a small but significant and non-transitory increase of price, undertakings active outside the market for client PC operating systems could easily switch production into client PC operating systems in order to compete more intensely on that market.'

503 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965; para 335, 336, 337, 338.

established that the market for the tying product is the market for Window operating systems (OSs), where Microsoft had a market share of 90%.[504]

(b) The market for the tied product, 'the streaming Media Player'

In considering the demand substitution in the tied products market, the Commission held that the existence of stand-alone media player software emphasised that Window OPs and the media player are distinct products, recognising that there were other independent downstream firms who supplied or wanted to supply complementary products, but usually considered the competition to be too fierce.[505] The Commission held that other playback devices such as CDs and DVDs do not exert competitive constraints on media players, since they offer a limited subset of the media player functionality. Similarly, the Commission excluded media players that constitute ready substitutes for WMP such as RealPlayer, QuickTime, and others since they held trivial market shares and they depended on third parties' proprietary technologies, including insignificant demand-side between media streaming software and media download software. [506]

The Commission in considering the supply substitution in the tied products market, questioned the difficulties of other developers in providing media players if prices were increased, which required significant investments in R&D. Such media technologies are protected by IP rights, a network effect that translates into entry barriers.[507] In this scenario, it is noteworthy that the Commission applied a very narrow definition of the relevant market, which made it impossible for Microsoft not to engage in anticompetitive practice.[508] The other relevant economic factors were not considered, such as the product functionality which could have been relevant in this case. For instance, the Commission excluded Intel- and non-Intel-compatible client PC operating systems of other client appliances and considered that there is no way of proving that other operating systems are substitutes for the Windows operating

504 ibid, para 432.

505 ibid, paras 404, 405.

506 ibid, paras 410–413.

507 ibid, paras 416–428.

508 Robert W Crandall and Charles L Jackson, 'Antitrust in High-tech Industries' (2011) 38 Review of Industrial Organization 319.

system. This is despite the fact that there is also no way of proving otherwise. The fact that their markets are different from the Windows operating system market does not prove that they are or are not distinct, since markets are characterized by product differentiation, where each product can have a specific function.

The Commission also neglected the fact that streaming media software was indeed part of a system exhibiting different architectures, allowing for inter-system and intra-system competition. The other major players in the relevant market at that time used incompatible formats and competed on this market by relying on third-party specifications, especially in a market characterised by both inter-system and intra-system competition. Accordingly, there seems to be no particular reason for the Commission to exclude intra-system competitors from the relevant market.[509] This consideration is significant because Microsoft chose to market a semi-open streaming media system. Hence, when a new technology comes to the market, the new entrants can either enter the streaming media software market by relying on Microsoft's technologies in other complementors, intra-system competition, or they would have to develop a new integrated product and engage in inter-system competition and launch in the market a higher-quality product and pervade market shares.[510]

Of great concern, the Commission did not consider that the market had substantial open access for other competitors to create new software, and other firms that were active in the operating system market, such as distributing operating systems (Solaris by Sun Microsystems, various versions of Unix and Linux, and those by Red Hat and Novell).[511] Moreover, there were many firms producing these for related industries (smart phones, PDAs, and videogames)[512] that could have been scaled up to run on desktop computers, especially on low-cost PCs. This approach, where the Commission depended

509 Roberto Pardolesi and Andrea Renda, 'The European Commission's Case Against Microsoft: Fool Monti Kills Bill?' (LE Lab Working Paper No AT-07-04, 2005) 56.

510 ibid 17.

511 Case COMP/C-3/37.792 *Microsoft v Commission* COMP/C-3/37.792 [2004] paras 500, 504, 508, 514.

512 Case COMP/C-3/37.792 *Microsoft v Commission* COMP/C-3/37.792 [2004] para 327.

on static methods such as demand-supply substitution in defining the relevant market in order to assess the dominant position, can be misleading and is thus criticised on the following grounds.

The unusual characteristics of the software market lead to difficulties in recognizing the influencing factors on dominance and the durability of such a position where the market can change either on the demand or the supply side so that such dominance is radically eroded.[513] What mainly drives demand and supply in software markets is not price, as in traditional markets, but rather innovative developments *whose time of introduction is most often uncertain*, and there may not be readily available demand substitutes, so imperfect substitutes will be excluded. This is especially true when the rate of change that occurs through improvements is not measured over time to capture the competitive dynamic, which is especially critical when technology is advancing rapidly with incremental change rather than revolutionary change, with new product life cycles of often only months in length and where price relationships change rapidly.[514]

In addition, not only competitive constraints that come from new innovative products drive demand in the software market, but there might also be highly differentiated products that exhibit various prices and performances. This heterogeneity makes it extremely difficult, if not impossible, to define an

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513 Josef Drexl, 'Real Knowledge is to Know the Extent of One's Own Ignorance: On the Consumer Harm Approach in Innovation-Related Competition Cases' (Max Planck Institute for Intellectual Property, Competition & Tax Law Research Paper (2005) 31; citing Friedrich Hayek (Marcellus Snow, tr), 'Competition as a Discovery Procedure' (2002) 5(3) Quarterly Journal of Austrian Economics 9–23: 'It is argued that competition authorities should protect the competition process itself since only competition can produce the required information and not pretending to have information with regard to what consumers prefer. Competition is important only because and insofar as its outcomes are unpredictable and on the whole different from those that anyone would have been able to consciously strive for; and that its salutary effects must manifest themselves by frustrating certain intentions and disappointing certain expectations.'

514 Christopher Pleatsikas and David Teece 'The Analysis of Market Definition and Market Power in the Context of Rapid Innovation' (2001) 19(5) International Journal of Industrial Organization 672.

See Arezzo E, 'Is there a Role for Market Definition and Dominance in an Effects-based Approach?' in Mark-Oliver MacKenrodt, Beatriz Conde Gallego and Stefan Enchelmaier (eds), Abuse of Dominant Position: New Interpretation, New Enforcement Mechanisms? (Springer-Verlag Berlin and Heidelberg 2008): 'Economists view that using SSNIP test in general as an instrument to define relevant market in unilateral conducts cases is worrying because of the "called cellophane fallacy" and may lead to alter the overall outcome of dominance. This is especially apparent with the lack of assessing radical economic factors which in turn lead to incorrect reasoning.'

See also Thorsten Käseberg, Intellectual Property, Antitrust and Cumulative Innovation in the EU and the US (Bloomsbury 2012) 152: 'there are some tests that can be employed to avoid cellophane fallacy but they usually take the sliding scale argument to its extreme. This includes: the attempt to infer the relevant market indirectly from market power, or dispense with the market definition and directly determine whether the concerned firm has a dominant position or infer the competitive price from cross section data on prices by the firm in question and on corresponding structural characteristics such as using comparable markets…'

appropriate benchmark.[515] For instance, a firm may offer a version of its software that is tailored to a specific group of customers and then develop another version with different prices for more professional users, or with additional functionalities. This factor is not considered under the current approach of identifying the relevant product market, and thus the market will appear to be fragmented.

Network externalities are another factor effecting software markets that can play a crucial role in driving demand and which affect the assessment process more than other factors. Software markets can be multi sided markets, this requires that competition authorities should decide how to allocate the 10% price increase among different groups of users. This situation is not easy, and it may become more complicated when one side receives the platform's services free of charge and the entire transaction fee falls on the other side of the market.[516] Applying the SSNIP test that is used in one-sided markets is not accurately applicable to multi-sided platforms that aim to serve and facilitate interactions between more than a single set of customers and suppliers.[517]

To conclude, the Commission's approach in identifying the relevant tied product market relied heavily on the concept of existing markets and excludes other relevant markets, which means that the analysis is limited to the effects on existing markets and does not consider future markets where market players are not yet competitors.[518]

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515 Atilano Jorge Padilla, 'The Role of Supply-Side Substitution in the Definition of Relevant Markets in Merger Control' (paper prepared for DG Enterprise A/4, NERA 2001) 75.

516 Dirk Auer and Nicolas Petit, 'Two-sided Markets and the Challenge of Turning Economic Theory into Antitrust Policy' (2015) The Antitrust Bulletin, 26.

517 Jean Rochet and Jean Tirole, 'Two sided Markets: A Progress Report' (2006) 37(3) The RAND Journal of Economics 645: 'equilibrium in the market will occur at the point where price equals marginal cost, whereas long-run equilibrium will occur where marginal cost equals average total cost. However, when competition is imperfect in a one-sided market, the long-run equilibrium prices will exceed marginal cost, whereas in a multi-sided market, this does not necessarily occur.'

See Ariel Ezrachi and Maurice E Stucke. 'The Curious Case of Competition and Quality.' Journal of Antitrust Enforcement 3.2 (2015): 231 and Meglena Kuneva, Roundtable on Online Data Collection, Targeting and Profiling, (2009) SPEECH/09/156. Available at http://europa.eu/rapid/press-release_SPEECH-09-156_en.htm: 'A more contentious issue, however, is the application of quantitative tools for market definition that focus primarily on quality effects. The SSNDQ test is posited as one means by which a quantitative focus on quality might be realised in relation to market definition. This measures the impact of a "small but significant non-transitory decrease in quality" in a manner equivalent to the SSNIP test's assessment of price increases. The SSNDQ test faces criticism that in practice it is unworkable; however, given the inherent difficulties of measuring quality alongside the existing complications of the applying the SSNIP test itself within real market situations.'

518 Josef Drexl, 'Anticompetitive Stumbling Stones on the way to a cleaner world: Protecting competition in innovation without a market', (2012) Journal of Competition Law & Economics 8.3; 2.

It is very likely that the current Commission's approach does not distinguish between sustaining innovation that takes place within the value network of the established firms, providing customers with improved products with the attributes they already value, and disruptive innovation that takes place outside the value network of the established firms, introducing a different package of attributes, which are valued by new customers.[519] As a result, such an approach favours type 1 errors (false positives). Therefore, competition authorities should consider in their analysis that in fast-moving innovation markets, firms are usually constrained by constant threats from another firm that can develop an innovative product, causing demand for its product to collapse. These new products can be a better version of the old one, or an entirely distinct product that eliminates the demand for the older products. [520] As a result employing quantitative methods in identifying the relevant markets will not deliver accurate results.

4.3.2.2 Establishing the market power in the tying product market

The EU Commission established that Microsoft had a dominant position in the client PC operating systems market that exhibited extraordinary features through dominating the quasi-standard concerning the relevant market; not only in the Windows OS market but it is also the de facto standard operating system product for client PCs. [521]

4.3.2.2.1 Market share

There was no explicit argument about the market share of Microsoft in the software market, and thus this requirement was not discussed in detail in the case proceedings. The Commission held that very large market shares in excess of 50% is a presumption of the existence of a dominant position, except in exceptional circumstances.[522] This presumption gives the impression that the Commission would have only continued its analysis to find exceptional

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519 Alexandre de Streel and Pierre Larouche, Disruptive Innovation and Competition Policy Enforcement, 2015, OECD Working Paper DAF/COMP/GF, 7, 2.

520 Rafael Alves de Almeida, 'Market Dominance in the New Economy'. DIREITO GV L. Rev. 2 (2006): 81.

521 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 429, 472.

522 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 435: see Case C-62/86 *Akzo v Commission* [1991] E.C.R. I-3359, para 60; Case T-228/97, *Irish Sugar v Commission* [1999] E.C.R. page II–2969, para 70.

circumstances, instead of carrying out an economic approach that would consider the whole circumstances of the case. The Commission also held that Microsoft acknowledged that it had held a dominant position in the supply of the operating systems that run on personal computers (PCs), since 1997 and over 90% since 2000.[523] This implies that the Commission considered changes in the market share to provide useful information about the competitive process. Therefore, it emphasised that Microsoft enjoyed an enduring stability and continuity and more importantly Microsoft had near-ubiquity in the product market as a whole and an overwhelmingly dominant position, to imply then that the client PC operating system will be the standard due to network effects.[524]

4.3.2.2.2 Barriers to entry or expansion in the Microsoft case

The barriers to entry are considered as an indicating factor in the existence of a dominant position, and the Commission indicated that the nature of barriers to entry were formalised into indirect network effects in the client PC OS market, which reinforced the dominant position of Microsoft. This occurs through the daily use of the Windows client PC OS that motivates independent software developers to write more programs for that system; the dynamic between the Windows client PC operating system as a popular OS among users and the large body of applications that are written for it is self-reinforcing. This dynamic will generate a positive feedback loop that protects Microsoft's high market shares from potential new entrants in the client PC operating system market.[525] The Commission also considered that there are barriers to entry due to the nature of the software industry, as it indicated that it was very difficult and expensive to develop an alternative client PC operating system, especially with the non-existence of applications able to run on it, where users are very unlikely to buy an operating system without a wide range of applications already available and used by other people.[526]

523 ibid, paras 429, 432.

524 ibid, paras 436–438.

525 Case COMP/C-3/37.792 *Microsoft v Commission* COMP/C-3/37.792 [2004] para 459.

526 ibid, para 453.

4.3.2.2.3 Other factors

The Commission highlighted other indicators in determining the position of Microsoft as one of dominance. These included the significant difference between the market shares of Microsoft and its competitors; for example, the main alternative to Microsoft's client PC operating system product would be Apple's Mac OS, assuming that it is included in the relevant market, as the Commission also considered that the market share of Microsoft allows for creating competition. Also, the competitive constraints and constraints imposed by countervailing buyer power are relevant, as the Commission held that Microsoft could behave independently of its direct customers, the OEMS, and end customers.[527]

In addition, Microsoft's financial performance does not seem to have been affected by the emergence of rivals' products, such as Linux, which has been developed under the open source model, and can be technically pre-installed on PCs at virtually no cost by OEMs. There is no significant difference in terms of ease of use between Windows and most commercial Linux operating systems. This is significant because Microsoft has not substantially altered its pricing policy and business model, and it has remained very successful. The Commission implied Microsoft's performance is consistent with its near-monopoly position in the client PC operating system market and operated on profit margins of approximately 81%, which is considered high by any measure.[528]

This all indicates that the EU Commission approach relied heavily on presumptions about Microsoft's market share that emerged legally and about the market structure as proxies for market power. However, in the software market, it is common for one innovative product to make up an entire high technology market. However, this does not necessarily place a producer in control of a substantial share of the market, because another innovator can develop a radical technological product and easily displace the first with a new

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527 ibid, paras 434, 462, 463.

528 Case COMP/C-3/37.792 *Microsoft v Commission* COMP/C-3/37.792 [2004] paras 461, 464.

product and thus catapult a small firm to the top of the market.[529] For instance, there is a high probability that potential competitors are working to develop a new, superior product and it is not an easy task to estimate when they will launch it.[530] Especially as it is unlikely that they will announce the product due to the need to protect the innovative ideas behind it.

Therefore, it should be emphasised that market share is not tantamount to market power in the software market as a fast-moving innovation market.[531] Nor should market share be interpreted as being a result of anticompetitive practices in the market; even when firms show a tendency to being monopolistic; such market share is often temporary due to rapid technological change and 'competition for the market'. Market share analysis can be considered as being backward looking, where innovative markets require a forward-looking analysis.[532] This was emphasised by the German Monopolies Commission (Monopolkommission) in its Special Report on competition policy in digital markets which state that: 'it would be premature to associate a high user share with corresponding market power; it is necessary to take all sides of the platform and their interdependencies into account'.[533]

The Commission should consider the detectable structural factors that influence the competition process conditions, such as the ability of competitors to constrain the action of new entities or even the possibility of a quick entry to market.[534] The Commission also did not adequately consider the nature of

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529 Amy C Page, 'Microsoft: A Case Study in International Competitiveness, High Technology, and the Future of Antitrust Law' (1994) 47 Fed Comm LJ 114.

530 Stephen Corones, 'Technological Tying in the Computer Industry: When Does It Contravene S 46 of the Trade Practices Act?' (2005) 3(1) Law and Justice Journal 48.

531 Luisa Affuso and George Hall, 'Does Competition Policy Need to Adapt to the Digital Age?' (PwC, November 2016) <http://pwc.blogs.com/economics_in_business/2016/11/does-competition-policy-need-to-adapt-to-the-digital-age.html> accessed 10 December 2016.

532 Michael L Katz and Howard A Shelanski, 'Schumpeterian Competition and Antitrust Policy in High-Tech Markets'. (2005) vol14 COMPETITION, 47 cited in Inge Graef, Sih Yuliana Wahyuningtyas and Peggy Valcke, 'How Google and others upset competition analysis: disruptive innovation and European competition law' (2014) 25th European Regional Conference of the International Telecommunications Society (ITS), Brussels, Belgium, 22–25 June 2014

533 Hein Hobbelen, Nima Lorjé and Aylin Guenay, Selected recent developments in the application of EU competition law to online platforms, Mediaforum, 2016 Citing German Monopolies Commission, Competition policy: the challenge of digital markets, Special Report No.68 (2015), para S27. http://www.monopolkommission.de/images/PDF/SG/SG68/S68_summary.pdf

534 Commission decision, Case No IV/M477 Mercedes-Benz/Kässbohrer) OJ? 1995? L211/1, para 65: 'High market shares do not in themselves justify the assumption of a dominant position. At any rate, they do not allow a dominant position to be assumed if other structural factors are

barriers to entry. This is suggested since the tied market (media player market) was characterised by endogenous[535] entry, as there was other media player software, such as RealPlayer, Apple's QuickTime, Adobe's Flash, and Music Match. The conduct of Microsoft in tying its media player to its operating system was competitive in the presence of product differentiation; the standard strategy of Microsoft is to supply free software to enhance network effects and earn revenue from externalities associated with the use of the software. It is justified to claim that a positive feedback loop will occur, this is because entry was possible in the software market even if it is not perfectly competitive and firms do not price at marginal cost.[536] In addition it is justified to claim that a positive feedback loop will occur, this is because entry was possible in the software market even if it is not perfectly competitive and firms do not price at marginal cost

The Commission should have taken into consideration the presence of network effects in the market, whether or not they are significant to the network size, does not mean that they will constitute barriers to entry, and thus monopolisation is not necessarily the outcome. There are additional costs to increasing the network size, which then reduce and render negative the net benefits of further growth.[537] Network effects are usually shared between other competitors, particularly in a market that requires interconnectivity or a form of sharing the source of the positive network externality.[538]

The scale of entry in traditional industries which are based on pricing policies, is significantly different from the scale of entry in high-technology markets, where controlling pricing over marginal cost is not necessarily an indication of a dominant position, but rather the pace of innovation, nature of

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detectable which, in the foreseeable future, may alter the conditions of competition and justify a more relative view of the significance of the market share of the merged companies'.

535 'Endogenous' refers to 'a phenomenon taking place within an economic system [which] means that this phenomenon is caused and explained by factors inside the system'.

536 Joshua Slive and Dan Bernhardt, 'Pirated for Profit' (1998) 31(4) Canadian Journal of Economics 886.

See Lee W McKnight and Joseph P Bailey, 'An Introduction to Internet Economics' [1997] Internet Economics 6, note 3: 'A network externality can be defined as the benefit gained by incumbent users of a group when an additional user joins the group. The group can be thought of as a "network" of users, hence the term network externality'.

537 Cento G Veljanovski, 'Competition Law Issues in the Computer Industry: An Economic Perspective' (2005) 3 Law and Justice Journal 3,11.

538 Howard A Shelanski, 'Information, Innovation, and Competition Policy for the Internet' (2012) 161 U Pa L Rev 1684.

barriers to entry and the degree of profitability are the barriers; this can lead to the acquisition of significant market share in the concerned market.[539] For instance, the potential entrant could have a potentially superior technological product including its complementary products that are not yet exploited in the relevant product market. The barriers to entry should be considered high when the amount of the invested resources is high compared to the expected profitability. In such a situation, the financial resources committed by an undertaking are likely to be smaller, proportionately, to the costs of entry, as most costs comprise sunk components that are fixed. [540]

The important consideration is that there must be less focus on the market definition in these industries. A possible solution in this matter is to have a wider perspective of the market in high-technology sectors, such as a point of view that encompasses the whole industry. This is necessary as a competitive assessment based on a static view of market dominance runs the risk of missing the real source of competitive pressure on apparent monopolists, and reducing the rewards for innovation by potential rivals. This may lead to condemning benign practices that bring new innovative products and technologies and disincentivise potential competitors. Thus a type 1 error which is likely to be larger in comparison to a type 2 error. [541]This is because fast innovation markets are considered to be 'combinatorial' and mistaken intervention in one component of this market leads to other impacts in one or more of the components.[542] In effect, such errors will not only influence the incentives to innovate of all innovators but also the ability to innovate the alleged infringers as well.[543] This is in addition to the fact that high technology markets lack legal precedents compared to traditional markets and any

539 David Encaoua and Abraham Hollander, 'Competition Policy and Innovation' (2002) 18(1) Oxford Review of Economic Policy (OUP) 63–79. See Commission Notice: Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31/3 [2004] paras 69, 72.

540 William J Baumol and Robert D Willig, 'Fixed Costs, Sunk Costs, Entry Barriers, and Sustainability of Monopoly' [1981] The Quarterly Journal of Economics 406: 'Sunk costs are those costs that in some short or intermediate run cannot be eliminated, even by total cessation of production.'

541 Christian Ahlborn and others, 'DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries' (2006) 4 <http://ec.europa.eu/competition/antitrust/art82/057.pdf> accessed 18 July 2014

542 Nicolas Petit, 'New Challenges for 21st Century Competition Authorities' (2014) 13 Common L Rev 10.

543 ibid.

decision against innovative types of conduct will become the yardstick against which other innovators will assess their strategies.[544]

4.4 Conclusion

In this chapter, a review of the high technology market offered a perspective that this industry possesses unusual characteristics such as network effects, rapid change, and multi-sided platforms, which raise a multiplicity of interacting factors and lead to uncertainties for firms operating in this sector, where their practices can theoretically prove either procompetitive or anticompetitive depending on the circumstances of the case. This chapter also demonstrated that the nature of the high technology market poses many challenges to competition authorities regarding the assessment of a dominant position in high technology markets that are different from the challenges faced by other mature industries and are more difficult to predict. The acceleration of innovative process creates a competitive dynamism that makes recognition more complicated than it appears in theory. These markets do not fit into the relevant definitions of traditional competition assessments and standards that focus on actual competitive constraints in the existing market, because they do not consider potential competition where market players are constrained by constant threat that another firm will develop an innovative product, causing demand for its product to collapse. Hence, following an approach of a static analysis in the assessment of market power, as in the Microsoft case, can be accompanied by conceptual problems and analytical difficulties. The current approach will not only deliver inaccurate results by neglecting potential competition in the software market, but it may also lead to a condemnation of procompetitive practices in markets that are not fully understood.

This chapter has considered the requirement of dominance in a tying product market, there is also a need to consider the remaining elements of technical tying abuse to reach a better understanding of the challenges faced

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544 ibid.

by the competition authorities in assessing a technical tying claim in software markets.

CHAPTER 5: WINDOWS OPERATING SYSTEM AND MEDIA PLAYER TYING UNDER ARTICLE 102 TFEU

5.1 Introduction

The previous chapter discussed the unique characteristics of software markets that have a special importance for the antitrust analysis and it critically analysed how 'dominance' as a prerequisite for finding a tying abuse under Article 102 was established in the *Microsoft* case. This chapter will analyse the remaining requirements of the technical tying abuse in the *Microsoft* case according to an effects-based approach. Both chapters contribute to the debate regarding the adequacy of the competition rules when applied to the high-technology markets, regardless of whether the outcome in this case is correct or not, this chapter aims to highlight any crucial issues that need to be considered when discussing proposals for refinement of the current approach under Article 102 TFEU.

The analysis in this chapter is structured in two parts. The first part of the chapter analyses the requirements of a tying abuse after establishing dominance. The second part analyses the separate tied-product requirement which considered the Windows operating system and Windows Media Player as being two distinct products and identifies how the distinct product test was applied to software integration. The third section explains the coercion requirement, exemplified when Microsoft provided consumers with the tying product (Windows operating system) and the tied product (Windows Media Player), which enabled them to obtain third party functionality. The fourth section analyses the foreclosure requirement in the market for media players, demonstrating to what extent integrated products could foreclose competition in the tied software market. Finally, the fifth section discusses the absence of any objective justification and efficiency and the extent of considering innovation efficiencies in the legal assessment.

The second part of the analysis identifies the main implications of the *Microsoft* case; the specific issues that will be addressed in this section are the following: the issue of new evidence after the Commission's decision, the neutrality of expertise, the appropriateness of remedy that provided consumers with degraded products and poses a substantial risk to intellectual property rights and the incentive to innovate. The last part of the chapter suggests criteria for determining a permissive technical tie.

5.2 The requirements of technical tying abuse by a dominant firm

The previous chapter analysed the prerequisites for holding a dominant position within the process of establishing a tying claim under Article 102, this section analyses the remaining requirements as they were assessed in the *Microsoft* case as follows: the separate tied-product requirement, the coercion requirement, the foreclosure requirement, and the absence of any objective justification and efficiency.

5.2.1 The two distinct product requirements

This section analyses the second requirement for establishing a technical tying abuse under Article 102 TFEU (d); in particular, the Article states that distinct products are products that 'by their nature or according to commercial usage, have no connection with the subject of such contracts'.

As discussed in chapter three, in order to determine if two products are distinct products and not merely parts of the same product, there is a need to find if there is a separate demand for the tied product without the tying product. This determination is usually made according to commercial usage, but it can also be determined according to the nature of the product. Although it may seem that it is fairly easy to determine whether there are two distinct products capable of being tied together, the actual analysis of the two separate products or services has proven to be a much more complex issue in practice, especially when it is related to new products in technological markets. In addition, tying

may still be considered abusive even when there is a connection between the tying and the tied product.[545] The technical integration in the *Microsoft* case involved the Windows operating system as the tying product and the Windows Media Player as the tied product.

5.2.1.1 Separate demand for the software

Microsoft and the Commission were not able to agree on how customer demand should be assessed. For Microsoft, customer demand for both tying and tied products had to be significant, whereas for the Commission, the mere existence of some customer demand for the tied product was sufficient to satisfy this condition.[546] The Commission argued that Windows OS and the WMP were in fact two separate products since there are independent companies manufacturing and selling the tied product (WMP) independently of the tying product (client PC OS), which constituted evidence of the existence of a separate demand and a separate market for the tied product. They also contended that complementary products cannot constitute separate products for the purposes of Article 102 TFEU.[547]

On the other hand, Microsoft argued that the Commission had not demonstrated that the media functionality is not linked by its nature or according to commercial usage to the client PC operating systems. WMP had become 'strongly connected" by commercial usage since 1992 and the functionality had steadily improved to keep pace with rapid changes in technology. It was commercial usage that tied the media player as a complementary product that formed an integral part of the operating system. Microsoft also argued that other software vendors integrate such functionality, especially noting that customers expect any client PC operating system to have the functionality necessary to include audio and video capabilities.[548]

Microsoft did not argue against the existence of a distinct market for the tied product but instead countered the allegations that there was no demand

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545 See Case C-333/94P *Tetra Pak International SA v Commission* [1996] ECR I-5951, para 36.

546 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision [24 March 2004] 4 CMLR 965, para 800–825.

547 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 918–944.

548 ibid, paras 886, 890, 891, 894.

for an operating system without a media player, that the existence of separate customer demand for the tied product alone was not a sufficient condition, and that there should also be separate demand for the tying product, if there were no Windows operating system. This was because the WMP functionality would not operate without an OS, and such inclusion was a necessary procedure in the evolution of Windows. Microsoft indicated as well that the Commission cannot rely on classical tying cases that concerned consumable products that were used with durable products.[549]

In appeal, the General Court found from the range of different allegations that the Commission's findings had been correct. The GC pointed out that the Commission found support in the case law, such as the *Tetra Pak* case, where it was determined that even if there is a link between the Windows operating system and media player, and even when the tying of two products is consistent with commercial usage, this may still constitute an abuse since there are independent manufacturers of the tied products. Also, in *Hilti*, the GC disregarded the complementary relationship between the products and compared the technically tied products to nails and guns.[550]

Additionally, the GC pointed out that the Commission supported its findings on the following grounds: the Windows client PC operating system was system software, while Windows Media Player was application software; Microsoft had engaged in promotions specifically dedicated to Windows Media Player; Windows Media Player could be downloaded independently of the Windows client PC Operating System from Microsoft's website; and there was a specific software development kit license for Windows Media Player separate from the one for the Windows client PC Operating System. Also, some companies might want the Windows Operating System without Windows Media Player to prevent their employees from using media players at work.[551] Such an allegation was not disputed by Microsoft, despite the fact that if the purpose of the separate demand for the unbundled product was to prevent

549 ibid, paras 887–889, 892.

550 ibid, paras 920–927.

551 ibid, paras 929–931.

employees from using Media Player at work, this consideration applied to all other media players; therefore, such a reason contradicts the fundamental debate that Windows Media Player forecloses other competing media players on the market.

In the aftermath of these discussions, this thesis asserts that the Commission adopted a classical tying approach, which was applied to earlier contractual tying cases (*Hilti* and *Tetra Pak*, discussed in chapter three)[552], extending it so broadly that it threatened to undermine the essential limits of Article 102 of the TFEU, where something can be termed as a technical tying case when consumers enjoy the PC's ability to play music and video.[553]

5.2.1.2 Why is a new standard needed?

The distinct product test treats technical integrated products no differently than regular products. This interpretation for the two distinct products is considered a restrictive approach for cases of technical tying, as it does not take into account the circumstances of the technical tie in high-technology markets and it does not differentiate between the nature of the tied products, whether they were regular products or intangible and durable products that can be complementary and non-complementary. Nor does such an approach consider the functional relationship and the improvements between the integrated products and whether or not the tied product is free. This may lead to absurd results in software markets that produce durable goods whose actual durability is a function of technological obsolescence, even though software updates are needed periodically. For example, the user does not need to acquire a second copy of an item of software, since the user can use it many times without any limitations.[554]

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552 Case IV/30.787 *Eurofix-Bauco v Hilti* OJ 1988 L65/19; Case T-30/89 *Hilti AG v Commission* [1991] ECR II-1439; Case C-53/92P *Hilti AG v Commission* [1994] ECR I-667; Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1; Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755; Case C-333/94P *Tetra Pak International SA v Commission* [1996] ECR I-5951.

553 Jean-Yves Art and Gregory VS McCurdy, 'The European Commission's Media Player Remedy in its Microsoft Decision: Compulsory Code Removal Despite the Absence of Tying or Foreclosure' (2004) 25 European Competition Law Review 694, 2.

554 See Christian Ahlborn and others, 'DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries' (2006) 14: 'In most new technology markets, competitors compete in durable goods where consumers can use and reuse such products without any limitation.'

The notion of the separate product test does not add anything to the assessment but only reproduces the analysis carried out in defining the relevant product markets.[555] For instance, in the *Microsoft* case, the Commission, in determining whether the Window OS and WMP are distinct products, mainly based its allegation on the consideration that there are independent manufacturers for the tied product and there is a separate market for the tied product. When Microsoft based its allegation on the functional relationship between both tying and tied products and on the consideration that there are software vendors that tie both the tying and the tied product, the GC emphasized that it was difficult to speak of ‘commercial usage or practice in an industry that is controlled by Microsoft’. This is despite the fact that there was a consumer expectation to obtain both integrated products due to commercial usage.[556] There is no explicit rule in the law or in the soft-law tools which determines that a separate demand for one of the products without the existence of a separate demand for the other product is a sufficient element for concluding that products are distinct. If a separate market does exist for both the tying and the tied product, this would not have had much bearing on consumer choice. The condition of the existence of two separate products will become devoid of purpose since what were previously considered separate products have now become transformed and accepted as an integrated product that incorporates new features for the consumers, thus saving them money and time.

In sum, the distinct product criterion may lead to issues in future cases when a new product is brought to a market characterised with rapid changes where there is no commercial usage to refer to; software manufacturers will be left to guess which ties are permissible or forced to err on the side of caution, and this could mean that they will be hesitant to engage in innovation for fear of exposure to dominant position liability.[557] In effect, this leads to legal uncertainty, especially in high-technology markets.

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555 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 231.

556 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 927, 940.

557 James F Ponsoldt and Christopher D David, 'A Comparison between US and EU Antitrust Treatment of Tying Claims against Microsoft: When Should the Bundling of Computer Software be Permitted?' (Winter 2007) 27 North-western Journal of International Law & Business 32.

5.2.1.3 An alternative interpretation of the notion of separate products

A new approach reconsiders the separate product test by requiring the introduction of additional considerations that may help decide when two products that belong to different product markets can be considered a single product.

The first standard is efficiency justification which introduces a balance between pro-competitive and anti-competitive effects of tying by suggesting that two products should be considered as a single product where there is a justification for the linkage, such as cost saving, quality concern, or any other justification where pro-competitive virtues outweigh the anti-competitive effects, even if the products are regarded as being sold to different, separate markets.[558] As Article 102 provides a framework for such analysis by conditioning the application of the provision in the absence of commercial links between products. This suggests that commercial links operate as a justification for the joint sales of distinct products.[559]

However, some legal scholars, such as Areeda and Hovenkamp, have argued that considering efficiency justifications or anti-competitive effects in the context of a separate product may obscure matters, especially if the considerations are implicit. It tends also to marginalize them, because the single-product test tends to target cost saving and quality to the exclusion of alternative justifications, such as consumer preferences. Considering justification in the single-product inquiry can only clarify whether there is significant efficiency without proving whether the substantial pro-competitive effects outweigh the magnitude of anti-competitive effects. Also, there would be an overlap between the analyses of the effects analysed at the stage of the separate product test and the effects of the practice on competition.[560]

Therefore, Hovenkamp and Areeda suggested a second standard, based on competitive market analogues to determine if tying is predominant.

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558 Michael Eric Ross, 'The Single Product Issue in Antitrust Tying: A Functional Approach' (1974) 23 Economy Law Journal 963.

559 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 234.

560 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 235.

They take universal tying in a competitive market as a benchmark, then extend the analysis to find a single product where competitive markets for this product uniformly tie, even though the defendant's market is non-competitive or when tying is not universal.[561] The introduction of such a test would suggest that when tying and untying are both common in competitive market analogues, the products should normally be considered to be separate products, whereas if one of the items in the defendant's tie is frequently tied with another product across many competitive markets, the items should be considered a single product. Determining if tying is predominant could be determined by a certain percentage: if the tying items that are sold untied are less than the assigned percentage, then the products will be considered as a single product.[562] If the market in question is not competitive, analogous markets can be used to perform the analysis, which may include similar markets in different geographic regions, historical markets, and markets for buyers who are not locked in.[563]

Nevertheless, this test has been found to be inefficient in some cases because of network effects, economies of scale, and the consideration that lock-in software markets are sometimes not competitive. Therefore, the courts will need to identify 'analogous markets' in order to perform the test, and this usually cannot be fulfilled easily. For example, in the *Microsoft* case, geographical analogues are not available, because the market for Windows is global and there are very few consumers who are not locked in. In addition, this test fails to recognise that manufacturers with market power may tie products for different reasons such as to gain supra-competitive profits where manufacturers without market power may tie products to achieve economies of scale.[564]

The third standard considers products as distinct if it is not efficient to sell them together; most products can be broken down into two or more components that are tied together in the final sale, and for this reason, to be

561 ibid.

562 Samuel Noah Weinstein, 'Bundles of Trouble: The Possibility for a New Product Test in Technology Tying Cases' (2002) 90 California Law Review 932.

563 ibid: 'Analogues may include similar markets in different geographic regions, historical markets, and markets for buyers who are not "locked in".'

564 ibid 903.

treated as distinct, the tied product should be purchased by some consumers without them purchasing the tying product. Furthermore, the tied product should have another use, so it can be used irrespective of the tying product. From this perspective, when the tied product can be used only with the tying product, a seller of the tying product cannot acquire additional market power by selling the two products together; such a consideration is based on efficiency gains by suggesting that two products should be considered as one when the joint sale increases the total surplus and the efficiency.[565]

However, such an approach has conceptual drawbacks, and it could be argued that many products in the world can be divided into parts and that it might be difficult to decide what can and cannot be separated for the benefit of consumers. In addition, this depends on the firm's efficiencies, as in one case it may be considered two products and, in another, the same two products may be considered one.[566] Also, an act of purchasing separately depends on pricing, delivery, guarantee and assembly offerings.[567] In addition, the concept of what can be considered as efficient to sell together changes or fades over time, especially with the development and the innovation of more advanced products. Moreover, manufacturers need to consider the differentiation of consumer preferences in different geographic markets.

5.2.1.4 A new proposed standard

In light of the discussion above, a new standard is suggested in this thesis that provides transparency for technology market players in terms of how to create a multifunctional product or integrated product that maximizes consumer utility without compromising tying law. This new standard is necessary to trade off with legal certainty and to encourage innovation that benefits consumers.

Drawing from the analysis in the previous section, the Commercial usage criterion should be limited to classical tying claims in traditional markets. In high-technology markets the competition process constantly involves the combining of new features that were available before as separate products,

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565 Ekaterina Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (Hart Publishing 2010) 234.

566 ibid.

567 Jean Tirole, 'The Analysis of Tying Cases: A Primer' (2005) 1 Competition Policy International 7.

requiring a consideration of the nature and the functional relationship of the integrated products to provide more reasonable results. In addition, it is difficult to depend on abstract standards; therefore, determining tying cases requires additional criteria to be considered in the overall assessment, to not only determine the nature and functional relationship of the products but to determine if the technical integration is permissible.

5.2.2 The coercion requirement

This section focuses on the coercion element as the third requirement in establishing a technical tying abuse. As discussed in chapter three, the requirement of coercion is used to determine if consumers have been forced by the dominant firm to buy the tied product as a condition for buying the tying product. Without coercion by the dominant firm, a tie cannot force consumers to buy the product. Article 102 (d) TFEU states that 'Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations'.

In the *Microsoft* case, the Commission implied that Microsoft had contractually and technically coerced the OEMs because they were unable to obtain the Windows client operating system without simultaneously acquiring Media Player and it was not technically possible for the OEMs to uninstall Media Player. This situation, accordingly, undermined the structure of competition in the media player market and led to a deterrence of innovation and an eventual reduction in choice among competing media players and had a harmful effect on consumers. This means that the Commission considered that the coercion of OEMs, who license the Window OS from Microsoft for pre-installation on client PCs, indirectly restricted the choice of the end consumers.[568]

Microsoft countered the Commission's allegation by claiming that unlike the customers in the *Hilti*, *Hoffman la Roche*, and *Tetra Pak* cases, [569] their customers were not obliged to use Media Player's functionality as they could

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568 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 827, 832.

569 Case IV/31.043 Elopak/Tetra Pak (Tetra Pak II) [1992] OJ L72/1, para 119, Case IV/30.787 and 31.488 *Eurofix-Bauco v Hilti* (1987) OJ L 65, para 57, Case IV/29.020 – (Vitamins) *Hoffmann-La Roche v Commission* 1976 , OJ L 223, para 22, 24.

use functionality developed by other developers; they did not pay anything extra for the media functionality of Windows; they could use competitor media players with Windows; and were free to change the default settings on PCs. Microsoft also argued the interpretation of Article 102 (d) where it includes the element that consumers are forced or paid for the product.[570] To illustrate this, Microsoft contrasted the relationship between the Windows OS and Windows Media Player with situations where the tie is related to a traditional product, whereby a customer is locked into the dominant firm's tied product at the expense of rival products. Customers who must take the tied products supplied by the dominant firm forgo money or space that could be assigned to products supplied by competitors. For example, in *Hilti* the Commission found that the tying of nail cartridge strips that were used in nail guns was abusive.[571] Customers who had been obliged to acquire the dominant firm's nails were held to have forgone their freedom of choice regarding the source of supply of those nails and this led to the exclusion of independent nail suppliers.[572]

This type of coercion can only arise if the tied product is a rivalrous good or a product's acquisition prevents or limits the acquisition of other products offered by rivals.[573] However, Windows Media Player was a non-rivalrous good, where the use of such a good did not diminish its use or prohibit consumers from using another competitor's product.[574] Despite this, Microsoft's reasoning was refused, as the GC confirmed the Commission's findings and adopted a very wide idea of coercion by emphasising that tying law did not require that

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570 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, para 950–953.

See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, which was published after the Microsoft case, where para 48 states that tying 'can take place on a technical or contractual basis'; then the Guidance offers a more narrowed definition in terms of functionality with regard to technical tying by suggesting a very limited conception of technical tying that is conditional on the non-functionality with another tied product, it was also emphasized in the footnote of the same paragraph that 'technical tying occurs when the tying product is designed in such a way that it only works properly with the tied product and not with the alternatives offered by competitors' See also Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 265, 2008, para 97: '…technical tying occurs when the tying product is designed in such a way that it only works with the tied product (and not with the alternatives offered by competitors). Contractual tying entails that the customer when purchasing the tying good undertakes only to purchase the tied product (and not the alternatives offered by competitors).'

571 Case T-30/89 *Hilti AG v Commission* [1991] ECR II-1439.

572 ibid, para 21.

573 Miguel Rato and Nicolas Petit, 'Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered' (2013) 9 European Competition Journal 7, 24.

574 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 833.

consumers should be forced to use the tied product, or pay for it, nor did it have to prevent them from using an alternative product supplied by competitors to establish a tying claim. It is sufficient that consumers have an incentive to use Windows Media Player at the expense of competing media players.[575]

The GC also refused Microsoft's argument that tying WMP and Window OS does not entail any coercion or supplementary obligation within the meaning of Article 102 (d) and held that monetary sacrifice was not a requirement for the establishment of a tying abuse because the wording of paragraph (d) of Article 102 does not include a reference to "paying" when introducing the element of a supplemental obligation, and that the price of Windows Media Player was included in the total price of the Windows OS.[576] Noteworthy is that this perspective of including the price of WMP in the overall price contradicts what the Court had already stated, which was that the two products were distinct. Therefore, it should have examined Microsoft's arguments from this perspective.[577]

Consequently, the GC emphasised that the Commission's analysis of whether the dominant firm fails to give customers a choice to obtain the tied product without the tying product is merely expressing in different words the concept that tying assumes that consumers are forced directly or indirectly, to accept "supplementary obligations," such as referred to in Article 102 (d). Therefore, the court found that the Commission was correct to rely on Article 102 TFEU in its entirety in this case and not exclusively on Article 102 (d) TFEU; as tying by a dominant firm can infringe Article 102 when it does not correspond to the example given in Article 102 (d) EC.[578]

This implies coercion is used to determine if the customer had a free choice in obtaining the product and was not subject to certain barriers that

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575 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, paras 967–971.

576 ibid, para 968.

577 Nicholas Economides and Ioannis Lianos, 'The Elusive Antitrust Standard on Bundling in Europe and in the United States at the Aftermath of the Microsoft Cases' (2009) 76 Antitrust Law Journal 529.

578 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, paras 961, 861–864.

hampered the use of the product with other products. These strict presumptions can be explained due to the underlying objectives of Article 102 TFEU, which emphasises preserving consumer choice and defines the concept of consumer harm very broadly to include wider choices. It does not establish a hierarchy between different aspects of consumer harm.[579]

It is significant to consider that the coercion criterion can contribute in distinguishing between classical tying claims and other claims, namely, those related to technical integration. The approach considered is questionable because it offers little information in terms of anti-competitive effects and consumer harm, especially if the assumption that price competition is more valuable to consumers than non-price competition.[580] It is not accurate to assume that the market power of a seller of the tying product creates a presumption of coercion, whereas a perfect competitor could not coerce any customer into buying anything, and this reasoning overlooks the fact that both monopolists and consumers can profit from the efficiency of packaged sales.[581] This situation merely expresses the ability of the dominant firm to impose supplementary obligations, which is an ability usually presumed in establishing the dominant position.

To conclude, what distinguishes the *Microsoft* case from other cases in which the claim is made that tying products are designed to work only with specific tied products, is that Microsoft's technological tying was designed in such a way that the tying product (Windows OS) not only worked properly with the tied product, but also with the other alternatives offered by competitors. Furthermore, the Commission adopted a wide concept toward coercion without distinguishing between providing consumers with one choice or with more choices that involved different methods of obtaining or packing the

579 Ariel Ezrachi, Article 82 EC: Reflections on its Recent Evolution (Bloomsbury Publishing 2009) 48.
See Nicolas Petit and Norman Neyrinck, 'Tying Law in Microsoft I and II: The Secret Art of Magic?' (2010) 1 Brussels School of Competition Working Paper Series 4: 'Coercion is a twofold standard, since it leads the consumers to acquire a service or product that they do not need at all and restricts the consumers freedom of choice, in such a way that the consumer is directed and locked into the product by forgoing some resources, money, or space in their integrated product, which Microsoft's advocates declared did not occur in Microsoft.'

580 Nicholas Economides and Ioannis Lianos, 'The Elusive Antitrust Standard on Bundling in Europe and in the United States at the Aftermath of the Microsoft Cases' (2009) 76 Antitrust Law Journal 519.

581 Herbert Hovenkamp, Federal Antitrust Policy: The Law of Competition and its Practice (3rd edn, Thomson-West 2005) 411.

concerned software, and where purchasing an operating system without a media player was still an option on other operating systems such as OS/2 and Linux.

The question that arises is, whether Microsoft technical integration was designed in such a way as not to allow other products to work properly with the integrated product. If this was the situation, Microsoft consumers would not have any other option except using WMP, but in the *Microsoft* case, consumers still had an option to obtain other media players, but they preferred WMP to other programs with similar functionality. They did not make the extra effort to obtain other products available.

5.2.3 Foreclosure in the tied market

This section will explain the foreclosure requirement, which is the most important criterion to assess anti-competitive tying claims. It is upon this requirement that the Commission focused a significant amount of its analysis in the Microsoft case.

As discussed previously (chapter three, section 3.6), the Commission and the EU Courts followed a form-based approach towards classical tying claims prior to the Microsoft case. Under such an approach, a tying claim could be satisfied under Article 102 TFEU when the following elements are met: 1) an undertaking is dominant in the tying market, 2) the tying and tied products are distinct products, 3) the customers are coerced to buy both tying and tied product together. The foreclosure requirement is implicit, if it is satisfied by demonstrating the tying of two separate products by a dominant undertaking.

However, the scrutiny exercised by the Commission and the GC in *Microsoft* transformed what would have been a form-based approach into an 'effects-based approach', since it called for an analysis of the economic effects of tying by acknowledging both the anti-competitive and pro-competitive aspects of the tying practice on the tied market; no *per se* rule is conceptually appropriate for the anti-trust assessment of tying. Therefore, the explicit inclusion of the foreclosure condition was regarded as a necessity, where

consumer welfare and efficiency are the new guiding principles of EU competition policy.[582]

The Commission initially implied that Microsoft's interpretation of Article 102 cannot be followed under a systematic interpretation, but that it should be interpreted in view of its underlying objective, which is to ensure that competition in the internal market is not distorted (Article 3 (g) of the EC Treaty).[583] The Commission admitted that in classical tying cases, the foreclosure effects are to be demonstrated by bundling the tied product with the dominant tying product; however, in the *Microsoft* case they stated, 'there are therefore good reasons not to assume without further analysis that tying WMP constitutes conduct which by its very nature is liable to foreclose competition'.[584] Microsoft's tie did not lead to foreclosure *per se* due to its direct effect on customers, and foreclosure could not be presumed without further analysis[585], especially given that end users could acquire third-party media players through alternative methods such as the Internet, sometimes for free.[586]

The Commission claimed that '[t]ying WMP with the dominant Windows OS makes WMP the platform of choice for complementary content and applications foreclosing competition in the market for Media Players', which has a spill-over effect on competition outside the tying and tied product markets, but in relation to media encoding and management software products in client PC operating systems, for which media players of compatible quality and content are an important application.[587]

The Commission based its allegations on the following grounds:

582 See J Faull and A Nikpay, The EC Law of Competition (2nd edn, OUP 2007) 168.
583 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 836.
584 ibid, para 841.
585 Jean-Francois Bellis and Tim Kasten, 'The Microsoft Window Media Player Case' in Luca Rubini (ed), Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case (Edward Elgar Publishing 2010) 145.
586 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965.
587 ibid, paras 835–954.

1. Tying WMP to the Windows OS without the possibility of removing it from the operating system and without an additional charge, ensured that WMP was as ubiquitous on PCs worldwide as Windows. Users who found it already installed on their client PCs were less likely to use an alternative media player, and thus consumer choice would be restricted.[588] The Commission's approach was based on the premise that it cost consumers more to rely on multiple formats. The same consideration applies when comparing the distribution system of WMP, which was pre-installed on Windows, while the other alternative distribution systems of competitor media players were determined to be unable to achieve the same reach as Microsoft did by bundling WMP.[589]

2. Tying Window OS with WMP provided WMP with competitive advantage due to strong network effects and influence over content providers, to encode and develop applications for this platform. Accordingly, tipping in favour of WMP will increase barriers to entry and foreclose competition in the market for complementary software, protecting the Window OS market[590] (Defensive leverage section 3.4.2.2).[591] Tying may also allow Microsoft to anti-competitively expand its position in adjacent media-related software markets and weaken effective competition, to the eventual detriment of consumers. One such anti-competitive method is sending signals, deterring innovation in technologies, which Microsoft could conceivably take interest in and tie with Windows[592] (Offensive leverage theory, section 3.4.2.2).

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588 ibid, paras 843–876.

589 ibid, paras 858–876.

590 ibid, paras 883–895.

591 See Michael A Salinger, 'Behavioural Economics, Consumer Protection, and Antitrust' (2010) 6 Competition Poly Intl 65, as cited in Miguel Rato and Nicolas Petit, 'Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered' (2013) 9 European Competition Journal 7: '…the Commission implemented parlous theories regarding the tying in the Microsoft case as they were based on empirical surveys of user behaviour, which is not a valid method of gathering evidence about potential effects on the software market. There were also concerns over "framing" because answers would be affected by how the questions were asked.' And see Christian Ahlborn, David Bailey and Helen Crossley, 'An Antitrust Analysis of Tying: Position Paper' (GCLC Research Papers on Article 82 EC, July 2005) 176: '…the validity of the leverage theory depends on certain assumptions: First, the theory requires entry into the tied market to be very costly; otherwise, simultaneous entry would occur to complementary markets. Second, the theory does not fit when the product sold in the monopoly market has a life of its own and when consumers have a demand solely for the monopoly good. As a result, the profitability of entry into the monopoly market will be less affected by the monopolization of its complementary market'.

592 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 883, 884, 982.

> Importantly, the Commission stated that Microsoft's tie did not lead to foreclosure *per se* due to its direct effect on customers. On the contrary, the Commission considered that this tie led to foreclosure as a result of its effects on independent developers of content and applications, who would choose Windows Media Player as the platform of choice[593]. Therefore, the anti-competitive effect was not as direct as might be expected for a regulatory body intervening in a market with rapid technological change.[594]

Microsoft initially claimed that the Commission in its analysis added a new condition, namely foreclosure, which is usually not considered. Microsoft then alleged that the Commission had failed to prove that the integration of Windows Media Player in the Windows operating system had led to foreclosure effects. With Regard to foreclosure, Microsoft implied that the Commission's allegation that the operating system was ubiquitous was a theoretical presumption. From Microsoft's perspective, they did not harm consumer choice or competition processes, since the product was free and occupied minimal space. Consumers also had the choice to download or obtain any other media player. Other media players were available for free, and there were ways to reach consumers other than OEM pre-installation. Additionally, the inclusion of the free WMP did not interfere with the function of other media players.[595] Notably, Window Media Player's market share increased when it was tied, but the number of available media players and the use of multiple players were also increasing at this time.[596]

See Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11, para 1363: 'The GC stated it cannot be precluded that Microsoft had economic incentive to leverage its market power from its PC operating system into an adjacent market'.

593 Jean-Francois Bellis and Tim Kasten, 'The Microsoft Window Media Player Case' in Luca Rubini (ed), Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case (Edward Elgar Publishing 2010) 145.

594 See discussion paper on the application of Article 82 of the Treaty to exclusionary abuses, Brussels, December 2006 <http://ec.europa.eu/comm/competition/antitrust/others/discpaper2005.pdf> paras 180–181: 'A company that is dominant in the tying market can through tying or bundling foreclose the tied market and can indirectly also foreclose the tying market'.

595 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 989–997.

596 ibid, para 1055.

See David Evans, Andrei Hagiu and Richard Schmalensee, Invisible Engines: How Software Platforms Drive Innovation and Transform Industries (MIT Press 2008) 238: '…producers of media player developed their products with distinctive features to appeal to different consumers. For instance, whereas the newest release of Windows Media Player is recommended for organizing mixed-media libraries, whether those include music and photos, Music Match was recommended for the organization and playing of downloaded music but not for streaming video content, since it offered minimal capabilities for such a task. At the same time, iTunes was categorized as being very appropriate for managing music

In terms of the second allegation of tying to increase barriers to entry and foreclosure of competition in the complementary product market, Microsoft alleged that the Commission had failed to establish a tying abuse, because there was no evidence for alleging that the extent of the distribution of media software associated with a particular format determined a content provider's choice of format in which it could encode its product. In addition, the Commission ignored the factors that led content providers to write to formats other than Windows Media format, as the Commission should have investigated the costs involved, which was actually an insignificant portion of overall cost, including the availability of other media players in the market.[597] Microsoft based its allegation on the evidentiary burden, since the Commission based its allegation on theoretical possibilities without sufficient investigations. Notwithstanding, turning the theoretical possibility of harm into a theory of anti-trust enforcement is not the aim of the Commission. The competition authority needs to consider any potential efficiency that results from the tie, with losses that result from the foreclosure effect it produces.[598]

This thesis argues that the theory of network effects was not adequately considered by the Commission, and the Commission presumed that Microsoft and consumers of media player functionality had strong incentives to adjust to WMP.[599] The Commission did not consider adequately the equal technological access that is permitted through Multi-homing, nor did it consider sufficiently the product differentiation in the tied product market.

If the indirect effects of Microsoft licenses of its operating system are presumed, that does not cancel out the fact that RealPlayer earns its profits from content subscriptions, which is the same way that Adobe earns them from Flash server sales, or even Apple from selling digital audio and video devices such as iPod and iPhone. These companies adopt various strategies in an

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libraries and operating with Apple's iPod devices.'

597 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 999–1000.

598 Dennis W Carlton and Michael Waldman, 'The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries' (Summer 2002) 33 Rand Journal of Economics 194–220.

599 See Jorge Padilla and David Evans, 'Tying Under Article 82 EC and the Microsoft Decision: A Comment on Dolmans and Graf' [2005] World Competition: Law and Economics Review 4.

intensely competitive process that do not prohibit multi-homing and the functioning of all devices.[600]

In addition, when a dominant firm exploits indirect network effects to increase the tipping effects into its products and get consumers locked in, the dominant undertaking is able to charge excessive prices or lower its quality. However, since this refers to technological integration, a company such as Microsoft would not resort to such policies where any plausible competitive concerns are 'fixed' by the existence of cross-platform products or complementary software functionalities that prevent a competitor's ability to charge anti-competitive prices. This issue of whether secondary-market software applications can act as a competitive relief valve was not definitively resolved in the Microsoft cases.[601]

Similarly, the general court rejected all Microsoft's arguments, implying that the arguments did not invalidate the Commission's conclusion and that Microsoft's argument is incapable of proving that the Commission's finding that other methods of distribution do not rival the effectiveness of the pre-installation distribution method on Windows OS. Additionally, it is irrelevant whether the competition was thriving, what is relevant was the ability for them to compete on merit to form part of the respective quality of the competing products, irrespective of the tying.[602]

The GC also implied that it is sufficient to rely on an inference of harm to competition where tying-in practices impair the effective competitive structure. As it held, 'There was a reasonable likelihood that tying Windows and Windows Media Player would lead to a lessening of competition so that the maintenance of an effective competition structure would not be ensured in the foreseeable future'.[603] This suggests that the GC court did not consider other factors such as competitive advantage in the distribution process or a

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600 Federico Etro, Competition Policy for the New Economy: Abuse of Dominance (Y Katsoulacos ed, Athens University Press 2007) 48.

601 Thomas H Au, 'Anticompetitive Tying and Bundling Arrangements in the Smartphone Industry' (2012) 16 Stanford Technology Law Review 37.

602 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, paras 1032–1041.

603 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 1089.

better interoperability or even the free price of media player, as competition on merit.[604] Thus, this could be regarded as a double standard in terms of the factors of each case due to the adoption of unrealistic factors. In particular, it may not be fair to expect Microsoft to sell an operating system without a media player, as this would mean it could not compete on its intrinsic merit with Apple, for instance, which sells its operating system with iTunes.

In light of these arguments, it can be concluded that the Commission did not sufficiently consider the effects of the alleged tying in practice on consumers: it merely considered the effects of technical integration on consumers on a short-term basis by adopting a narrow concept of consumer welfare, which was limited to preserving consumer choice. The approach they followed, which was confirmed by their choice of language, is an orthodox approach that does not distinguish between foreclosure of efficient and inefficient competitors.[605] The static foreclosure standard, as it was employed in the *Microsoft* case, is not an effective standard in competitive assessments, and it might lead to the condemning of benign unilateral practices in the market (i.e. type 1 error). The foreclosure criterion tended to be implied to be harmful to competition and competitors, rather than as harmful to the competition process and the consumer. Whereas harm to consumer was considered through a proxy where the competition process in the tied market and adjacent market had changed. The General Court held that Article 102 TFEU 'covers not only practices which may prejudice consumers directly but also those which indirectly prejudice them by impairing an effective competitive structure'.[606]

The main premise for such an approach is a static concept of foreclosure that yields ambiguous results; it does not distinguish between foreclosure of efficient and inefficient competitors, and it may lead to consumer

604 Christian Ahlborn and David S Evans, 'The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe' (2009) 75 Antitrust Law Journal 17.

605 Liza Lovdahl Gormsen, 'Are Anti-competitive Effects Necessary for an Analysis under Article 102 TFEU?' (2013) 36 World Competition 225: 'This approach originates in the historically dominant ordoliberal school of thought.' See chapter two, section 2.2.1.

606 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, 5 CMLR 11, para 664; *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 704.

harm. This occurs when a dominant firm is punished because it excluded inefficient competitors that provided consumers with fewer benefits in terms of choice, quality, or price. The basic economic consensus that tying is usually beneficial and only under certain circumstances anti-competitive was not reflected adequately in the assessment.[607]

5.2.4 The absence of objective justification

This section will discuss the last standard in an abusive tying claim: the absence of objective justification. As discussed in section 3.5, tying can provide efficiency rationale and pro-competitive effects that can be employed as objective justification in tying claims.[608]

Significantly, the Commission raised the question of objective justification in the Microsoft case and thus abandoned the form-based approach whereby objective justifications were usually excluded. *Microsoft* argued that tying WMP in Window OS offered lower transaction costs because consumers would not have to purchase the products separately or waste time downloading them. The economies made by a tied sale of two products save resources otherwise spent for maintaining a separate distribution system for the second product. Windows Media Player also met consumer and industry demand for improved functionality with each new release of the Windows PC operating system.[609]

In addition, untying the products will lead to the Windows OS no longer being capable of relying on such functionalities when developing other aspects of the operating system as a uniform platform. This would stall the

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607 Dr J Langer, 'The Court of First Instance's Microsoft Decision: Just an Orthodox Ruling in an On-Orthodox Case: Case T-201/04, *Microsoft Corp. v. Commission*, Judgement of the European Court of First Instance of 17 September 2007' (2008) 35 Legal Issues of Economic Integration 183.

608 See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. Such guidance was published after the Microsoft case; see para 62: '…implies the Commission will look into claims by dominant undertakings, if their tying practices will lead to savings in production or distribution that would benefit customers, or reduce transaction costs for customers, who would otherwise be forced to buy the components separately. It will also consider: suppliers' tying-in practices that afford high savings on packaging and distribution costs; some form of dynamic efficiency indirectly by examining integrating two separate products into a single product that will enhance bringing new product to the market; and whether tying practices allow the supplier to pass on efficiencies arising from its production or purchase of large quantities of the tied product…'

609 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 1103, 1106, 1108.

development of such functionalities, especially the integration of media functionality into Windows, which was indispensable for software developers and Internet site creators to be able to continue to benefit from the significant advantages offered by the 'stable and well-defined' Windows platform.[610] Microsoft would also be set at a competitive disadvantage compared to most other operating system vendors, who all provide multimedia capabilities with their operating system offerings. Microsoft would not have been able to match the improved offerings of the operating systems of its rivals, such as Apple and Linux.[611]

Nevertheless, Microsoft's justification was refused, and the GC emphasized the correctness of the Commission's reasoning, concluding that the argument advanced by Microsoft related to saving resources and causing efficiency could not outweigh the distortion of competition in this case, since distribution costs in software licensing are insignificant; according to the GC, this consideration is in addition to Microsoft's limiting of both consumer choice and manufacturer innovation of media player functionality.[612] The GC further added that Microsoft's efficiency argument with regard to providing a uniform platform entailing benefits to consumer and content providers amounted to asserting that it should be allowed to extend the Windows monopoly by tying other software products. Although standardisation may effectively present certain advantages, it cannot be imposed unilaterally by a dominant undertaking through tying. Microsoft had a responsibility not to hinder effective and undistorted competition in the common market.[613] This is the main reason why tying led to the foreclosure of other competing media players from the market.[614]

More importantly, Microsoft did not submit evidence with regard to its efficiency justification to show how integration was necessary to enable

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610 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 1105, 1107, 110–1108.

611 ibid, para 1096; *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, para 959.

612 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, para 1145.

613 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 969, 981, 1016; Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 1130, 1067, 1152.

614 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 1151.

software developers and Internet site creators to use the Windows platform effectively, and that third parties could write applications for third-party media players and for new updates of Windows Media Player that were not necessarily pre-installed. They also did not provide evidence that it is not costly to encode in multiple formats and that market evidence does not support the Commission's allegation. Microsoft failed to show how the integration of Windows Media Player into Windows created technical efficiencies: for instance, that the integration led to 'superior technical product performance' or that Windows operated faster with Windows Media Player integrated.[615] Therefore, the Commission held that 'any efficiency implications of code removal would weigh heavier if Microsoft had shown that the integration of WMP was a precondition for these efficiencies. Microsoft did not provide evidence to that effect'.[616]

The GC has been reluctant to offer guidance on comparing the benefits of technical integration against its exclusionary effects, especially given the rarity of any precedent on technical integration as an abuse of dominance.[617] As there is an imbalance between (a) the low standard of proof of a potential foreclosure that harms the competition process that is required by the Commission and (b) the high standard of proof that is required by Microsoft, suggesting tying practice would not be justified unless it was indispensable for fulfilling the claimed efficiencies.

Innovation considerations were taken into account only indirectly. The EU Commission focused on practices leading to a foreclosure and thus harming consumers by depriving them of a better product whether in terms of price, quality, or choice.[618] The Commission indicated that 'Microsoft's tying instils actors in the relevant software markets with a sense of precariousness

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615 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 883, 937, 970, 962, 1160, 1098; Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 1100.

616 *Microsoft Corp v Commission* (Case COMP/C-3/37.792) Commission Decision (24 March 2004) para 1031.

617 Bill Batchelor, 'The Fallout from Microsoft: the Court of First Instance Leaves Critical IT Industry Issues Unanswered' (2008) 14 Computer and Telecommunications Law Review 21.

618 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 19.

thereby weakening both software developers incentives to innovate in similar areas and venture capitalists proclivity to invest in independent software application companies'.[619] The GC also stated, '*By means of the bundling, Microsoft sends signals which deter innovation in any technologies in which it might conceivably take an interest and which it might tie with Windows in the future'.*[620]

To sum up, this thesis argues at this stage of research that there has not been any declaration towards a stable and clear approach. Although the EU Commission adopted an effects-based approach and the *Microsoft* case in particular played a significant role in bringing EU competition law closer to economic theory, the GC approach in the *Microsoft* case demonstrated a reluctance to apply the effects-based approach, as it stated that it was not necessary to investigate Microsoft's arguments against the Commission. Finding with regard to the foreclosing competition in the tied product market and adjacent market, that the Commission's findings in the first stage of its reasoning were in themselves sufficient to establish that foreclosure of competition as a constituent element of abusive tying was present in this case.[621]

This means that demonstrating the existence of an advantage resulting from tying over other competitors who do not have the opportunity to bundle, satisfied the 'foreclosure of competition' element of a tying abuse. The influence of such an advantage on competition and consumer welfare would be presumed without the need for it to be established.[622] Indeed, the GC stated that despite the fact that the Commission examined its actual effects and the way the market was likely to evolve, tying has by its nature a foreclosure effect.[623]

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619 *Microsoft v Commission* (Case-COMP/C-3/37.792) Commission Decision [2004] 4 CMLR 965, para 983.

620 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11, paras 1088, 1143.

621 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, para 1058.

622 Christian Ahlborn and David S. Evans, 'The Microsoft Judgement and its Implications for Competition Policy Towards Dominant Firms in Europe' (2008) 75 Antitrust Law Journal 27.

623 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, paras 1035, 1059; see Article 868: 'the applicant cannot claim that the Commission relied on a new and highly speculative theory to reach the conclusion that a foreclosure effect exists in the present case. As indicated at recital 841 to the contested decision, the Commission considered that, in light of the specific circumstances of the present case, it could not

The EU-followed approach was not totally independent from the Ordoliberal school of thought, which still has some influence on EU tying law. This influence is apparent where the EU followed an approach that gave prominence to the protection of other competitors in the market over any consideration of consumer welfare, which is hard to reconcile with modern economic theories. As it was implied that Microsoft should not hinder effective and undistorted competition in the common market, that argument could be interpreted as protecting economic freedom, an objective that has Ordoliberal roots. [624]

The assessment was considered similar to previous classical tying cases, where case-by-case analysis was not sufficiently established; the analyses are rather based on presumptions with debatable theoretical possibilities, which by themselves do not prove anything and are considered as being highly problematic. However, these theoretical presumptions have not been established empirically. Therefore, there is a need to follow an evolutionary approach that considers the realities of high-technology markets with a multi-dimensional analysis through the application of an economic effects-based approach that considers the effects of the relevant practice on consumers through balancing the anti-competitive effects with the pro-competitive effects resulting from the practice. This approach is necessary to exclude penalizing tying practices when it not clear whether they are anti-competitive or pro-competitive. The aim is not to inhibit competition in product design or to avoid the application of restrictions, but rather to consider the manner in which technology affects the analytical assessment of competitive practices in more detail in order to promote the competition process and foster innovation.[625]

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merely assume, as it normally does in cases of abusive tying, that the tying of a specific product and a dominant product has by its nature a foreclosure effect. The Commission therefore examined more closely the actual effects which the bundling had already had on the streaming media player market and also the way in which that market was likely to evolve'.

624 *Microsoft Corp v Commission* (Case-COMP/C-3/37.792) Commission Decision 24 March 2004 [2004] 4 CMLR 965, paras 969, 981, 1016; Claus-Dieter Ehlermann and Mel Marquis, European Competition Law Annual 2007: A Reformed Approach to Article 82 EC (Bloomsbury Publishing 2008) 60.

625 Chris Butts, 'Microsoft Case 10 Years Later: Antitrust and New Leading New Economy Firms' (2009) 8 Northwestern Journal of Technology and Intellectual Property 291.

5.3 The Microsoft case: implications and dynamic effects

This section focuses on the implications of the *Microsoft* case as follows: the issue of new evidence after the Commission's decision, the neutrality of expertise, the appropriateness of a remedy that may have provided consumers with degraded products and posed a substantial risk to intellectual property rights and the incentive to innovate. Addressing this issue is important in emphasising the limitations of the current EU approach in regulating practices and imposing remedies in high-technology markets such as the software market.

5.3.1 The issue of new evidence

The Commission imposed some remedies on Microsoft, including 1) an order for Microsoft to pay a fine of €497,196, 204, and 2) an injunction to provide an unbundled version of Windows Operating System which does not include Windows Media Player (i.e. unbundled Windows OS).[626]

Microsoft began marketing its Windows XP N edition while the EU Microsoft was pending before the GC. It has been revealed that the Commission remedy that took the form of Window XP N was a commercial failure, despite untying WMP Window OS, Microsoft was able to build market share in the media player market to the point where it holds close to 50% of the tied product market. RealPlayer has managed to retain second place behind Windows Media Player; iTunes has established itself and Adobe Flash has made inroads due to the popularity of YouTube.[627] This, led to some doubt regarding the Commission's theory of harm and the extent to which it was based on adequate, solid economic principles, which accommodated the features of software markets and the extent of the EU approach in allowing

626 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601.

627 Pierre Larouche, 'The European Microsoft Case at the Crossroads of Competition Policy and Innovation' (TILEC Discussion Paper No 2008-021, 2008) 19-623.

challenges to the Commission decision on the basis of such emerging evidence.

The Directorate Generals (DG) are primarily responsible for carrying out impact assessments, and the EU court does not scrutinise the underlying data or the evidence on which impact assessment evaluations rest.[628] The GC implied in the *Microsoft* case that the EU courts can carry out only a limited review of the Commission's assessments with regard to whether or not the conditions for the application of the competition rules are met, such as whether the facts have been accurately stated and if there has been any manifest error of assessment, or a misuse of powers. Also, EU courts cannot substitute their own assessment of matters of fact for the Commission's. The EU courts recognise that the Commission has a margin of appreciation in economic or technical matters; however, they must decline to review the Commission's interpretation of economic or technical data. They must only establish whether the evidence put forward is factually accurate, reliable, and consistent, and whether that evidence contains all the relevant data that must be taken into consideration, in appraising a complex situation.[629] It is worth noting that a similar situation was different in the context of merger control, as the ECJ upheld in *Commission v. Tetra Lava* that the EU courts can also determine whether it is capable of substantiating the conclusions drawn from cases with complex situations;[630] also, in *KME Germany AG, KME France SAS and KME Italy SpA v European Commission*, it was implied that even if the EU courts accept that the Commission has a margin of appreciation in economic or technical matters, that does not mean that they must decline reviewing the

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628 Rob van Gestel and Jurgen de Poorter 'Putting evidence-based law making to the test: judicial review of legislative rationality' (2016) 4.2 The Theory and Practice of Legislation, 155.

See OECD, directorate for financial and enterprise affairs competition committee, global forum on competition, judicial perspectives on competition law, contribution from European union, DAF/COMP/GF/WD(2017)25: Article 25 of the Statute of the Court of Justice provides that 'The Court of Justice may at any time entrust any individual, body, authority, committee or other organisation it chooses with the task of giving an expert opinion.'

And see Eric Barbier de La Serre and Anne-Lise Sibony, 'Expert Evidence before the EC Courts' (2008) 45 Common Market Law Review 948: '…expert evidence remains exceptional due to various reasons: strict substantive requirements, the costs and length of the procedure, the margin of appreciation enjoyed by the EC institutions in certain fields of law, the EC courts' reliance on their own expertise.'

629 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 8589, 482

630 ibid, paras 85–89,482. See also Case C-12/03 P, *Commission v. Tetra Laval BV* [2005] ECR I-987, para 39:

Commission's interpretation of economic or technical data or obtain neutral expert evidence.[631]

Microsoft did not present any evidence that there is no demand for the Window XP N edition, as it had never marketed it before. Part of this shortcoming was a failure to present adequate evidence regarding the necessity of the technical tying of WMP with the Windows operating system. Therefore, the court considered that Microsoft could contend that the untying of Windows Media Player from Window OS would entail marketing a degraded product consisting merely of an operating system.[632] Moreover, the Commission failed to take proper account of the demand existing for the tied products, since there was no demand for the unbundled Windows Operating System N edition.[633] This thesis argues that the Commission did not investigate certain issues adequately, especially during the first period of the proceedings. For example, when the Commission adopted a Statement of Objections in August 2001, accusing Microsoft of abuse of dominance by tying WMP in Windows OS, the Statement of Objections did not cite any market evidence to support its allegations.[634] Also, after Microsoft's response to the August 2001 Statement of Objections, the Commission carried out an additional market investigation which revealed that all 13 respondents from content providers, supported three of the four major formats; similarly, the investigations showed that 11 of the 14 from content providers supported at least two media technologies, with five supporting three. Of the three that supported only one technology, one supported only Apple's QuickTime. Still, the Commission

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631 Case C-272/09 P., KME Germany AG, KME France SAS and KME Italy SpA v European Commission (2011), para 94, ECLI:EU:C:2011:810,

632 Case T-201/04 Microsoft Corp v Commission [2007] ECR II-3601, para 1163–1167

633 See Ingrid Marson, 'Still "No Demand" for Media-player-free Windows' (Cnet 2005) <https://www.cnet.com/news/still-no-demand-for-media-player-free-windows/> accessed 1 May 2016; and see John Lipton, 'How Apple Could Become a Dominant Player in Music Streaming' (CNBC, 30 June 2015) <http://www.cnbc.com/2015/06/30/how-apple-could-become-a-dominant-player-in-music-streaming.html> accessed 7 June 2016: '…a new format that was promoted by Apple had been tied to its hardware and become the dominant format in the market for song downloads, a key market for goods that are complementary to media players'.

See also Microsoft News Centre, 'Fact Sheet: Windows XP N Sales' (April 2006) <https://www.microsoft.com/presspass/legal/european/04-24-06windowsxpnsalesfs.mspx> accessed 14 July 2014: 'During the period of the hearing before the General Court, XP N sales represented 0.005 per cent (1/20,000th of one per cent) of overall XP sales in Europe and at the same time no OEM in the world chose to install the naked version of Windows. Conversely, 35.5 million copies of the fully functioned version were sold in Europe in that time.'

634 Jean-François Bellis, The Commission's Microsoft Tying Case: Implications for Innovation Throughout the High-Technology Sector (Van Bael & Bellis 2007) 5.

relied selectively on the evidence, which supported its views in a new Supplementary Statement of Objections, which it adopted in August 2003. In this document, the Commission held that content providers were unlikely to support multiple formats and that it costs more to write applications to support more than one media technology.[635]

5.3.2 The subjectivity of experts: expert bias

In the *Microsoft* case, the Commission relied on hostile competitors as expert witnesses instead of appointing its own experts. This move was clear from documents disclosed by the European Commission relating to the *Microsoft* decision, following Sun Microsystems' complaint that witnesses appeared explicitly on behalf of Real Networks and that engineers for Real Networks gave evidence together with expert testimony from other representatives of competing software companies.[636] This selective approach to the use of expert witnesses in *Microsoft* suggests that the EU Commission was pursuing a course of action towards protecting Microsoft's competitors instead of the competition process in the market, thus conveying the wrong image of EU competition policy. There was no expert testimony from the Commission's economic staff, despite the fact that legal proceedings were carried out by the Commission's legal service.[637] This all affirms that the ruling in this case did not guarantee the fairness of competition proceedings.

Therefore, in the event that there is no available expert internally in the DG Competition units, instructing an independent external expert is highly recommended because of the importance of neutrality in such a competitive case, where experts must act independently as witnesses and not as representatives of the competitors or even reprehensive of the DG competition.[638] This requires external IT experts to help legal entities to better

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635 Jean-François Bellis, The Commission's Microsoft Tying Case: Implications for Innovation Throughout the High-Technology Sector (Van Bael & Bellis 2007) 5.

636 Frederic M Scherer, 'Abuse of Dominance by High-technology Enterprises: A Comparison of US and EC Approaches' (2011) 1 Economia e Politica Industriale 39.

637 ibid.

638 Frederic M Scherer, 'Abuse of Dominance by High-technology Enterprises: A Comparison of US and EC Approaches' (2011) 1 Economia e Politica Industriale 39.

understand business models in high-technology markets; otherwise, institutional set-up leads to enforcement difficulties.

5.3.3 Providing consumers with degraded products with no consumer demand

Although consumer welfare has been emphasised as an objective under EU competition rules through the modernisation process of Article 102, consumers' interests played a very marginal role in the *Microsoft* case.[639] The Commission did not heed Microsoft's consumer perception argument, or its economic efficiency argument, and if consumers enthusiastically support the innovation at the expense of competitive products or services.[640] The *Microsoft* case began and developed without any complaints from consumers or consumer associations. Rather, it was an investigation carried out on the Commission's own initiative.

Consumers in high-technology markets have always been free to choose their products when they use a computer or a laptop. However, in the Microsoft case, the Commission presumed that consumers did not want a media player downloaded on their operating system, and by following this presumption, the Court harmed consumers by allowing the distribution of a degraded product under the Windows trademark for which there was no evidence of consumer demand. Furthermore, the Court neglected the fact that the integration between the PC operating system and other WMP resulted in the tying product deriving most of its value from its capacity to operate as a platform for other products. In addition, creating greater incentives for software developers to invest in new applications as the number of platform users grows, which in turn will have an optimal impact on consumers.[641]

Accordingly, the Commission did not consider the best option for the consumer not only limited to the design of the products, and preventing consumers from obtaining a free media download on their system, but it added

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639 Helen Davison, 'CFI's Microsoft Ruling May Threaten R&D in Europe' (2007) 174 Managing Intellectual Property 27.

640 Rafael Alves de Almeida, 'Market Dominance in the New Economy' (2006) 2 DIREITO GV L. Rev. 79.

641 Steven J Davis, Jack MacCrisken, and Kevin M Murphy, 'Economic Perspectives on Software Design: PC Operating systems and Platforms' NBER working paper series, National Bureau of Economic Research no 8411 (2001) 4.

complexity and operational costs without any incremental competitive benefit.[642] It is likely to have caused many more malfunctions between media players and Windows OS than the code that Microsoft had integrated and carefully tested for reliability and compatibility with many different types of hardware and software.[643] Additionally, the decision may have encouraged other software developers to increase the prices of media players, because Microsoft's free media player is no longer integrated with the Windows operating system, an absence which creates a demand.

This would suggest that the main issue is the lack of clarity regarding the objectives of Article 102 TFEU and its prohibition where the consumer welfare objective is applied through a proxy of protecting the competition processes without differentiating between the protection of consumers and the protection of competitors. This was apparent as there was only a marginal role for the economic analysis of the interests of consumers in the tying claim.[644] Therefore, this thesis argues that consumer welfare should be the ultimate objective of EU competition law.

Due to the complexity of the case and the challenges of designing appropriate remedies that involve technical products, it would have been optimal if the Commission could have kept the case under review for an additional period, or accepted Microsoft's proposal of including three rival media players besides Windows Media Player in all new Windows PCs to let the consumer select the default player instead.[645] An alternative would be to adopt a similar remedy to that suggested in the US *Microsoft* anti-trust case, where consumers could choose their default media functionality from a screen;[646] this would have at least provided consumers with a non-degraded

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642 David S Evans, Albert L Nichols and Richard Schmalensee, 'United States v. Microsoft: Did Consumers Win?' (2005) 1 Journal of Competition Law and Economics 497.

643 Jean-Yves Art and Gregory VS McCurdy, 'The European Commission's Media Player Remedy in its Microsoft Decision: Compulsory Code Removal Despite the Absence of Tying or Foreclosure' (2004) 25 European Competition Law Review 694.

644 Helen Davison, 'CFI's Microsoft Ruling May Threaten R&D in Europe' (2007) 174 Managing Intellectual Property 27.

645 See Ian Ayres and Barry Nalebuff 'Going soft on Microsoft? The EU's antitrust case and remedy' (2005) The Economists' Voice 2.2; and Byron Acohido and Noelle Knox, 'Regulators Want Microsoft to Pull Media Player Out' USA Today, 25 March 2004, available at <https://usatoday30.usatoday.com/money/industries/technology/2004-03-25-msoft-cover_x.htm>.

646 *US v Microsoft Corp* 253 F.3d 34 (DC Cir 2001).

product and contributed in protecting the rivalry process in the software market.

5.3.4 Underestimating innovation

The *Microsoft* case raised some concerns about whether competition processes in high-technology markets, which are inherently imperfect, should be judged according to the logic of neoclassical perfect competition, since claims determined in high-technology markets will have an impact on the competition process in such markets.

It has become apparent through the discussion that the Commission and the GC followed a static effects-based approach toward assessing the technical tying abuse in the *Microsoft* case. This was particularly apparent in the static analysis of market power;[647] the Commission and the courts focused on market outcomes rather than anti-competitive conduct and penalized successful innovators while rewarding their competitors. This is due to the fact that the investigated actions are not those that created the dominant position, and it cannot be claimed that such actions represent monopolization or exclusion in themselves, especially as such actions are not considered abusive conducts when undertaken by firms that are not in a dominant position.[648] This consideration means that when a competitive action such as adding a media player with an operating system is viewed as benign by firms that are not in a dominant position, it is interpreted as abusive for a dominant firm. This could lead to other leading firms being reluctant to add innovative features to their products. Particularly, compelling Microsoft to untie the elements of an invention can be seen as weakening the protection offered by intellectual property rights, and by extension, the moral rights of the inventor.[649]

Equally important, under the static EU approach structure, is that there is no need for direct evidence of the impact of competition on a parameter such

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647 See section 4.3.2 of Chapter 4.

648 Daniel F Spulber, 'Competition Policy and the Incentive to Innovate: The Dynamic Effects of Microsoft v. Commission' (2008) 25 Yale Journal on Regulation 250.

649 Jean-Yves Art and Gregory VS McCurdy, 'The European Commission's Media Player Remedy in its Microsoft Decision: Compulsory Code Removal Despite the Absence of Tying or Foreclosure' (2004) 25 European Competition Law Review 694.

as innovation, nor it is a valid defence for an undertaking to allege that the Commission or the claimant did not establish the effects on innovation.[650] Accordingly, this leads to a potential conflict between the rewards of an investment leading to successful technology and between competition rules undermining the incentives to develop technologies in the first place, and restricts the incentives of third parties to do their own innovation, since they will be entitled to the communications protocols that the dominant firm has already expended in developing or will develop in the future.[651]

There are other factors that contribute to diminishing the incentive to innovate, and high-technology markets by their nature lack legal precedents. This consideration may have an impact on the firms' ability to predict whether their practices are violating the competition rules or not and whether an allegation concerning their innovative practices will be dealt with in a similar way to a traditional claim in the market. For instance, the Commission imposed a fine of EUR 497 million on Microsoft, which was the highest fine ever at that time imposed on an individual undertaking.[652] Although the practice of 'technical tying' emerged in the *Microsoft* case, and there had not been any previous similar cases, the GC refused Microsoft's argument that the infringement resulted from a new theory in law.[653]

Additionally, in view of the perception that competition policy interventions in dominant firms' policies assist other competitors, leading firms in high-technology markets may avoid pursuing technological innovation that may increase their market share, which has always been considered a tipping factor for governmental intervention, under which leading firms must adhere to procedures that promote the protection of competitors.[654] This includes more

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650 Pablo Ibáñez Colomo, Restrictions on Innovation in EU Competition Law (2016) European Law Review, 41, 201–219.

651 Joe Winterscheid, 'The EC Decision Against Microsoft: Windows on the World, Glass Houses, or Through the Looking Glass? An ABA Section of Antitrust Law Brown Bag Program' (30 June 2004) <http://people.ischool.berkeley.edu/~hal/Courses/StratTech07/Lectures/Antitrust/Recommended/Antitrust%20Source%20on%20EU%20Microsoft.pdf> accessed 20 June 2015.

652 Damien Geradin and David Henry, 'The EC Fining Policy for Violations of Competition Law: An Empirical Review of the Commission Decisional Practice and the Community Courts' Judgments' (2005) 1 European Competition Journal 401.

653 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-361, paras 1335, 1299.

654 see section… market share

fear of sanctions by dominant firms, in what could be considered as raising their rivals' costs, or predatory innovation, or raising switching costs or entry barriers to a large extent.[655]

Furthermore, some competitors will see such a strict policy towards dominant firms as an opportunity to demand that dominant firms reveal interoperability information, or initiate a case against the undertaking that is alleged to be abusing its dominant position, this could lead to more cases, which contributes to giving competitors more time to develop.[656] In particular, the defendant will temper its responses to other competitors' attempts at entry or expansion.[657] This is apparent through the examination of the *Microsoft* case, as many of the findings led various firms in the computer industry, such as Sun, AOL, and Netscape, to acquire many concessions and large amounts of money in settlement of claims against Microsoft.[658]

Excessive intervention in private firms' policies can lead to aggressive commercial conduct by a dominant undertaking. In particular, given the strict treatment of dominant firms in high-technology markets and the lack of a safe harbour in terms of developing their products and protecting their position in the market, dominant firms will pursue hidden anti-competitive practices.[659] For instance, it may lead a dominant firm to produce separate versions of a product, one with both features and two with each feature separately, instead of integrating two previously separate features into a single product.[660] In effect, this practice of dual release impacts innovation negatively, 'Where the cost of developing products through technological integration grows

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655 Adi Ayal, Fairness in Antitrust: Protecting the Strong from the Weak. Hart Studies in Competition Law (Hart Publishing 2014).

656 Christian Ahlborn and others, 'DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries' (2006) 4 <http://ec.europa.eu/competition/antitrust/art82/057.pdf> accessed 18 July 2014

See John Ratliff, 'Abuse of Dominant Position and Pricing Practices—A Practitioner's Viewpoint' [2003] European Competition Law Annual 427: '…if a dominant or leading firm makes a corresponding reaction towards a competitor's action or even if it reciprocates threatening practices of other competitors, accusations will follow…' (citing Padilla, A. J., and R. O'Donoghue, 'The law and economics of Article 82 EC' (2006) 494.

657 William E Kovacic, 'Designing Antitrust Remedies for Dominant Firm Misconduct' (1999) 31 Connecticut Law Review 1288.

658 David S Evans, Albert L Nichols and Richard Schmalensee, 'United States v. Microsoft: Did Consumers Win?' (2005) 1 Journal of Competition Law and Economics 497.

659 See Case COMP/C-3/37.990 Intel (2009) D (2009) 3726 final, para 1741: '…there is so much ingrained "bad habits" and inertia that has developed over the past decade (which has been hidden/tolerated because we've had a money printing machine with really no competition until recently)'.

660 Petri Kuoppamäki, 'Tying and Two-sided Digital Platforms' (ASCOLA Conference, Tokyo, 2015).

exponentially with the number of “unbundled” versions mandated by law. As a result, innovation may be artificially stifled and the competitive process unjustifiably thwarted’.[661]

Therefore, a reinterpretation towards an effects-based approach in high technology markets that can accommodate and match the technological integration standard in software markets is needed.

5.4 Suggested criteria for permissive technical integration

Discussing the *Microsoft* case has revealed the difficulties faced by competition authorities in regulating technical tying in the software market. However, what is perhaps most noticeable is the limited effect it has had in terms of providing legal certainty regarding the rights of manufacturers developing an integrated product without infringing competition rules under Article 102.

After analysing the EU approach in the Microsoft case, it has become apparent that the approach followed was a static effects-based approach that did not reflect adequately the economic aspect of the case. Therefore, in order to ensure a stable approach, the EU Commission should reflect an economic effects-based approach in its analysis to accommodate the particularities of the high-technology markets.

Accordingly, this thesis argues at this stage of research that the assessment of technical tying needs to be a case-by-case analysis to alter the strict policy toward technical tying that can lead to pro-competitive effects. This includes extracting criteria from the economic theories that have addressed technical tying in multi-sided markets. This reading was beneficial in determining if a technical tie is permissible under Article 102.

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661 Christian Ahlborn and others, ‘DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries’ (2006) 4 <http://ec.europa.eu/competition/antitrust/art82/057.pdf> accessed 18 July 2014 (citing Padilla, A J and R O’Donoghue, ‘The law and economics of Article 82 EC’ [2006] 494).

1. There is a need to consider the performance of both the tying and the tied product, which must be assessed with and without integration. This is can reflect the functional relationship of both products and what the integration brings to the consumers whether in terms of quality, speed or other benefits.

2. It must be determined whether there is another substitute that performs in the same way as the tied product, in the same conditions and with the same characteristics. This is important to determine if the tying product was designed to work only with the tied product or it permits functioning with other substitute products (i.e. multi-homing).[662] The Multi-homing option reflects the direct and indirect aims of any conduct in the market, especially in technical markets, where undertakings are capable of manufacturing products that can operate on other products, including third-party products.

3. There is a need to determine if multi-homing is costly or free.

4. An essential part of the process is considering the marginal cost of the products and its upgrade.[663]

5. It must be determined if the dominant firms that practice technical tying, interoperate widely in the market or not.

6. Verifying the entry conditions to the product market is fundamental and it must also be determined if there is a dominant company in the secondary market.

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662 Jay Pil Choi, 'Tying in Two-sided Markets with Multi-homing' (2010) 58 The Journal of Industrial Economics 610.

663 Jean Tirole, 'The Analysis of Tying Cases: A Primer' (2005) 1 Competition Policy International 3: '…treating tying as a predation test requires considering if the strategy is likely to discourage other competitors, induce exit or discourage entry, and the next step is to consider whether the dominant firm employs the strategy to raise its profit, or to impose losses on itself and its rivals, triggering the rivals' exit. If the latter, the analysis may be completed by a recoupment test, investigating whether the dominant firm is likely to make up through future monopoly power the shortfall in profit associated with the predatory practice'.

See Andrea Amelio and Bruno Jullien, 'Tying and Freebies in Two-sided Markets' (2012) 30 International Journal of Industrial Organization 436: '…an economic study that created adjustment between the different sides and stimulating the participation of one side of the market and increasing the profits of the other to determine when technical practices do not involve leveraging market power…'

These criteria are essential for a stable approach, because the Commission's aim is to protect competition in the market. However, this aim does not mean interfering with what other manufacturers bring to consumers and their development or packing strategies, especially because some harm to competitors is normal in competition, in particular towards inefficient rivals. Otherwise, this will lead to doubling the standards in the competition environment. Equally important is that competition rules are not designed to penalize the winners of competitive contests when their success is based on behaviour that creates efficiencies and benefits consumers.[664] Otherwise, a firm would not pursue innovation and investment. This was emphasized in the Kok Report, which was prepared in response to an initiative of the European Council: 'Companies will only invest in innovation and R & D if they have the certainty that they will be able to reap the rewards of that'

5.5 Conclusion

The previous chapter dealt with software market characteristics and analysed Microsoft's dominance as a prerequisite for establishing technical tying abuse under Article 102 (d) and in its entirety, according to the static effects-based approach. The first part of this chapter continued the analysis of the remaining requirements of the technical tying abuse that were established in the Microsoft case. The analysis highlighted that despite the economic effects-based approach being adopted, the followed approach in the Microsoft case tended to be more towards a static effects-based approach and did not consider adequately the circumstances of the case.

Technical tying was treated similarly to contractual tying; the assessment of the distinct-product requirement did not take into consideration some fundamental characteristics pertaining to high-tech markets, such as the nature and the functionality of the products. The coercion criterion was applied without distinguishing between forcing consumers to use only one product and providing consumers with an additional product in different packaging that would allow them to obtain additional products that operate with the first one.

664 Daniel L Rubinfeld, 'Antitrust Enforcement in Dynamic Network Industries' (1998) 43 Antitrust Bull 881.

Microsoft's technological tying was designed in such a way that each product would work properly with the alternatives offered by competitors and there was no distinction between providing consumers with one functionality and giving them an additional option but in different packaging. The foreclosure requirement that has been expressed significantly in contrast to previous cases constituted an important step towards an effects-based approach. Although it was applied generally, it is deemed sufficient for establishing a potential foreclosure, in that the integrated products foreclose competition in the tied software market. Lastly, the absence of objective justification requirement was considered significant.

The second part of this chapter discussed the implications of the Microsoft case, wherein it was demonstrated upon analysis that there have been some issues. After the Commission's decision the key considerations were; the neutrality of expertise, and the appropriateness of a remedy that provided consumers with degraded products and posed a substantial risk to intellectual property rights and the incentive to innovate. Finally, the last part of the chapter suggested criteria for determining a permissive technical tie.

CHAPTER 6: THE REFLECTION OF POST-CHICAGO IDEAS IN THE EFFECT-BASED APPROACH

6.1 Introduction

As has been discussed, the Commission adopted an effects-based approach that had been formulated and implemented in the area of Article 101 TFEU and mergers since the late 1990s and in Article 102 cases such as *Microsoft*.[665] However, to contribute to the process of introducing the effects-based approach under Article 102 TFEU, the Commission produced a guidance paper after the Microsoft case.[666]

The aims of this chapter are 1) to offer a perspective on the legal certainty with regard to the effects-based approach, which was formulated in the guidance paper as the latest authoritative step in the modernisation of Article 102 TFEU; 2) to clarify to what extent the static effects-based approach has been taken further through decisional practice, to identify the anticompetitive harm produced by the presumably abusive conduct, based on a thorough economic analysis; thus, highlighting the need for greater emphasis on consumer welfare. This is important since the authoritative interpretation of EU law remains within the remit of the ECJ in accordance with the TFEU.

Accordingly, this chapter is divided into two parts: section two discusses the framework set out in the guidance paper that outlines the effects-based approach toward assessing exclusionary abuses under Article 102; the question that arises here is whether the current approach in the Guidance really adopts a consumer welfare approach to the required extent and whether it is firmly anchored to economic goals. Then, section three explores the impact of the guidance paper in the decisional practice to determine if there is any

665 EU Commission, Antitrust: Guidance on Commission enforcement priorities in applying Article 82 to exclusionary conduct by dominant firms – frequently asked questions, MEMO/08/761, 2008. http://europa.eu/rapid/press-release_MEMO-08-761_en.htm?locale=en.

666 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7.

development in the EU's approach toward assessing exclusionary practices subsequent to the publication of the guidance paper.

In relation to the thesis as a whole, this chapter aims to demonstrate if the approach followed after the publication of the guidance paper, has any implication for the assessment of technical tying as an exclusionary practice in high technology markets.

6.2 The assessment framework

This section focuses on the guidance paper's assessment framework, which outlines the general approach to exclusionary conduct through the following elements: market power, foreclosure leading to consumer harm, and objective necessity and efficiencies.

6.2.1 Market power

As discussed in chapter two, the guidance paper will assess a firm as dominant if it is an undertaking that has substantial market power and does not face effective competitive constraints from other competitors over a period of time, usually two years, depending on the circumstances of the case. In particular, such power enables the dominant firm to profitably increase or maintain prices above the competitive level, or confers the ability to influence the pace of output or innovation as a parameter of competition for a significant period of time without dealing with effective competitive constraints.[667] The guidance also clarifies that the assessment of the dominant position of an undertaking is the first step in applying Article 102 TFEU and that the existence of market power in a certain market can be concluded from several quantitative and qualitative factors.[668]

667 See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ C 45/02 [2009], paras 10–12, footnote 6.
668 ibid, paras 9, 10.

6.2.1.1 Market share

The guidance paper pointed out that market share is considered a useful indication in the assessment of a dominant position and of the relative importance of various undertakings active in the market; however, the guidance also indicated that market share is to be interpreted in light of market structure, the market shares of the undertaking's competitor's, dynamics of the market and product differentiation; this includes distinguishing between a short-term dominant position and a long-term position in markets that are based on innovation.[669] The guidance paper also considered that dominance is not likely to be established if the undertaking's market share is below 40%, but there may be certain cases where market share is under this threshold, which may require attention.[670]

6.2.1.2 Barriers to expansion or entry

The guidance emphasised that barriers to expansion or entry are factors indicative of the existence of a dominant position.[671] Examining the barriers to entry requires a dynamic and long term view of the market structure, but the Commission and the European courts rarely treat barriers to entry as a vital factor; they usually state that barriers to entry are high or neglect them in the analysis.[672]

The guidance indicated that the Commission should consider the potential impact of expansion or entry by actual competitors or its threat, the expansion or entry must be considered to be likely, timely, and sufficient. The

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669 ibid, paras 12, 15.

670 ibid, para 14.

See the market share threshold before the modernisation process: Case 27/76 *United Brands v Commission* [1978] European Court Reports 207, para 108: 'a firm with a market share in the 40–45% range is dominant, this is especially if there is a gap between the market share of the potentially dominant company and the market shares of its competitors'; Case IV/D-2/34.780 Virgin/British Airways [1999] OJ 2000 L30, para 88: 'British Airways was found to be in a dominant position with a market share of less than 40%'; Case 85/76 *Hoffmann-La Roche & Co AG v Commission* [1979] ECR 461, para 41: 'high market share which is over 50% or in the range of 80–90%, which has been held over a period of time is considered strong prima facie evidence of a dominant position; in particular when the dominant position is involved with other factors such as the volume of production and the scale of supply'; Case C-62/86 AKZO *Chemie BV v Commission* [1991] ECR I-3359, para 61: 'a company holding a market share of 50% or more of the relevant market is generally perceived to be dominant, next to certain factors such as the company predominance in the market and the financial strength of the company's competitors, including the ability of controlling prices'.

671 Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 16.

672 Justyna Maliszewska-Nienartowicz, 'The abuse of the dominant position within the internal market of the European community: From theoretical to practice' (2007) 3 Interdisciplinary Management Research 437.

Commission considers: an entry or expansion to be likely when it is profitable for the potential competitors or entrants; and to be timely when it is capable of deterring the exercise of substantial market power and not impossible for firms to enter or expand within a short time at a sufficient scale. For expansion or entry to be sufficient, it must be capable of deterring any attempt to increase prices by the dominant firm in the relevant market and not merely a small-scale entry.[673] An expansion or entry will not be sufficient, if the dominant firm is an unavoidable trading partner or even has the ability of independent pricing to a large extent.[674]

The effect of the Harvard School[675] is evident in the guidance where various factors that form barriers to entry into the market by other competitors correspond closely to the Bainian approach.[676] These barriers take various forms: legal such as tariffs or quotas; barriers which take the form of advantage: such as economies of scale and scope. The scope where large-scale production provides the allegedly dominant firm an advantage over other actual and potential competitors as it can spread a one-time investment over a larger quantity of products, lowering its average cost[677]. Other factors include prevailed access to essential input and important technologies; established distribution and sales networks.[678] further investment costs that must be committed in order to enter the market, such costs cannot be restored at market exit.[679]

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673 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 16.

674 Case 85/76 *Hoffman-La Roche v Commission* (1979) ECR 461, para 41: 'An undertaking which has a very large market share and holds it for some time, by means of the volume of production and the scale of the supply which it stands for – without those having much smaller market shares being able to meet rapidly the demand from those who would like to break away from the undertaking. That which has the largest market share, by virtue of that share, is in a position of strength, which makes it an unavoidable trading partner and which, already because of this security, at the very least during relatively long periods, that freedom of action is the special feature of a dominant position.'

675 Joe Bain, 'Industrial Organization' (2nd edn, John Wiley & Sons, Inc 1968) 252.

As discussed previously in section 2.2.2, Bain defines entry barriers as those factors that allow existing firms to raise prices without inducing entry.

676 Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 17.

677 Mortiz Lorenz, An Introduction to EU Competition Law (CUP 2013) 199.

678 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 17.

679 Case 27/76 *United Brands v Commission* [1978] ECR207, para 91.

6.2.1.3 Other factors

The guidance paper emphasised additional factors that are related to the competitive structure of the market and the competitive constraints that need to be considered in the assessment of a dominant position. These factors include constraints imposed by the bargaining strength of the undertaking's customers (countervailing buyer power), which can lead to a situation where a dominant firm is unable to act to an appreciable extent independently due to the commercial significance of the buyer powers, or the customers' size or even their ability to switch to other competitors.[680]

In addition, the guidance neglected some factors that have been cited in case law for measuring market power. For instance, examining accounting profits can be a poor proxy, since they do not equate to monopoly profits; a firm can be particularly profitable due to superior performance, and, conversely, low profits and losses can be an indication of poor performance and are not necessarily related to a dominant position in the market.[681] Therefore, it should be noted that although the Commission in the guidance paper provides some recognition of the dangers of relying solely on market share as an indicator of dominance and included crucial factors in assessing the market power. However, in contrast to the considerable weight given to the market share indication, which in turn might indicate that the current approach is still attached to the traditional assessment methods that are based on market share, the guidance did not determine how much weight should be given to the additional factors and particularly to the barriers to entry or expansion.

The Commission did not adopt the correct position by stipulating a wide definition of barriers to entry. Although this approach applies to legal barriers, it is considered to be a wide approach and associated with lots of problems.

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680 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, paras 12, 18.
See Commission decision, Case COMP/37.990, Intel, OJ C 227/13, para 886: 'However, throughout its argumentation on buyer power, Intel ignores the fundamental element in its relationship with OEMs, namely the fact that it is an unavoidable trading partner for them: OEMs depend on Intel for what is the most important single hardware component in their computers. As such, Intel is a must-stock brand'.

681 J Faull and A Nikpay, The EC Law of Competition (2nd edn, OUP 2007) 327; Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, footnote 7.

Considering entry is more critical, because the new entrant must make radical investments to enter the market, it is controversial because increasing the risk of entry does not suggest that the costs of entry are necessarily greater for the newcomer. This is the case because the incumbent firm must take a risk to enter the market too, unless its entry is supported by the state.[682]

Also, the current approach to barriers does not apply accurately to other factors that cannot be viewed as barriers.[683] Nor does it allow a consideration of the interacting factors of certain features in high technology markets that were proved to alter the result of the traditional economic models when applied to these markets.[684] For instance, contrary to neo-classical economics, in barriers to entry that take the form of sunk costs or R&D investments, firms can recoup sunk costs by fixing prices.[685] Behavioural economics shows that competition authorities run a risk of type I errors (false positives) in reaching findings of dominance on account of high entry barriers. Empirical analysis indicates that in certain industries, firms often enter markets that are protected by high barriers.[686]

6.2.2 Anti-competitive foreclosure and consumer harm

After outlining the assessment of dominance, the Commission turned to clarifying its approach to foreclosure that harms consumers in an exclusionary conduct claim. The guidance stipulates that the Commission has a responsibility to safeguard the competitive process[687] and states the importance of protecting the competition process and not protecting competitors who deliver less to consumers in terms of price, choice, quality,

682 Giorgio Monti, 'The Concept of Dominance in Article 82' (2006) 2 (Sup1) European Competition Journal 31–52.

683 See Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* (Vitamins) 1979 ECR 461, para 51: 'the possession of know-how and intellectual property' and Case 322/81 *Nederlandsche Banden Industrie Michelin v Commission* [1983], para 58: 'technological lead over competitors'.

684 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued [2009] OJ C45/7, para 20.

685 Nicolas Petit and Norman Neyrinck, 'Behavioural Economics and Abuse of Dominance: A Proposed Alternative Reading of the Article 102 TFEU Case-law' (The Global Competition Law Centre Working Papers Series 2010) 7, citing Mark Armstrong and Steffen Huck, 'Behavioural Economics as Applied to Firms: A Primer' (2010) 6 Competition Policy International 28.

686 ibid 7.

687 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 6.

and innovation.[688] The Commission should intervene under Article 102 TFEU on the basis of 'cogent and convincing evidence' when the allegedly abusive conduct is capable of impairing an effective competition process by foreclosing competitors in an anti-competitive way leading to an adverse impact on the consumer, 'whether in the form of higher price levels than would have otherwise prevailed or in some other form such as limiting quality or reducing consumer choice.'[689] This implies that the maximisation of consumer welfare occurs by protecting the competitive process itself.[690] The Commission should apply 'an indirect consumer welfare test' to determine whether a practice is abusive or not and therefore whether it causes harm to the consumer. Consumers could be harmed by a practice that harms an effective competition process in the market by leading to higher prices, lower innovation, limited quality, and narrower consumer choice. This means that the effects of the practice on the different parameters of competition are drawn only at a subsequent stage, and they rely heavily on an analysis by proxy.[691]

The guidance stated that the analysis is usually made by comparing the prevailing conditions in the relevant market with an appropriate counterfactual, where the practice does not occur.[692] In addition, the relevant factors that influence the likelihood of foreclosure such as the market power of the dominant firm position, the conditions of the relevant market, the position of the customers or input suppliers, possible evidence of actual foreclosure, direct evidence of any exclusionary strategy, should be considered. This

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688 ibid, para 6.

689 ibid, para 20.

See also para 19: '"anti-competitive foreclosure" is used to describe a situation where effective access of actual or potential competitors to supplies or markets is hampered or eliminated as a result of the conduct of the dominant undertaking whereby the dominant undertaking is likely to be in a position to profitably increase prices to the detriment of consumers. The identification of likely consumer harm can rely on qualitative and, where possible and appropriate, quantitative evidence. The Commission will address such anti-competitive foreclosure either at the intermediate level or at the level of final consumers, or at both levels'.

690 Richard Whish and David Bailey, Competition Law (8th edn, OUP 2015) 20.

Neelie Kroes, 'European Competition Policy – Delivering Better Markets and Better Choices', SPEECH 05/512, London, 15 September 2005: 'protecting competition in the market as a means of enhancing consumer welfare and ensuring an efficient allocation of resources'.

691 See Guidance on the Commission's enforcement priorities in applying Article 102 to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ, paras 6, 11.

692 ibid, para 21

See Cento Veljanovski, 'Counterfactual Tests in Competition Law' (2010) 4 Competition Law Journal, available at https://ssrn.com/abstract=1714706 or http://dx.doi.org/10.2139/ssrn.1714706: 'a counterfactual is a test for causation that evaluates a practice or outcome in comparison to some alternative and to isolate the effect of the impugned conduct'.

includes the duration and the regularity the allegedly abusive conduct occurred, this is in addition to the factors that relate to a specific practice.[693]

In addition, the Commission in its analytical framework of exclusionary practice distinguished implicitly between two categories of practices in terms of intervention and following an effects-based approach. With regard to price-based exclusionary abuses, the Commission will only intervene when the practice concerned has already or is capable of eliminating or hampering the effective access of efficient competitors to the market[694] .This approach adopts the 'equally efficient competitor test' to determine whether the practice hampers competition.

With regard to practices abusive by nature, the Commission expressed some exceptions regarding the intention to follow an effects-based approach, and thus has the authority to follow another approach in some circumstances where there is no need for a detailed assessment of whether the conduct is likely to cause harm to the consumer. For example, when the dominant firm: prevents its customers from trying other competitors' products; or provides them with financial incentives on condition that they do not test such products; or pays a distributor or a customer to delay the introduction of a competitor's product.[695]

The rationale behind these guidelines is to demonstrate that the guidance paper adopts a wide concept of foreclosure that does not distinguish between the protection of competitors and the protection of the competition process itself. Despite the presumption of any foreclosure of competitors is harmful to the consumer, it is a highly problematic concept since there are instances where efficient practices by dominant firms can lead to efficiency and increase consumer welfare while at the same time exclude some

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693 See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 20: 'the strength of the dominant position, the conditions in the relevant market barriers of entry and expansion, economies of scale and/or scope, and network effects; the position of the dominant undertaking's competitors and the position of the customers, or input suppliers'.

694 ibid, para 23.

695 ibid, para 22.

competitors. These instances can occur in high technology markets, where the competition process is fierce and has different features from other relevant markets, such as rapid changes and temporary dominant positions.

However, the guidance did not provide a clear definition of consumer welfare or distinguish it from allocative efficiency, and it is not clear what weight should be given to the consumer welfare goal.[696] This is because the concept of consumer harm covers restraints that affect competition. Accordingly, this standard of consumer welfare is compelling for two main reasons: there is no requirement for direct harm to consumers, and the Commission can determine consumer harm from a detrimental effect on the structure of the market.[697] Similarly, the Commission could reject the proposition that some practices did not infringe Article 102, because they did not harm consumers and accordingly cast significant doubts on whether consumer welfare is an objective of the EU competition rules.[698]

Notwithstanding the abovementioned difficulties, the guidance also indicated that the concept of consumers 'encompasses all direct or indirect users of the products affected by the conduct'.[699] From this point of view, such a rule can be misleading in many cases since the intermediate users might be actual or potential competitors of the dominant undertaking. Therefore, it would be optimal if there was a distinction between the actual consumers and other users that might be competitors of the undertaking under investigation.

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696 Francis Kieran, 'A Separation of Powers Approach to Non-efficiency Goals in EU Competition Law' (2013) 19 European Public Law Journal 189–208.

697 Alex Potter and Simon Constantine, 'Europe: Where Monopolists Fear to Tread: EU's Abuse of Dominance Rules and their Impact on Commercial Policy Setting by US Companies' (2009) 24 The Antitrust 78.

698 Anne C Witt, 'The Commission's Guidance Paper on Abusive Exclusionary Conduct – More Radical than it Appears?' (2010) 35 European Law Review 214: 'the tone of guidance is not as assertive and welfare-based as may be expected compared to Article 101 and merger-control guidelines'.

699 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 19, footnote 2:

'The concept of "consumers" encompasses all direct or indirect users of the products affected by the conduct, including intermediate producers that use the products as an input, as well as distributors and final consumers both of the immediate product and of products provided by intermediate producers. Where intermediate users are actual or potential competitors of the dominant undertaking, the assessment focuses on the effects of the conduct on users further downstream'.

Under the relevant factors in the assessment of the likelihood of foreclosure, the guidance does not clearly indicate the relationship between the general criteria and the other relevant factors for each particular type of exclusionary conduct, especially the individual market condition.[700] Neither does the guidance indicate how the general factors relate to consumer harm that arise from the foreclosure. Indeed, the Commission adopts a static concept of foreclosure.

Although the guidance paper provides 'the equally efficient competitor test' to determine whether the practice hampers competition, by foreclosing other competitors that are as efficient as the dominant firm, such test only applies to price-based practices, It also does not guarantee a level of legal certainty for some firms in certain industries; such as, the high technology market as fast-moving innovation markets, where it is difficult for dominant firms to know which competitors are efficient and which are not. It is also not always possible to identify whether a new competitor in the market is able to be as efficient as the main competitor, especially, when the cost structures are less favourable as they enter the market.[701] Additionally, the guidance can provide protection to less efficient competitors, as it stated that 'the Commission recognises that in certain circumstances a less efficient competitor may also exert a constraint which should be taken into account when considering whether particular price-based conduct leads to anti-competitive foreclosure'.[702] This consideration implies that the Commission has a wide authority in moving from an economic approach to a structural approach.

700 Ariel Ezrachi, Article 82 EC: Reflections on its Recent Evolution (Hart Publishing 2009) 161.

701 Frédéric Marty, 'Towards an Economics of Convention-based Approach of the European Competition Policy' (2015) 40 Historical Social Research 94.

702 James Killick and Assimakis Komninos, 'A Missed Opportunity: Why The Guidance Paper Does Not Increase Predictability or Advance the Debate' (2009) 2 Concurrences. Review 23; Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 24.

6.2.3 Objective necessity and efficiency in establishing exclusionary abuse

After the Commission indicated its approach toward the assessment of dominance and the foreclosure effect by an abusive conduct, they considered the last element in an exclusionary abuse claim: the objective justification.

In comparison to Article 101(1) TFEU, where a restrictive agreement can be exempted if it satisfies the conditions under Article 101(3) TFEU, Article 102 does not the prohibit or provide an exemption nor an equivalent provision.[703] Therefore, a dominant firm cannot avoid the application of Article 102 TFEU simply by claiming that the abusive behaviours (by effect) did not have an exclusionary effect or that other competitors remained on the market, rather it needs to justify its practice. A dominant firm can escape the prima facie finding of infringement by showing that the harm is implausible and arguing that the practice is not capable of having anticompetitive effects, and further by explaining that the practice serves a pro-competitive rationale or that it is a source of efficiency gains that outweigh any negative effects.[704]

Noteworthy is that in both types of exclusionary abuses, a dominant undertaking can justify that its practice is objectively necessary on the ground of efficiencies.[705] The Guidance clarified that a dominant firm could justify its practice by showing that it was ‘objectively necessary’ or by showing that it ‘produces substantial efficiencies which outweigh any anti-competitive effects on consumers’. The Commission will also assess whether the practice is indispensable and proportionate to the goal allegedly pursued by the dominant firm.[706]

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703 See Case 6–72 *Continental Can v Commission* [1973] ECR 215, para 25:
‘Article 102 does not contain the same explicit provisions, but this can be explained by the fact that the system is fixed for dominant positions, unlike Article 101 (3), does not recognise any exemption from the prohibition. With such a system the obligation to observe the basic objectives of the Treaty, in particular that of Article 3 (f), results from the obligatory force of these objectives. In any case Articles 101 and 102 cannot be interpreted in such a way that they contradict each other, because they serve to achieve the same aim’.

704 Pablo Ibáñez Colomo, ‘Measuring competitive harm against the relevant counterfactual’ LSE & College of Europe. Chillin' Competition. Oxford Antitrust Symposium, 24–25 June 2017.

705 Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 30.

706 ibid, para 28.

6.2.3.1 The objective necessity defence

The notion of objective necessity has been referred to in various instances in early competition law judgments. However, objective necessity has been considered in a very narrow way in the relevant case law. The guidance has implied that the conduct that is objectively necessary and proportionate must be determined according to external factors unrelated to the dominant firm.[707] This requirement refers to reasons outside the dominant firm's control. For instance, a legitimate public interest for health and safety related to the product may be a concern, noting that it is usually the task of public authorities to set and enforce public health and safety standards.[708]

6.2.3.2 The efficiency defence

The guidance implied that a dominant firm could justify their abusive practices if their conduct produces substantial efficiency that outweighs any negative effects on consumers.[709] Specifically, the dominant firm must show with an adequate degree of probability and based on verifiable evidence that the following cumulative conditions are fulfilled: Firstly, the efficiencies have been, or are likely to be, realized as a result of the practice. Secondly, the practice is indispensable to achieve the efficiencies and there must be no fewer anti-competitive choices to produce the same efficiency. Thirdly, the likely efficiencies achieved by the practice must outweigh any likely negative effects on consumers; and fourthly, effective competition is not eliminated, in respect of a substantial part of the product concerned.[710]

See Maurits Dolmans and Thomas Graf, 'Analysis of Tying under Article 82 EC: The European Commission's Microsoft Decision in Perspective' (2004) 27 World Competition 225: 'The proportionality test is the central filter in the application of Article 102. It allows the resolution of a conflict between diverging legitimate interests by taking into account all the specificities of a particular case'.

707 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 29.

708 ibid, para 29.

See Case T-30/89 *Hilti v Commission* [1990] ECR II-163, paras 118, 119; Case T-83/91 *Tetra Pak v Commission* ('Tetra Pak II') [1994] ECR II-755, paras 83, 84.

709 See Case C-95/04 P British Airways v Commission [2007] ECR I-2331, paras 106, 86 (allocative efficiency); Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, paras 41, 42; Case C-52/09 TeliaSonera [2011] ECR I-527, para 76;

Microsoft, Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 709 (dynamic efficiency).

710 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7, para 30.

Consequently, the EU approach does not provide a clear standard of what should be considered an objective justification. For instance, the Commission in the guidance paper distinguished between two types of objective justification whereas the case law has considered some other justifications as a third type, such as protecting commercial interests.[711] Also, the Commission provides a limited scope for a dominant firm to justify their alleged abusive practices. The objective necessity should only be considered when it is unrelated to factors of the dominant firm. Significantly, the approach toward efficiency justification is very hard to achieve in reality. Unlike Article 101(3), efficiency under Article 102 is not considered based on what makes the practice anticompetitive, when the practice has been defined as abusive, a negative concision already considered, efficiency is only a secondary concern; it can be argued that the practice increases efficiency, which has to be proved as a defence by the dominant firm.[712] Also, the efficiency justification functions as a denial defiance

Additionally, the first requirement of the efficiency justification relates to the fact that "the efficiencies have been, or are likely to be, realized", but this can be impossible to achieve in high technology markets where long term efficiency is not achieved directly. Potentially dominant firms are not likely to be able to assess ex ante if their practices are lawful since they may not have the adequate information to determine if other competitors may enhance their efficiency in the absence of their own practices.[713]

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711 For more details on objective justification in case law, see Albertina Albors-Llorens, 'Role of Objective Justification and Efficiencies in the Application of Article 82 EC' (2007) 44 The Common Market L Rev 1727.

See Hans W Friederiszick and Linda Gratz, 'Hidden Efficiencies: On the Relevance of Business Justifications in Abuse of Dominance Cases' (2015) 11 Journal of Competition Law and Economics 671: 'A vital reason why there has not been adequate consideration and a transparent discussion of business justifications may be related to the predominant use of commitment decisions. Many decisions that have been made under Article 102 with regard to justification were considered as commitment decisions'.

See also EC Decision of 13 December 2011 in Case COMP/39692 IBM Maintenance Services; EC Decision of 20 December 2012 in Case COMP/39230 Rio Tinto Alcan; EC Decision of 16 December 2009 in Case COMP/ 39530 Microsoft (Tying); EC Decision of 22 June 2005 in Case COMP/39116 Coca-Cola.

712 Pinar Akman, 'The Tests of Illegality under Articles 101 and 102 TFEU' (2016) 61 The Antitrust Bulletin 84. See the opinion of Jacobs AG in Case C-53/03 *Synetairismos Farmakopoion Aitolias & Akarnanias and others v GlaxoSmithKline AEVE* (Syfait) [2005] ECR I-4609: 'the two-stage analysis suggested by the distinction between "abuse" and "objective justification" is somewhat artificial: the more accurate view is that "certain types of conduct on the part of a dominant undertaking do not fall within the category of abuse at all"'.

713 Pinar Akman, 'The Reform of the Application of Article 102 TFEU: Mission Accomplished?' (2016) Antitrust Law Journal 14.

The last requirement of not excluding competition means that even a desirable practice of a firm that creates efficiencies could still be prohibited. It will be assumed that the condition for consumers getting a fair share of the benefit is not satisfied when a firm occupies a dominant position, as often occurs in high technology markets where quasi-monopoly positions remain for a certain period.[714]

More importantly, the Commission remains unwilling to recognise efficiency justifications since many of them were related to dynamic efficiency, a factor rarely considered in case law and requiring a strict burden of proof. This is despite the fact that European regulators intended to emphasise other goals over allocative efficiency, during the development of competition rules and their implementation.[715] A sliding scale was introduced aimed at maintaining effective competition, based on the structuralist approach, to justify other objectives over consumer welfare, with a focus on protecting the competition process to justify other goals.

Therefore, such an imbalanced process between the low burden of proof in proving the existence of a likely foreclosure by the Commission and the limited scope of justification by the dominant firm leads to a more biased impact on the competitive process, with smaller firms and less efficient competitors having an advantage against highly competitive firms. In effect, this may lead to the condemnation of pro-competitive practices (i.e. type 1 errors). Accordingly, the following section will review the extent to which the effects-based approach has been taken further through the decisional practice of the ECJ in recent cases. The ensuing discussion will aim particularly to establish, with an economic analysis, the anticompetitive harm produced by the presumably abusive conduct.

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714 John Temple Lang and Andrea Renda, 'Treatment of Exclusionary Abuses under Article 82 of the EC Treaty, Comments on the European Commission's Guidance Paper' (Final Report of a CEPS Task Force 2009) (CEPS) Centre for European Policy Studies 38.

715 Antonio Cucinotta, Roberto Pardolesi and Roger Van den Bergh, Post-Chicago Developments in Antitrust Law (Edward Elgar Publishing 2002) 34: 'regulators and courts resort to economic theories in order to confine antitrust initiatives to efficiency goals rather than prioritizing alternative goals such as equitable wealth distribution or the protection of smaller competitors from their larger rivals'.

6.3 The effect based approach in the CJEU's case law

This section identifies recent developments, post-*Microsoft* and the publication of the guidance paper, by reviewing how the ECJ dealt with some recent abuse claims. This discussion will describe developments in the EU Commission's approach where potential anticompetitive effects are required for any practices to be deemed as abusive, depending if the practice is abusive by its nature or according to its effects.

6.3.1 TeliaSonera

The *TeliaSonera* case[716] is a reference for a preliminary ruling, where the opposing parties are the Swedish competition authority and TeliaSonera Sverige AB ('TeliaSonera'). In this case, the ECJ adopts the equally efficient competitor test (AEC) in a margin squeeze case, emphasising that there is a need to take into account the prices and costs of the undertaking concerned on the retail services market, and where it is not possible to refer to those prices and costs, examining the prices and costs related to other competitors in the relevant market is needed; for example, when the cost structure of the dominant undertaking is not precisely specifiable, or where the particular market conditions of competition dictate it.[717]

The ECJ implies that margin squeeze practices are capable of constituting an abuse through assessing the anticompetitive effects of the practice and determining that there has to be evidence of potential anticompetitive effects. This effect does not have to be concrete; it will be adequate to show that there is an anti-competitive effect that may potentially foreclose rivals that are at least as efficient as the dominant undertaking.[718] The ECJ implied that products need to be established in order to assess the effects of the margin squeeze by determining if the wholesale product is indispensable in order for a competitor to supply the retail product.[719] In such

716 Case C-52/09, *Konkurrensverket v TeliaSonera Sverige* AB [2011] ECR I-527

717 ibid, paras 45, 46.

718 ibid, paras 31, 64.

719 ibid, paras 69–70.

circumstances, the potential anti-competitive effect of a margin squeeze has to be probable. This approach includes the necessity of determining the level of margin squeeze of competitors at least as efficient as the dominant undertaking.[720]

In addition, the ECJ also held that there would be an abusive margin squeeze by Swedish telecoms operator TeliaSonera in the broadband market if the pricing practice was used to exclude other competitors from the market; in particular, when they are as efficient as the dominant firm but with limited resources that prevent them standing the competition waged against them.[721] If there has not been any impact on the situation of other competitors, a margin squeeze practice will not be considered as an exclusionary practice, especially if the entry of other competitors in the market is not highly influenced by the practice.[722] Some other factors have no relevance, such as the degree of dominance in the market concerned, or the ability to recoup any losses suffered as a result of applying the pricing practice, or that the markets concerned are growing rapidly and involve new technology.[723]

The main issue in this case was the objective justification by TeliaSonera. Objective justification was not established, as the ECJ held that the assessment of the economic justification for the margin squeeze established by a dominant firm, which is capable of producing an exclusionary effect, is to be made on the basis of all the circumstances of the case.[724] Accordingly, in contrast to the guidance paper, the court argued that *Bronner* conditions in the assessment of legality of the incumbent's conduct were not to be applied due to 'the particular circumstances of this case.[725] The ECJ court implied that even

720 ibid, paras 71, 73.

721 ibid, para 40.

722 ibid, para 66.

723 ibid, paras 82, 95, 103, 111.

724 ibid, paras 75, 76.

725 Case C-7/97 *Bronner v Mediaprint* [1998] ECR I-7791, para 41: 'not only that the refusal of the service comprised in home delivery be likely to eliminate all competition in the daily newspaper market on the part of the person requesting the service and that such refusal be incapable of being objectively justified, but also that the service in itself be indispensable to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for that home-delivery scheme'.

if the conditions of the refusal have not been established, the act would be considered abuse, otherwise this will reduce the effectiveness of Article 102:

> *… if Bronner were to be interpreted otherwise, in the way advocated by TeliaSonera, that would, as submitted by the European Commission, amount to a requirement that before any conduct of a dominant undertaking in relation to its terms of trade could be regarded as abusive the conditions to be met to establish that there was a refusal to supply would in every case have to be satisfied, and that would unduly reduce the effectiveness of Article 102 TFEU.*[726]

The ECJ also held that 'Article 102 TFEU must be interpreted as referring not only to practices which may cause damage to consumers directly but also to those which are detrimental to them through their impact on competition'.[727] The ECJ also emphasised that Article 102 is one of the competition rules that is necessary for the functioning of the internal market to prevent any distortion toward the competition process 'to the detriment of the public interest, individual undertakings and consumers, thereby ensuring the well-being of the European Union'. Therefore, the generation of consumer welfare occurs through protecting the competition process.[728]

Noteworthy is that the AG implied that claiming an abusive margin squeeze merely due to insufficient spread between wholesale and retail prices, irrespective of the indispensability of the input, is an incorrect approach.[729] The guidance paper emphasised that:

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726 Case C-52/09, *TeliaSonera v Konkurrensverket AB* [2011] ECR I-527, para 58.

727 ibid, para 24.

728 ibid, paras 21, 22.

See Case C-280/08 *P Deutsche Telekom AG v Commission* ('Deutsche Telekom') [2010] ECR I-09555, paras 176, 180; see para 174: 'prohibiting the abuse of a dominant position in so far as trade between Member States is capable of being affected, Article 82 EC refers to the conduct of a dominant undertaking which, on a market where the degree of competition is already weakened precisely because of the presence of the undertaking concerned, through recourse to methods different from those governing normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition'.

See also Case C-280/08 P Deutsche Telekom AG v Commission [2010] ECR I-09555, para 233: 'Such equality of opportunity implies that, as efficient competitors should be also on equal footing in the relevant markets'.

729 Opinion of Advocate General Mazak in TeliaSonera delivered on 2 September 2010 para 16 in Case C-52/09, *TeliaSonera v Konkurrensverket AB* [2011] ECR I-527.

> *Instead of refusing to supply, a dominant undertaking may charge a price for the product on the upstream market which, compared to the price it charges on the downstream market, does not allow even an equally efficient competitor to trade profitably in the downstream market on a lasting basis (a so-called 'margin squeeze').*[730]

The AG implied that imposing a duty to deal with a dominant undertaking is no different from imposing a duty to deal with particular wholesale and retail prices (margin squeeze). Therefore, charging a price (margin squeeze), which prevents an as-efficient competitor from competing downstream, operates in effect as a refusal to deal.[731] As a result, there should be an identical framework of analysis and the general concerns about the incentives of dominant undertakings to invest should apply.

Significantly, the TeliaSonera case demonstrated that the assessment framework of margin squeeze in the guidance paper is not in line with the Commission's assessment, wherein it has been determined that the margin squeeze could occur without the wholesale price necessarily being excessive or the retail price being predatory; additionally, the wholesale product need not even be indispensable to the retail product. Accordingly, this causes uncertainty to market players.[732]

6.3.2 Post Danmark I

This case concerns a reference for a preliminary ruling by decision between the Danish competition council and Post Danmark: it was alleged that Post Danmark had abused its dominant position on the Danish market for the distribution of unaddressed mail by practising a targeted policy of price reductions (selective price cuts) in order to induce its customers' loyalty. Post Danmark appealed against this decision, claiming that the prices offered might

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730 See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ C45/7, para 80.

731 Opinion of Advocate General Mazak in TeliaSonera delivered on 2 September 2010, para 16 in Case C-52/09, *TeliaSonera v Konkurrensverket AB* [2011] ECR I-527.

732 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, [2009] OJ C45/7, para 80, See Case C-62/86, *AKZO Chemie BV v Commission* [1991] ECR I-3359, paras 71–72: 'The Commission usually apply the AKZO test toward pricing abuses where a comparative analysis of prices and costs determine that prices below average variable costs should be considered as abusive and eliminatory intent is assumed, whereas prices below average total cost but above average variable cost are considered as abusive if they are determined intentionally to eliminate other competitors'.

be considered abusive only if an intention to drive a competitor from the market could be established.[733]

In this regard, the ECJ initially distinguished between competition on merit and abusive behaviour by indicating that Article 102 does not forbid a firm from acquiring on its own merit a dominant position in the market nor does it protect less inefficient competitors. Additionally, competition on merit may lead to the departure from the market or marginalisation of less efficient competitors or their being less attractive to consumers from the point of view of price, choice, innovation, or other factors.[734] Article 102 applies in the practices of the dominant firm that "has the effect, to the detriment of consumers, of hindering the maintenance of the degree of competition existing in the market or the growth of that competition''.[735]

The ECJ disagreed with the Danish legal position, ruling that it could not be established that Post Danmark had deliberately tried to drive out competitors. The court refused to consider a dominant firm's pricing practice itself to be an exclusionary abuse merely because of the form of the practice.[736] Significantly, the ECJ treated price cuts differently from previous cases that considered price cuts as prima facie abusive (i.e. abusive by nature). The Court departed from this approach in *Post Danmark I* and held that this practice is not in itself contrary to Article 102 TFEU.[737] Therefore, the ECJ ruled that in order to determine whether a dominant undertaking has abused its dominant position by its pricing practices (predatory pricing taking the form of price cuts), it is necessary to consider all the circumstances and perform a cost-based analysis to determine the legality of the low prices by

733 Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, paras 8, 17

734 Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, paras 21, 22.

735 ibid, para 24.

736 ibid, para 29.

See para 30: 'Contrary to the line of argument put forward by the Danish Government, "charging different customers or different classes of customers different prices for goods or services whose costs are the same or, conversely, charging a single price to customers for whom supply costs differ, cannot of itself suggest that there exists an exclusionary abuse"'.

737 Pablo Ibáñez Colomo, 'Beyond the "More Economics-Based Approach": A Legal Perspective on Article 102 TFEU Case Law' (2016) 53 Common Market Law Review 709–740.

See Case T-228/97, Irish Sugar v Commission, EU:T:1999:246 and Joined Cases C-395/96 P and C-396/96 P, *Compagnie Maritime Belge Transports SA, Compagnie Maritime Belge SA and Dafra-Lines A/S v Commission*, EU:C:2000:132.

demonstrating that, the prices charged by the relevant firm are predatory within the meaning of the AKZO case.[738]

The ECJ treated actual exclusionary effects as relevant to the analysis regarding the legality of price cuts, and as evidence that the conduct was not abusive; the court clarified that the alleged abusive practice had not excluded or marginalised Forbruger-Kontakt, who managed to maintain its distribution network despite losing the volume of mail related to the three customers involved and managed to win back two of these customers.[739] The ECJ, also, confirmed that regarding the dominant firm the existence of an objective justification is capable of producing actual or likelihood exclusionary effects that harm competition and thereby consumers' interests.[740]

This case is significant because of the way the ECJ reiterated the AKZO test with regard to the cost benchmarks that can be used and the position where prices are between average total costs and average variable cost, but the intent to foreclosure element was not shown.[741] In particular, the ECJ focused on the concrete evidence of foreclosure by considering that the extent to which a dominant undertaking sets its prices at a level covering the bulk of the costs attributable to the supply of the goods, it will, as a general rule, be possible for a competitor as efficient as that undertaking to compete with those prices without suffering losses that are unsustainable in the long term.[742] Also, the ECJ considered that firms are free to compete aggressively on prices so long as they are sufficient to recoup costs.[743] The dominant firm could argue that its conduct is objectively necessary for its practice, but it may be liable under Article 102, where 'the exclusionary effect produced may be counterbalanced, outweighed even, by advantages in terms of efficiency that also benefit consumers'.[744]

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738 Case C-209/10 Post *Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, paras 26, 41.

739 ibid, para 39.

740 ibid, para 44.

741 Alison Jones and Brenda Sufrin, EU Competition Law: Text, Cases, and Materials (6th edn, OUP 2016) 391.

742 Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, para 38.

743 Pablo Ibanez Colomo, 'The Law on Abuses of Dominance and the System of Judicial Remedies' (2013) 32 Yearbook of European Law 389.

744 Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, paras 40–43:

Therefore, it seems that the Commission's purported effects-based approach has many similarities with the approach of the post-Chicago school of thought. In particular, both of them pursue consumer welfare as an objective by protecting the competition process. However, they have a different stance towards price cuts, which are alleged to be abusive by nature as according to previous cases and require an actual effect and full analysis.

6.3.3 *Post Danmark II*

The ECJ *Post Danmark II* case[745] involved a request for a preliminary ruling regarding the interpretation of Article 102 concerning a retrospective rebate scheme implemented by Post Danmark, which had a statutory monopoly on the distribution of letters, including in the case of bulk mail, inter alia, direct advertising mail, mail weighing up to 50 grams.

The ECJ initially distinguished between a quantity discount, which is generally linked to the volume of purchases from the manufacturer and not liable to infringe Article 102, and between a loyalty rebate or target discount, which involves preventing consumers from obtaining their requirements from competing manufacturers, and is thus an abuse under Article 102.[746] The ECJ then indicated that the concerned rebates in this case are not granted in respect of each individual order, but rather on the basis of the aggregated orders placed over a given period and where customers were not required to obtain all or most of their requirements from Post Danmark. Hence, it is ultimately immaterial to classify the concerned rebate as a traditional category of rebate; the important consideration is the exclusionary effects that the rebate is capable of producing on the relevant market.[747]

Therefore, the ECJ held that in order to determine whether a rebate scheme by a dominant firm is 'capable' of having an exclusionary effect on the

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'It is for the dominant undertaking to show that the efficiency gains likely to result from the conduct under consideration counteract any likely negative effects on competition and consumer welfare in the affected markets, that those gains have been, or are likely to be, brought about as a result of that conduct, that such conduct is necessary for the achievement of those gains in efficiency and that it does not eliminate effective competition, by removing all or most existing sources of actual or potential competition'.

745 Case C-23/14, *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651.

746 See Case T-203/01 *Manufacture Française des Pneumatiques Michelin v. Commission* [2003] ECR II-4071, para 58; Post Danmark II, paras 27–28; Case 549/10 P *Tomra Systems ASA and Others v European Commission* (19 Apr. 2012), para 46 (Tomra) .

747 Case C-23/14, *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651, paras 27–9.

market, there is a need to examine the circumstances of the case. Specifically, the assessment depends on whether the practice tends to: make it difficult for customers to obtain supplies from competing undertakings; make market entry very difficult; make it more difficult or impossible for the co-contractors of that undertaking to choose between various sources of supply or commercial partners. The rules govern the grant of the rebates, the extent of the dominant position concerned and the nature of competition prevailing on the relevant market.[748] Regarding these factors, the ECJ held that the pressure exerted upon the co-contractors of the dominant firm with a relatively long reference period had the inherent effect of increasing the pressure on the buyer to reach the purchase figure needed to obtain the discount, leading to a reduction of the customers' freedom of choice especially given the high market share of Post Danmark that constitute 95%.[749]

In contrast to previous cases, the ECJ recognised that the AEC may, 'on principle', be a relevant proxy in rebate cases under Article 102 TFEU, as it held that that the AEC test was one tool amongst others for determining the existence of an abuse of a dominant position. The court argues that it was difficult to expect an "as-efficient competitor" to emerge in the relevant market, also the presence of a less efficient competitor will increase_the competitive pressure on that market and, may exert a constraint on the conduct of the dominant undertaking. Similarly, the ECJ clarified that the comparison of prices and costs, is not a prerequisite for finding that a retrospective rebate scheme by a dominant firm constituted an abuse under Article 102.[750]

In comparison to the 'as efficient competitors test' (AEC test) as a standard in assessing pricing abuses in the guidance paper, the court of justice indicated that in this case, where high barriers exist and a dominant firm leverages statuary monopoly, the AEC test is irrelevant.[751] This is in line with

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748 Case C-23/14, *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651, para 29.

749 ibid, 34, 40.

750 ibid, paras 56, 58, 59, 60, 61.

751 See para 57 of Case C-23/14 *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651: 'as the Advocate General stated in points 61 and 63 of her Opinion, it is not possible to infer from Article 82 EC or the case-law of the Court that there is a legal obligation requiring

the AG *Kokott* opinion, where it was implied that it is not possible to infer from Article 102 or the case law of the CJEU, that there is a legal obligation requiring a finding to the effect that a rebate scheme operated by a dominant undertaking is abusive, based on the AEC test. Indicating that the AEC test in rebate scheme cases could be a recourse for the purposes of examining their compatibility with Article 102.[752]

In addition, the ECJ emphasised that it is not necessary to establish an appreciability (*de minimis*) threshold to determine if there is an abuse of a dominant position since the practice, by its very nature, is 'liable to give rise to not insignificant restrictions of competition', and that it is sufficient to demonstrate that the anticompetitive effects of the rebates scheme by a dominant undertaking are 'probable' and not purely hypothetical effects, as the aim is to determine whether the practice produces an actual or 'likely exclusionary effect'.[753] The ECJ made an important and explicit reference regarding the attributability of the anti-competitive effects to the dominant firm; it held that: 'should the referring court find that there are anticompetitive effects attributable to Post Danmark, it should be recalled that it is nevertheless open to a dominant undertaking to provide justification for behaviour liable to be caught by the prohibition set out in Article 102'.[754] This means that the dominant firm should show causation through comparing prevailing competitive conditions with an appropriate counterfactual where the conduct does not occur.[755]

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a finding to the effect that a rebate scheme operated by a dominant undertaking is abusive to be based always on the as-efficient-competitor test'

See Lars Kjolbye, Christos Malamataris and John Wileur, 'Main developments in abuse of dominance enforcement' (2015) 1 Competition Law & Policy Debate.

See also Nicolas Petit, 'Rebates and Article 102 TFEU: The European Commission's Duty to Apply the Guidance Paper' (2016) 2 Competition Law & Policy Debate: 'This issue is not a positive law issue but instead a substantive one, consists in determining whether the standard of antitrust liability affirmed in Post Danmark II contradicts or differs from the one affirmed in the Guidance Paper's section on loyalty rebates, with the result that the Commission should revise or rescind its Communication in relation to loyalty rebates'.

752 András Tóth, 'CJEU Judgement in Post Danmark II: Role of the Economic Evidence in Competition Cases' (2015) European Networks Law and Regulation Quarterly, Lexxion, 266.

Available at SSRN: https://ssrn.com/abstract=2745794

Opinion of AG Kokott, 21 May 2015, in Case C-23/14 *Post Danmark A/S v Konkurrenceråd* .

753 Case C-23/14, *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651, paras 65–69, 71–74.

754 ibid, para 47.

755 ibid, para 49 and para 48: 'a dominant undertaking may demonstrate that the exclusionary effect arising from its conduct may be counterbalanced, or outweighed, by advantages in terms of efficiency which also benefit the consumer'.

Although the ECJ distinguished between the types of rebates and provided more clarity, the ECJ did not provide a unified mechanism on applying the ACT on rebates schemes, nor the specific threshold. Equally important, the ECJ has confirmed that the Guidance Paper AEC's test can be applied in loyalty rebate cases dealt with by the Commission, because the Commission can set for itself stricter standards than those found in the Article 102 TFEU case-law. This self-binding effect must be applied to the other "rules of practice" found in the Guidance Paper, such as the requirement to establish anticompetitive foreclosure and consumer harm in all exclusionary conduct cases[756]

6.3.4 Intel

In the *Intel* case, the judgment of the general court was annulled by the judgement of the ECJ in September 2017. The ECJ found the GC had erred in examining Intel's agreement and thus referred it back for reconsideration. Before the annulment, the EU Commission fined Intel €1.06 billion Euros for abuse of a dominant position on the market for X68 central processing units (CPUs). This was for engaging in rebates conditional on exclusivity and other practices that let other computer manufacturers buy Intel CPUs, excluding other competitors from the computer chip market.[757] The GC affirmed the Commission's finding and rejected Intel's argument that the ECJ abandoned the distinction between exclusivity rebates and rebates falling within the third category from previous cases. In addition, the GC expressed that 'exclusivity rebates and naked restriction granted by an undertaking in a dominant position are abuses by object, as by their very nature, they are capable of restricting competition'. They also found that the AEC test was not required and it would consider Intel's practices of using rebates as an abuse of dominant position, even if the test had demonstrated that the practice of rebates is not capable of excluding competition.[758]

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756 Nicolas Petit, 'Rebates and Article 102 TFEU: The European Commission's Duty to Apply the Guidance Paper' (2015) available at SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2695732.

757 Case COMP/C-3/37.990 – Intel [2009] /C 227/07

758 Case T-286/09 *Intel Corp v Commission* [2014] ECLI: EU:T:2014: 547, paras 86, 97, 209; and Case T-286/09 *Intel Corp v Commission*

In this regard, the approach of the General court has not only been highly criticised for being attached to the European court's formalistic approach of case law and applying a *per se* prohibition on conditional rebates,[759] but also the ECJ demonstrated that despite the dominant firm having a special responsibility not to allow their practices to distort competition, this does not mean that dominant firms cannot compete on merit. Not all types of price fixing may be regarded as illegitimate, as the concern is toward efficient competitors only because competition on merit may lead to fewer efficient competitors or less attractive to consumers in view of price, quality, or innovation.[760]

Consequently, the ECJ refused to apply a form based approach (a per se prohibition on abusive by object), as it held that a dominant firm should be allowed to submit 'during the administrative procedure' supporting evidence that the conditional rebate was not capable of restricting competition and producing the alleged foreclosure.[761] Additionally, the ECJ held that the Commission is required to analyse additional factors beyond merely the extent of the undertaking's dominant position on the relevant market; such as, the share of the market covered by the challenged practice, the conditions for granting the rebates, and their duration and amount. These factual factors are not sufficient, as there is a necessity to assess 'the possible existence of a strategy aiming to exclude competitors that are at least as efficient as the dominant undertaking from the market'.[762]

[2014] ECLI: EU:T:2014: 547, para 150:

'It is true that a negative result means that it is economically impossible for an as-efficient competitor to secure the contestable share of a customer's demand. In order to offer a customer compensation for the loss of the exclusivity rebate, that competitor would be forced to sell its products at a price which would not allow it even to cover its costs. However, a positive result means only that an as-efficient competitor is able to cover its costs (in the case of the AEC test as carried out in the contested decision and proposed by the applicant, only the average avoidable costs). That does not, however, mean that there is no foreclosure effect'.

See Case T-286/09 *Intel Corp v Commission* [2014] ECLI: EU:T:2014: 547, para 116; note para 81: 'It follows from Hoffmann-La Roche, paragraph 71 above that that type of rebate constitutes an abuse of a dominant position if there is no objective justification for granting it. The Court of Justice did not require proof of a capacity to restrict competition depending on the circumstances of the case'.

759 Damien Geradin, The Decision of the Commission of 13 May 2009 in the Intel Case: Where is the Foreclosure and Consumer Harm? 3 (Tilberg Univ. Working Paper Series, 2009).

760 Case C-413/14 P, *Intel Corp. v European Commission* [2017] ECLI:EU:C:2017:632, paras 133, 143, 135, 136.

See Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, para 21.

761 Case C-413/14 P, *Intel Corp. v European Commission* [2017] ECLI:EU:C:2017:632, para 138.

See Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23; para 21.

762 Case C-413/14 P, *Intel Corp. v European Commission* [2017] ECLI:EU:C:2017:632, para 138:

This includes the capacity of a system of rebates, which generally falls within the scope of the prohibition laid down in Article 102 TFEU, to foreclose. A dominant firm can objectively justify it and outweigh what arises from a system of rebate; the exclusionary effects that are disadvantageous for competition are to be counterbalanced by advantages in terms of efficiency that benefits the consumer.[763] In addition, there is a need to consider the validity of the Commission's findings concerning the foreclosure capability of the rebates; the efficient competitor test plays an important role in the assessment.[764]

Although the ECJ used the term capability with its approach, which appears aligned with an effects based approach, the ECJ did not distinguish or expressly determine that the threshold of capability should apply to 'by object' abuses, where harm is presumed and the threshold of likelihood, applies to 'by effect' cases where effects needs to be established on a case-by-case basis.[765] Noteworthy is that AG Wahl provided valuable suggestions in his opinion within the judgment of the general court in *Intel*. These considerations are outlined as follows:

- Considering the capability as threshold in the assessment to ascertain if the practice has an anti-competitive foreclosure effect, and where a high probability threshold should be set; in particular, likelihood must be considerably more than a mere possibility that a certain practice may restrict competition.[766]
- The practice should be considered in light of 'all the circumstances whether such rebates are capable of having anticompetitive effects, except quantity rebate that are presumed to be lawful case'.[767]

'Balancing of the favourable and unfavourable effects of the practice in question on competition can be carried out in the Commission's decision only after an analysis of the intrinsic capacity of that practice to foreclose competitors who are at least as efficient as the dominant undertaking'.

763 Case C-413/14 P, *Intel Corp. v European Commission* [2017] ECLI:EU:C:2017:632, para 140.

764 Case C-413/14 P, *Intel Corp. v European Commission* [2017] ECLI:EU:C:2017:632, para 141, 142.

765 See Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23, Para 44 and Case C-23/14, *Post Danmark A/S v Konkurrencerådet* (Post Danmark II) EU:C:2015:651, Para 69.

766 Opinion of Advocate General Wahl, Case C-413/14 P *Intel Corporation Inc v Commission*, [2016] EU:C:2016:788, para 84, 117.

767 Opinion of Advocate General Wahl, Case C-413/14 P *Intel Corporation Inc v Commission*, [2016] EU:C:2016:788, para 89, 82, 112–1221.

- As far as ‘by object’ practices are concerned, capability is presumed, in the sense that the authority or claimant need not establish it under Article 102 TFEU; failing to meet the threshold of capability, they are not prohibited under this provision. The same is true in the context of Article 101 TFEU.[768]

- The assessment should consider the particular context of the impugned conduct to ascertain whether it is capable of having an anticompetitive effect; this is especially important if there are any doubts regarding the anticompetitive nature of the behaviour, such as the coverage of the practice, duration, market performance, as well as legal and economic context of the impugned conduct. These must first be examined to exclude any other plausible explanation for that conduct. [769]

- In the given assessment, the scrutiny is more or less intense depending on the probability of an anticompetitive effect. A more in-depth analysis would be required where the likelihood of an anticompetitive effect cannot be immediately established. For example, practices that reveal a ‘sufficient degree of harm’ on competition have less intense scrutiny, but a case-by-case assessment with a fully-fledged assessment of the practice of anticompetitive effect cannot be immediately established. Noting the AEC test should not be ignored.[770]

In general, it seems that AG Wahl’s proposal with regards to efficiency contributes to a constant approach under the EU rules and particularly a more stable effects-based approach, despite the use of traditional methods in the assessment. However, the proposal suggests a fully-fledged analysis when harm is not significant, meaning more analysis is required. It appears not to be

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768 Pablo Ibáñez Colomo, ‘The Future of Article 102 TFEU after Intel’ (2018). Available at SSRN: https://ssrn.com/abstract=3125468 or http://dx.doi.org/10.2139/ssrn.3125468, p10.

769 Opinion of Advocate General Wahl, Case C-413/14 P *Intel Corporation Inc. v Commission*, [2016] EU:C:2016:788, para 135–160

770 Advocate General Wahl’s Opinion in Case C-413/14 P *Intel v Commission* [2016] ECLI:EU:C:788, paras 117–120, 288, 169

See Pablo Ibáñez Colomo, ‘Beyond the “More Economics-Based Approach”: A Legal Perspective on Article 102 TFEU Case Law (2016) 53 Common Market Law Review; LSE Legal Studies Working Paper No. 09/2016, 709: ‘this implies that some practice is put on a par with cartels, vertical price-fixing and parallel trade restrictions, that are prima facie prohibited irrespective of the impact they have on the market. Whereas, other practices are put on a par with agreements that are presumed to pursue a ‘legitimate objective’ and which include selective distribution, franchising or technology licensing.’

clearly indicated what the difference is between the analysis of the practices where harm is revealed at an earlier stage and between the fully-fledged analysis where harm is not proven. This might give the Commission a wide discretion in moving away from an effects-based approach

After reviewing the theoretical framework of the guidance paper and the recent cases under Article 102, important limitations need to be highlighted:

Firstly, the guidance paper has failed to clarify its resources in the future; such as what effect enforcement priorities will have, and which abusive conducts are prioritised over others in enforcement when causing consumer harm.[771] There appears to be instances in the guidance that can be seen more as acts of systemising the current approach rather than modernisation of the approach. For instance, the guidance paper attempted to reconcile the formalism of some old case law with economic theories by giving a strong rhetorical position to the special responsibility notion in the beginning of the guidance, by imposing a self-assessment of their practices without having a safe harbour, which will lead to less freedom to compete and more protection towards other competitors, even if some of them are 'as efficient as the dominant firm'.[772] Therefore, it would be optimal for the notion of special responsibility not to be included in the proposed economic approach. Its inclusion would prevent dominant firms from competing effectively for the benefits of consumers.

Secondly, the Commission should formulate a consumer welfare approach that assesses practices according to their direct impact on consumer welfare. Such an assessment is necessary to reflect the economic objective of an effects-based approach considering consumer welfare, and to consider both short term and long-term efficiencies. Considering consumer welfare indirectly will only enable competition authorities to capture the short term perceptive of consumer welfare, whereas considering the direct impact on

771 Liza Lovdahl Gormsen, 'Why the European Commission's Enforcement Priorities on Article 82 EC Should be Withdrawn' (2010) 31 The European Competition Law Review 45–55.

772 Case C-280/08 P Deutsche Telekom AG v Commission [2010] ECR I-09555; para 233: 'equality of opportunity implies that, as efficient competitors should be also on equal footing in the relevant markets'.

consumers will enable competition authorities to capture consumer interests in the short term and the long term; particularly dynamic efficiency that is considered as being the engine of fast-moving innovation markets.

Thirdly, consumer welfare standards which condemn practices that reduce the welfare of buyers should be differentiated from the 'aggregate economic welfare standard' which condemns practices that decrease the sum of the welfare of both consumers and producers without giving consideration to wealth transfers; the latter approach thus leads to inefficient economic practices that usually harm consumers, since in most cases the sellers are firms and other competitors.[773] This implies a parallel approach to consumer harm under Article 101 and the merger guidelines to protect competition on the market for the benefit of consumers, and foreclosure would be considered anti-competitive, if it was found to lead to direct consumer harm.[774]

Fourthly, the EU commission should provide guidelines with regard to the assessment of the relevant market, which was not addressed in the guidance paper, and should also furnish additional criteria toward the assessment of market power in high technology markets, where some criteria necessitates more consideration. This was not addressed adequately in the current approach.

Fifthly, it is apparent that the EU approach depends on a variety of legal and economic sources that change constantly, which makes it difficult to expect that all rulings will be inspired by the same encompassing logic or similar treatment for similar practices. In particular, the rationale underlying some rulings might hint at a particular understanding of the discipline, whereas others may be interpreted as reflecting another, possibly a conflicting approach to competition law issues.[775]

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773 Steven C Salop, 'Question: What is the Real and Proper Antitrust Welfare Standard-Answer: The True Consumer Welfare Standard' (2009) 22 Loyola Consumer Law Review 336.

774 European Commission, Guidelines on the application of Article 81(3), 27 April 2004 OJ C 101 para 24; Non-horizontal Merger Guidelines, OJ [2008] C 265/6 ('Art 81(3) Guidelines'), para 18.

775 Pablo Ibáñez Colomo, 'Beyond the "More Economics-Based Approach": A Legal Perspective on Article 102 TFEU Case Law' (2016) 53 Common Market Law Review 709.

Therefore, it is difficult to affirm that a stable approach has been provided by the EU competition authorities. The Commission may be pursuing an effects-based approach in some cases; nevertheless, it does not really advocate the 'pure' convention of the effects-based approach;[776] in such cases, practices can be prohibited if an exclusionary effect is shown. This is clear from the language, employed by the EU courts, which is not aligned with one standard of probability.[777] The case law is rife with formulaic statements, such as that the conduct of a dominant undertaking does not need to have 'a concrete effect on the markets concerned' or an 'actual effect', but that it is sufficient to establish an abuse that the impugned conduct that 'tends to restrict competition', 'capable of having the effect', or 'liable to foreclosure'.

Sixthly, the assessment of the risk of foreclosure should not merely reflect 'a likelihood of foreclosure'. Therefore, to determine whether a reasonable likelihood of foreclosure that leads to consumer harm exists, criteria from the AG Wahl proposal, and AG Kokott, which suggested that the threshold must be more likely than is absence, should be considered.[778]

Lastly, in order to guarantee a balanced approach on the sliding scale, it would be optimal to include efficiencies in the primary analysis and during the assessment of dominance. This approach will guarantee consideration into the same type of practice that can have efficiency enhancing and foreclosure effects.[779] This requires applying competition rules in a way that favours dynamic efficiency that stimulates economic growth and meets the needs of the consumer.[780] Otherwise, the relevance of efficiency justifications in abuse

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776 See Frédéric Marty, 'Towards an Economics of Convention-based Approach of the European Competition Policy' (2015) 40 Historical Social Research 94.

777 Massimiliano Kadar, 'The meaning of anti-competitive effects under Article 102 TFEU' (2016) 4 CPI Antritrust Chronicle 2.

See Nicolas Petit, The Advocate General's Opinion in Intel v Commission: Eight Points of Common Sense for Consideration by the CJEU (November 24, 2016) Concurrences Review, forthcoming. Available at SSRN: https://ssrn.com/abstract=2875422:

778 See the opinion of AG Kokott, Case C-23/14 Post Danmark II ECLI:EU:C:2015:343, para 82: 'According to settled case-law, it is necessary but also sufficient that the rebates in question can produce an exclusionary effect. (54) This is the case where, on the basis of an overall assessment of all the relevant circumstances of the individual case, the presence of the exclusionary effect appears more likely than its absence'. See Frank H Easterbrook, 'The Limits of Antitrust' (1984) 63 Texas L Rev 1, in particular at 14–17.

779 Neeie Kroes, 'Preliminary Thoughts on Policy Review of Article 82' (Speech at the Fordham Corporate Law Institute, New York, 23 September 2005).

780 Marcus Glader, Innovation Markets and Competition Analysis: EU Competition Law and US Antitrust Law: New Horizons in Competition Law Economics (Edward Elgar Publishing 2006).

of dominance cases may remain limited as long as the EU Commission does not reconsider its position on fixed-cost efficiencies and the strict standard of proof for dynamic efficiencies.[781]

6.4 Conclusion

This chapter offered a perspective on the effects-based approach that was produced in the guidance paper as the latest authoritative step in the modernisation toward Article 102 TFEU and discussed the extent of its development in decisional practice, particularly by the ECJ.

The analysis highlighted that the Guidance paper on Article 102 TFEU is considered to some extent to contribute to the continuing debate on the adoption of an appropriate approach to Article 102 TFEU, and on placing more emphasis on an economic approach with consumer welfare as a key objective. The Guidance provided a vague analytical framework by adopting a static approach in establishing an abuse of dominance under Article 102, which does not adequately accommodate some features in certain markets. Importantly, there are no clear standards with regard to consumer harm that differentiate sufficiently between the protection of competition and the protection of competitors; and, more importantly, a very strict approach toward justifying alleged abusive behaviours by dominant firms.

The analysis also revealed that the EU approach in the case law cannot be characterised as a unified effects-based approach that can accurately distinguish between anti-competitive competition and competition on merit. For instance, the certainty about the exact boundaries and the objective of Article 102 TFEU; in particular enhancing consumer welfare that tends to rely on an analysis by proxy, is not well founded, which leads to protecting competitors over consumers in some instances. In addition, important factors were

781 Hans W Friederiszick and Linda Gratz, 'Hidden Efficiencies: On the Relevance of Business Justifications in Abuse of Dominance Cases' (2015) 11 Journal of Competition Law and Economics 690.

considered in a general way, while less important factors were considered in more detail.

For a practice to constitute an abuse, it is usually sufficient to demonstrate that there is a risk of it restraining competition, without the need to prove a reasonable threshold at which the practice is capable of producing such effect.

Therefore, this thesis argues that, in order to have a stable EU approach under Article 102, which can be applicable to both traditional and high technology markets, there is a need for a refinement of the current approach and re-interpretation of some of its criteria in order to provide a nuanced approach that considers adequately the effects of the practices on consumers. Such an approach is based on a unified theory of both the law and economic theory and with a similar treatment to practices in the market to ensure the required legal certainty.

Accordingly, a new refined approach will be suggested in the following chapter.

CHAPTER 7: AN INNOVATION APPROACH TOWARDS TECHNICAL TYING

7.1 Introduction

The analysis of the previous chapters has revealed that although the EU Commission has adopted an effects-based approach under Article 102, there are considerable indications that legal certainty is under pressure and the current applicable approach under Article 102 has left unanswered questions and disputed issues that may arise in future cases.

This is particularly apparent when the effects-based approach has been applied to technical tying in the software market without adequately accommodating the particularities of the software market, as a fast-moving innovation market. The Commission employed static tools, which only identify the software market in a limited way. Additionally, the innovation consideration, as a fundamental parameter of the competition process in the innovation market, has been considered only indirectly. The analysis also revealed that, although there have been some developments in the decisional practice, it has been difficult to identify a stable and unified approach of the effects-based approach, particularly toward providing a reasonable threshold of anti-competitive effects and a clear objective of EU competition rules.

This chapter initially provides a discussion on the relationship between innovation and dominance, to provide a detailed understanding of the incentives for dominant firms to innovate. Then the current EU approach under Article 102, Article 101 and under merger control, toward tackling innovation considerations are reviewed and how the EU competition rules can take more account of the impact of practices on innovation is discussed in in section three. Lastly a more 'economic theory of law' based approach towards assessing technical tying claims in fast-moving innovation markets is suggested in section four.

The aim of the chapter is to identify the important factors that should be considered under the EU competition approach to consider the innovation consideration from a multi-dimensional view of the competition process and

suggest a more ‘economic theory of law’ based approach.

7.2 Dominance, innovation and types of competition

As has been demonstrated in chapter four, the competition process in high-technology markets, in particular software markets, has unique characteristics that differentiate it from other competition processes in other markets. In essence, the competition in such markets is based on innovation. There are two main approaches toward the relationship between innovation and market power, the Arrow effect and the Schumpeter effect:

Arrow and other economists[782] deny the importance of monopolies in increasing the innovation process in certain markets. They argue that a monopolist has less incentive to innovate than a competitive firm. This is based on the pure gains and the dominant firm’s financial interests from the innovative investment, presuming that innovation gives the firm a discrete advantage in securing an exclusive right to the innovation.[783] As the promptness of this approach considers that a dominant firm has less to gain and fears most the loss of its monopoly. They argue that the dominant firm has an interest in protecting its market power in the market and will not jeopardise it by adopting a technology that may, in the short-run, threaten its position, whereas other competitors have little fear from a disruption with limited earnings.[784] This is also clarified in their view of why switchover disruptions can be radical in such cases. Disruptive innovation occurs when existing products or processes are replaced, such as an online platform; this is in contrast to incremental innovations that improve pre-existing attributes in order to meet the minimum standards for compliance, such as the smartphone

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782 Richard Blundell, Rachel Griffith and John Van Reenen, ‘Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms’ (1999) 66(3) The Review of Economic Studies 529.

783 Partha Dasgupta and Joseph Stiglitz, ‘Uncertainty, industrial structure, and the speed of R&D’, (1980): The Bell Journal of Economics, 1–28.

See Kenneth Arrow, ‘Economic Welfare and the Allocation of Resources for Invention: The Rate and Direction of Inventive Activity: Economic and Social Factors’ (Princeton University Press 1962) 609.

784 Thomas J Holmes, David K Levine and James A Schmitz Jr ‘Monopoly and the incentive to innovate when adoption involves switchover disruptions’ (2012) American Economic Journal: Microeconomics 4.3, 29.

industry.[785]

The Arrow approach also argues that the established dominant firms often fail to dominate in the new technological era due to the rapid changes and consumer's preferences.[786] For instance, if a competitor has the same innovation, it would earn more because it would expect to take away much of the business previously conducted by rival firms. This limitation on the incentive for the monopolist to innovate is often termed the 'Arrow effect' or the 'replacement effect', which occurs when innovation replaces the monopolist's old profit stream with a new profit steam. In contrast, the replacement effect should be less for a competitive firm. [787]

The Arrow approach provides a possible reason why dominant firms are sluggish innovators; however, this thesis argues that the Arrow approach does not provide adequate evidence to support this. Arrow's models are based on a paradox, in which certain types of competition prevail and in particular a price competition in the product market, with or without technological uncertainty.[788] Trivial alterations in different economic models affect Arrow's results, such as barriers to entry, the ability of firms to receive funding from external sources, and the scales of investments needed for R&D in specific industries, including a policy of non-intervention in the market playing an important role.[789]Arrow's model also focuses on dominant firm incentive without sufficient consideration to other market player incentives or fear. This is especially since other competitors face a smaller replacement effect that reduces their incentive to innovate, especially with markets that offer differentiated products. [790]

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785 Jacques Pelkmans and Andrea Renda, 'Does EU regulation hinder or stimulate innovation?' (2014). Centre for European Policy Studies, Special Report No. 96, 2.

786 Timothy F Bresnahan, Shane Greenstein and Rebecca M Henderson, 'Schumpeterian Competition and Diseconomies of Scope: Illustrations from the Histories of Microsoft and IBM' in The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 203–271.

787 Gilbert, Richard J Gilbert, 'Competition and innovation' (2006) Journal of Industrial Organization Education 1.1: There is also a replacement effect for society since invention replaces one value stream with another. The difference in the value of R&D follows from differences in socially optimal and monopoly outputs.

788 Vincenzo Denicolo and Flavio Delbono, 'Does Monopoly Promote Innovation? A Theoretical Vindication of the Schumpeterian Hypothesis' (1992) Working Papers 134, Dipartimento Scienze Economiche, Universita di Bologna, 21.

789 Michal S Gal and Spencer Weber Waller, 'Antitrust in High-Technology Industries: A Symposium Introduction' [2012] Journal of Competition Law and Economics, 3.

790 Gilbert, Richard J Gilbert, 'Competition and innovation' Journal of Industrial Organization Education 1.1 (2006): There is also a replacement effect for society since invention replaces one value stream with another. The difference in the value of R&D follows from differences in socially optimal and monopoly outputs.

Therefore, a dominant firm is unlikely to jeopardise their market power by adopting a new technology that contradicts the combinatorial nature of the competition process in high technology markets where components in such markets depend on others and where all market players need to innovate constantly to remain in the market and compete.

In contrast, the neo-Schumpeterian approach is based on Joseph Schumpeter's view that a monopoly firm achieves an innovative advantage that paves the way for additional technological development.[791] In particular, dominant firms have more capabilities and resources than smaller firms to fund large R&D projects and are more willing to pursue more investments by virtue of their head start compared to other competitors who lack an established base and would not be capable of marketing their products as successfully as dominant firms.[792] This indicates that Schumpeter's hypothesis is not merely about a positive correlation between market power and innovation. Schumpeter asserts that market structure and innovation are related when the financial sector can reallocate capital efficiently to areas of highest value that are borne out by the innovation.[793]

The neo-Schumpeterian approach suggests that competition occurs when every innovation leads either to the destruction or addition of a new element called 'creative destruction', which is considered as an essential element of capitalism.[794] In this process, innovation revolutionises the economic structure from within, continuously destroying old industries and creating new ones.[795] In effect, motivating the dominant firm to continue innovating to create the 'killer product' or service that will achieve market leadership.[796] This is due to their strong incentive to act pre-emptively,

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791 Robert Ciborowski, 'Innovation systems in the terms of Schumpeterian creative destruction, (2016) EUREKA: Social and Humanities 4:

see Joseph A Schumpeter, Capitalism, Socialism and Democracy (Rutledge 2013).

792 Jonathan Baker, 'Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation' (2007) 74 Antitrust Law Journal 578.

793 Tom Nicholas, 'Why Schumpeter was right: innovation, market power, and creative destruction in 1920s America (2003) 63.4: 'The Journal of Economic History: 1055.

794 Joseph A Schumpeter, Capitalism, Socialism and Democracy (Harper 1975, orig pub 1942) 82–85.

795 Atilano Jorge Padilla, 'The Role of Supply-Side Substitution in the Definition of Relevant Markets in Merger Control' (Paper prepared for DG Enterprise A/4, NERA 2001) 75.

796 David S Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' (National Bureau of Economic Research, No w8268, 2001)

because of the threat of creative destruction, which looms in the product market. In this situation innovators are rewarded with large profits.[797]

This occurs when the entrepreneurial function becomes absolute and where old innovations and technologies also become obsolete by new innovations, and technical progress increasingly goes to other firms in large enterprises. In Schumpeter's view, the capitalist practice surrounds itself with 'crumbling walls'.[798] As a result, this leads to growth related to a conflict between the new innovations and the old one.[799] Competition that is generated through product innovation results a monopoly and it is in the DNA of capitalism, which is not being destroyed by its failure but by its successes. Capitalism as an evolutionary process, which is creative even in its self-destruction.[800] Additionally, what keeps the motion of the capitalist engine moving comes from inside the market; new methods of production or new forms of industrial organisation that the capitalist enterprises create.[801] It elevates the entire economy, but at the same time destroys what is outmoded and unprofitable, since capitalism cannot survive without industrial revolutions neither progress without creating short-term losers next to its winners. [802]

The Schumpeterian perception follows a more common sense idea, as every market player must protect its position in the market by innovating and developing its products, especially in terms of R&D competition determined predominantly by innovation and high investments, achieved by firms with high capabilities. This Schumpeterian view has been supported by recent empirical evidence that identified a positive relationship between market power and the intensity of innovation, and where incumbents may have a technological

797 Tom Nicholas, 'Why Schumpeter was Right: Innovation, Market Power, and Creative Destruction in 1920s America' (2003) 63(04) The Journal of Economic History 1055.

798 Horst Hanusch and Andreas Pyka, eds, 'Elgar companion to neo-Schumpeterian economics' Edward Elgar Publishing, 2007, 302.
See Gert-Jan Hospers, 'Joseph Schumpeter and his legacy in innovation studies.' Philosophy & Technology 18, no 3 (2005): such movements will not cause destruction of what Shumpter called 'crumbling walls' of the capitalist building.

799 Philippe Aghion and Ufuk Akcigit, ' Innovation and Growth: The Schumpeterian Perspective' in Richard Blundell, Estelle Cantillon, Barbara Chizzolini, Marc Ivaldi, Wolfgang Leininger, Ramon Marimon, Laszlo Matyas and Frode Steen, eds. *Economics without Borders: Economic Research for European Policy Challenges* (Cambridge University Press 2017) 8

800 John Bellamy Foster, 'Theories of capitalist transformation: critical notes on the comparison of Marx and Schumpeter', The Quarterly Journal of Economics 98.2 (1983) 329

801 Rafael Alves de Almeida, Market Dominance in the New Economy. Revista Direito GV 2/2 (2006) 75

802 J Bradford DeLong, 'Creative destruction's reconstruction: Joseph Schumpeter revisited', The Chronicle of Higher Education 54.15 (2007)

advantage in the R&D activity.[803] For instance, when both technological leaders and their followers engage in R&D activities, it has been suggested that firms operate at the same technological footing. This increased competition will lead to increased investment in research and development to acquire a lead over their rivals and escape the low margins of neck-and-neck competition. [804] This 'escape competition effect' occurs when increased product market competition reduces pre-innovation rents and thus leads to an increase in the incremental profits from innovation.[805]

If firms are not neck-and-neck on the same technological level, increased competition will decrease the level of research and development investments and the incentive to innovate in the industry by the laggard firms as well as decrease the post innovation rent from catching up with the leader; this is known as the 'Schumpeterian effect'.[806] A coexistence of the escape effect and Schumpeterian effect (pre- and post-innovation incentives) can be characterised by an inverted U-relationship, as innovation declines after reaching a peak.[807]

In high technology markets, there are some sectors where firms are neck-to-neck and those which are chasing to become neck-to-neck. The influence of technological level is usually limited to a very short period of time due to the dynamics of the markets and rapid change. Dominant firms can also

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803 Richard Blundell, Rachel Griffith, and John Van Reenen. 'Market share, market value and innovation in a panel of British manufacturing firms'. The Review of Economic Studies 66.3 (1999) 529–554 and Wendy Carlin, Mark Schaffer, and Paul Seabright. 'A minimum of rivalry: Evidence from transition economies on the importance of competition for innovation and growth'. Contributions in Economic Analysis & Policy 3.1 (2004) and Philippe Aghion and Rachel Griffith (2004). Competition and Growth, Cambridge, MA: The MIT Press, cited in Eugen Kováč, Viatcheslav Vinogradov, and Krešimir Žigić. 'Technological leadership and persistence of monopoly under endogenous entry: static versus dynamic analysis'. Journal of Economic Dynamics and Control 34.8 (2010) 1421–1441.
Dirk Czarnitzki, Kornelius Kraft, and Federico Etro. 'The effect of entry on R&D investment of leaders: Theory and empirical evidence' (2008).
Daron Acemoglu and Dan Cao (2011). Innovation by Incumbents and Entrants, 2011 Meeting Papers (No 473) Society for Economic Dynamics.
Paul S Segerstrom, 'Intel economics' International Economic Review 48.1 (2007) 247–280

804 Philippe Aghion, Christopher Harris, Peter Howitt, and John Vickers, 'Competition, imitation and growth with step-by-step innovation' The Review of Economic Studies 68, no 3 (2001) 467–492

805 Philippe Aghion, Peter Howitt, and Susanne Prantl, 'Patent rights, product market reforms, and innovation', Journal of Economic Growth 20.3 (2015) 2233 'the escape-competition effect dominates for low initial levels of competition, whereas the Schumpeterian effect dominates at higher levels of competition'.

806 Richard Blundell, Estelle Cantillon, Barbara Chizzolini, Marc Ivaldi, Wolfgang Leininger, Ramon Marimon, Laszlo Matyas and Frode Steen, eds. 'Economics without Borders: Economic Research for European Policy Challenges' Cambridge University Press, 2017, 37.

807 Jérôme Mathis and Wilfried Sand-Zantman, 'Competition and Investment: What do we know from the literature?' (2014) Report Institute d' Economie Industrielle, 28

compete in ‘corespective’ ways; taking into account investments and strategies of other competitors and where competitive pressure from the outside leads to failure to innovate and protection removal against potential competitors.[808] Therefore, regardless of whether market concentration supports or hinders innovation, what is radical is that such competitive pressure is considered as being the engine of initial and continuous innovation.[809] Hence, the threat of creative destruction leads to the barriers surrounding the dominant firms becoming more vulnerable to new competitors.[810]

In addition, the endogenous entry and market leader’s theory that was introduced in chapter two is also in line with the Schumpeterian approach. As it considered innovation as the engine of any leadership in a high technology market with endogenous entry. It also states that effective dynamic competition in the market drives the incentive to invest in R&D and indirectly enhances aggregate growth and additional technological innovation in the interests of consumers.[811]

The endogenous entry and market leaders explained that high market concentration is an outcome of both price and non-price competition rather than an indication of market power and a lack of competitive forces, especially when the prevailing condition of entry is endogenous.[812] A firm in a leadership position will usually be able to commit to an investment choice before other firms, due to the competitive environment, which spurs investment by leaders, rather than by their monopolistic power. This helps to expand production under ‘competition in quantities’ and decreases prices under ‘competition in prices’.[813]

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808 John Bellamy Foster, Robert W McChesney, Jamil Jonna, Monopoly and Competition in Twenty-First Century Capitalism, (2011) Monthly Review 62, 11

809 Federal Trade Commission, ‘Anticipating the 21st Century: Competition Policy in the New High-Tech’ Global Marketplace’ (1996) A Report by Federal Trade Commission Staff, 167.
https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc_v1.pdf

810 John Bellamy Foster, Robert W McChesney, Jamil Jonna, Monopoly and Competition in Twenty-First Century Capitalism, (2011) Monthly Review 62, 11

811 Federico Etro, ‘Innovation by Leaders’ (2004) 114(495) The Economic Journal 281

812 Krešimir Žigić and Ilir Maçi, ‘Competition Policy and Market Leaders’ (2011) 28(3) Economic Modelling 1042

813 Federico Etro, ‘Competition Policy: Toward a New Approach’ (2006) 2(1) European Competition Journal 48

In highly competitive markets where production requires a fixed sunk cost, a constant marginal cost of production, and where product differentiation is not substantial, the leader seeks to expand its production through additional investment before its competitors.[814] This occurs by following a strategy against the other competitors by producing more, improving product quality, engaging in heavy advertising, setting lower prices than its competitors and leaving unchanged the aggregate supply and the equilibrium price, otherwise low production can create a large opportunity for entry in the market.[815] For instance, the high fixed costs of production associated with constant marginal costs are crucial and can increase the market share of the leader. They constrain the profitability of entry, and create scale economies in the production process that can be exploited, by the leader through an expansion of its output, especially when other firms are using the same technology and where products in the market are homogenous.[816] Therefore, leaders are pressurised to increase output, achieving scale of economies that increase profits and decrease the equilibrium price to prevent other firms from entering the market.[817] This equilibrium, for which there is a leader in the market, generates greater welfare than the endogenous entry equilibrium without a market leader, which would involve too many active firms in the market and zero profits.[818]

An additional element to this approach shows that if the marginal costs are substantially increasing in the production, or when the average cost function has a standard U-shape, [819] the market leader may not have incentives to deter entry into the market by endogamous entry of competitors,

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814 Federico Etro, 'Stackelberg Competition with Endogenous Entry' (2008) 118, 531 The Economic Journal 1670: this is in the sense of the Stackelberg leadership model as a strategic game in economics where the leader firm moves first and then the follower firms move sequentially.

815 Federico Etro, 'Competition Policy: Toward a New Approach' (2006) 2(1) European Competition Journal 30

816 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' (2010) 57(1) International Review of Economics 9

817 See David S Evans, 'Antitrust Issues raised by the Emerging Global Internet Economy' (2008) North-western University Law Review 102 302: The existence of scale economies or indirect network effects means aggressive competition in 'winner-take-all' and 'a few winners-take-all' markets; a market leader may crush some competitors as a natural by-product of legitimate pricing or design decision.

818 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' (2010) 57(1) International Review of Economics 7.

819 KP Gupta, Cost Management: Measuring, Monitoring & Motivating Performance (Global India Publications 2009) 204 'A typical average cost curve will have a U-shape, because fixed costs are all incurred before any production takes place and marginal costs are typically increasing, because of diminishing marginal productivity'.

but would still behave in an aggressive way. In such circumstances, all the entrants maximise their own profits through pricing above the marginal cost. However, endogenous entry here reduces the equilibrium price to a level that is just high enough to cover the fixed costs of production.[820] This equilibrium leads to production below the efficient scale; where marginal and average cost are equal. Thereafter, the leader considers these elements and takes as given the equilibrium price emerging from the endogenous entry of the competitors, and aligns its production to equate its marginal cost to the price. Thus, leading to production above the efficiency scale. This is necessary when marginal costs are increasing at a high production level, as the leader is pricing above its average cost to obtain profits. Significantly the strategy of the leader does not affect the market price, which is fully determined by endogenous entry of firms. However, the leader obtains a larger market share than its rivals and profits, which improves the allocation of resources compared to the same market with free entry and no leadership.[821]

Additional implications arise in a market when goods are not homogeneous and have imperfect substitutes. The design and the inner quality of products play an important role for consumers; therefore the market leaders tend to expand production and reduce the price due to increasing marginal costs. In this case, the market leader will act in an aggressive way without necessarily having the incentives to deter entry but to face the endogenous entry of other competitors. Resulting in the consumers being provided with a lower variety of alternative products and paying less for some of them.[822] An example of this is Microsoft, which dominates the operating system market. Due to this dominance, Microsoft pursues a policy of keeping its prices low due to the competitive pressure from other rivals such as Linux, MAC OS, IBM OS/2, SkyOS and potential competitors. This is necessary to retain its customers.

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820 Federico Etro, Competition, Innovation, and Antitrust: A Theory of Market Leaders and its Policy Implications (Springer Science & Business Media 2007) 181

821 Ibid.

822 Federico Etro, ‘Endogenous Market Structures and Antitrust Policy’ (2010) 57(1) International Review of Economics 7

What should be noted is that an aggressive strategy reducing entry is not necessarily negative for consumers, because entry is not deterred when some competitors are still active in the market and able to exert a competitive pressure on the leader in a dynamic competition process; however, it can be considered as abusive if foreclosing of other competitors harm consumers. This occurs when these strategies are implemented by leaders, with genuine market power, which is not constrained by effective entry or when the same leader has built barriers to artificially constrain entry, without efficiency reasons.[823]

The situation requires more consideration when price competition exists, and goods are not homogenous and differ in quality. In this situation the Post-Chicago approach suggests that under price competition, a firm would prefer to underinvest in cost reduction to be accommodating, increasing its price to provoke its rivals to increase theirs. Dominant firms are likely to set high prices when the fixed costs of entry are low, and predation would be very costly or by setting low prices as an aggressive strategy when production of other competitive' products are high. Such an outcome implies the risk of erroneously associating an aggressive price strategy with an entry deterring strategy, and, accordingly, it becomes necessary to consider carefully the endogenous entry of other competitors.[824]

However, when endogenous entry to the market occurs and where product differentiation is substantial, a leader that follows aggressive strategies will not adopt prices that maximise its monopoly profits since such a strategy would have long-term dynamic implications, such as encouraging more entrants and losing market share. These strategies would reduce entry, but will not usually exclude other competitors in the market where high product differentiation is significant. If a strategy is aimed at excluding some rivals but not all competitors, the monopolistic threat is absent or more limited. [825]

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823 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' (2010) 57(1) International Review of Economics 9

824 Federico Etro, *Competition Policy for the New Economy* Abuse of Dominance (Y Katsoulacosed, Athens University Press 2007) 54

825 Federico Etro, *Competition Policy for the New Economy* Abuse of Dominance (Y Katsoulacosed, Athens University Press 2007) 54

Therefore, the presence of market leaders is beneficial since they will not conquer the entire market, but will reduce their prices below the prices of their competitors; consumers will then face a lower variety of alternative products and pay less for some of them. In effect, such market leadership with endogenous entry creates gains for consumers and a better allocation of resources. Accordingly, when the entry of firms is endogenous, competition authorities should not associate aggressive pricing strategies by market leaders (or related strategies such as bundling) with exclusionary purposes, because it is highly misleading to determine that a large market share constitutes dominance *per se.*[826]

A market leader facing an exogenous number of competitors may want to underinvest or overinvest strategically in cost reducing R&D according to the kind of competition, by underinvesting more before price competition, and overinvesting before quantity competition. [827] However, when the leader is facing the endogenous entry of competitors, strategic overinvestment in cost-reducing R&D is optimal, independent from the form of competition, allowing aggressive behaviour against other competitors.[828] For instance, when market demand is characterised by network effects, market leaders under-price their products initially to attract customers.

To conclude, competition authorities should be careful when identifying the circumstances under which loss-inducing predatory prices cause harm to the competition and consumers. They must also be fully aware of the dangers of misclassification when considering a predation case.[829] This is because some practices may provoke pricing below marginal cost without entry deterrence purposes. Market leaders facing endogenous entry may have other

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826 Federico Etro, The Economics of Competition Policy and Dominant Market Position: The Stockholm Network Experts' Series on Intellectual Property and Competition, Stockholm Network Press, London (2007) 6

827 Federico Etro, 'Innovation by Leaders' (2004) 114(495) The Economic Journal 281

828 Federico Etro, 'Stackelberg Competition with Endogenous Entry' (2008) 118 The Economic Journal 531, 1670. Luisa Affuso and George Hall, 'Does Competition Policy Need to Adapt to the Digital Age?' (PwC, November 2016) <http://pwc.blogs.com/economics_in_business/2016/11/does-competition-policy-need-to-adapt-to-the-digital-age.html>accessed 27 December 2017.

829 Eugen Kováč, Viatcheslav Vinogradov, and Krešimir Žigić. 'Technological leadership and persistence of monopoly under endogenous entry: static versus dynamic analysis'. Journal of Economic Dynamics and Control 34.8 (2010) 1421

strategic incentives to reduce initial prices or expand initial production such as enhancing network externalities. [830] In addition, this does not imply a non-interventionist approach from competition policy of leading firms in such markets, neither an over interventionist approach that restrains firms and hampers innovation, but a balanced approach with a multi-dimensional analysis of factors. Each firm's incentive to innovate can be influenced by various factors, such as the nature of barriers to entry or the competitive pressure of other market players. The next section will explore the role of innovation under the EU approach.

7.3 Innovation under the EU approach

The EU approach under EU competition rules considers the static welfare analysis of market power over dynamic efficiency, which includes innovation consideration.[831] The resulting measure of static inefficiency is analysed in terms of actual cost production in contrast with the minimum productive cost (productive inefficiency) and in terms of price set above marginal cost of supply (allocative inefficiencies). When dynamic efficiency involves parameters such as quality and innovation, there is a total welfare loss due to the exercise of market power, with no time dimension since it is looking at an equilibrium situation and thus is unable to capture product innovation.[832]

Although innovation is explicitly stated in Articles 102 (b) and 101 (3) TFEU as well as in merger rules,[833] innovation considerations under EU

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830 Federico Etro, Competition, Innovation, and Antitrust: A Theory of Market Leaders and its Policy Implications (Springer Science & Business Media 2007) 184

831 See the Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para

See guidelines on the application of Article 81(3) of the Treaty [2004] OJ C101/27, para 25 'Negative effects on competition within the relevant market are likely to occur when the parties individually or jointly have or obtain some degree of market power and the agreement contributes to the creation, maintenance or strengthening of that market power or allows the parties to exploit such market power'.

See Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2004] OJ C31/5 (the Horizontal Merger Guidelines), para 8 'the Commission prevents mergers that would be likely to deprive customers of these benefits by significantly increasing the market power of firms'.

832 Doria Hildebrand, 'The role of economic analysis in the EC competition rules' 39. Kluwer law international (2009) 171

833 Article 102 (b): 'limiting production, markets or technical development to the prejudice of consumers' and Article 101 (3) 'any concerted practice or category of concerted practices, which contributes to improving the production or distribution of goods or to promoting technical or economic progress'. Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations

competition rules are considered indirectly and harm to innovation has been inferred by proxy from the effects of a practice on the competitive process. However, the extent of recognising innovation differs from one area to another under EU competition law. Accordingly, this section focuses on innovation as one of the parameters of the competition process under the EU competition rules.

7.3.1 Indirect innovation consideration

There are various examples in the literature that demonstrate that innovation is considered indirectly, and in particular where innovation has been assumed to be negatively affected by the creation or the strengthening of market power. In the context of Article 102 toward unilateral conducts, innovation as a relevant parameter of competition alongside price, output or quality is usually considered indirectly at a subsequent stage where reduced competitive pressure is presumed to harm an undertaking's incentive to innovate.[834] For example, the Commission found that Intel's conditional rebates induced the loyalty of key OEMs and of a major retailer and this practice had a significant impact on the overall market by diminishing other competitors' ability to compete and lowered incentives to innovate. Thus being detrimental to consumers both in the short and in the long term, in terms of price, choice and innovation.[835] Another example is when the ECJ Court emphasised in Intel, Post Danmark I and *Telia Sonera* cases that 'Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things… innovation'.[836]

Furthermore, the EU competition rules under Article 102 did not provide any particular rules with regard to the assessment of abuse of dominance in the market that involved innovation. This is significant, because other

between undertakings, Official Journal C 31, 5.2.2004, para 8: Effective competition brings benefits to consumers, such as low prices, high quality products, a wide selection of goods and services, and innovation.

834 See Guidance on the Commission's enforcement priorities in applying Article 102 to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ, paras 6,11.

835 Commission decision COMP/C-3/37990—Intel) [2009] OJ C227/13 paras 1598–1603, 1612, 1616.

836 Case C-413/14 P, *Intel Corp. v European Commission*, [2017] ECLI:EU:C:2017:632, para 134, Case C-209/10 *Post Danmark A/S v Konkurrencerådet* (2012), 4 CMLR 23: para 22, Case C-52/09, *Konkurrensverket v TeliaSonera Sverige* AB [2011] ECR I-527: para 43.

competition parameters are not effective in fast-moving innovation markets, where price does not usually play a decisive role. Generally, the services are not monetised on the consumer side or at least there is no price expressed in monetary terms, similarly quantity often plays no decisive role because marginal costs can be almost zero, as there is a stronger focus on innovation, quality, and choice in such innovation markets.[837]

The competition rule under Article 102 does not use an appropriate method to identify the relevant market in fast-moving innovation markets, which are very different to traditional markets. As demonstrated in section 5.3.2.1, the Commission applied a static assessment tool in identifying the relevant market in relation to the computer software market in the Microsoft case. The Commission applied the SSNIP test under Article 102 in determining the demand-supply substitutability. However, such a test relies heavily on the concept of the existing market that may exclude other relevant markets. In effect, it does not only produce a narrow definition of relevant markets, but runs the risk of not adequately responding to anti-competitive conduct that only affects future product markets in which other market players are not yet competitors.[838] This means that the EU approach in identifying the relevant market under Article 102 can only capture innovation that usually occurs in existing markets and does not consider disruptive innovation that takes place outside the value network of the established firms.

It is noteworthy that this approach can be manifested in the way Article 102 was drafted with the need to find dominance rather than an abuse; as the commission depends on a static analysis to identify the actual competition in the relevant market to allocate a market share that provides a quick indication of the market structure. This includes interpreting market shares in the relevant

837 European commission, Johannes Laitenberger, Director-general for competition, European commission, EU competition law in innovation and digital markets: fairness and the consumer welfare perspective, MLex/Hogan Lovells event, Brussels, 2017

838 Josef Drexl, 'Anticompetitive Stumbling Stones on the way to a cleaner world: Protecting competition in innovation without a market', (2012) Journal of Competition Law & Economics 8, 32

See Ariel Ezrachi and Maurice E Stucke. 'The Curious Case of Competition and Quality'. Journal of Antitrust Enforcement 3.2 (2015) 231: if competition authorities modified the SSNIP test or resort to a similar test to assess the consumer response to a small but significant non-transitory decrease in quality (SSNDQ), 'such test is unworkable, given the inherent difficulties of measuring quality alongside the existing complications of applying the SSNIP test itself within real market situations'.

market conditions, including observing the market share for a period prior to the assessment.[839] The EU approach in identifying the market depends on static criteria such as market share but does not provide any indications about the potential competition. In addition dynamic criteria, such as barriers to entry and potential competition as sources of competitive constraints are not considered in the early stage while defining the relevant market. Accordingly, the structure of Article 102 make it the more difficult to consider innovation.

In a similar way, innovation considerations are usually considered indirectly under other areas of competition law. For example, in the area of horizontal mergers, the Commission found that the proposed transaction between General Electric and Alstom reduced the number of major suppliers of heavy-duty gas turbines and significantly reduced the choice available to customers in the market.[840] Therefore, negatively affecting prices and the choices available to customers are presumed to reduce the overall incentives to invest significantly in innovation. This is especially true given the high barriers to entry and the nature of innovation competition in the market; these significant negative effects will have a long term impact on innovation.[841]

Counter to the rules under Article 102 TFEU, the EU merger regulation is well equipped to deal with the negative and positive innovation effects of mergers.[842] The Horizontal Merger Guidelines take into account the effects of a merger on innovation; putting the competitive harm caused by a reduction of innovation on an equal footing with an increase of prices, or a reduction of output, choice or quality of goods and services. The aim of the Commission's merger control is to prevent mergers that would be likely to deprive customers of these benefits, including innovation.[843]

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839 Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 13

840 COMP/M.7278 General electric/Alstom, C (2015) 6179 final, para 943.

841 COMP/M.7278 General electric/Alstom, C (2015) 6179 final, para 1392: ‘The Transaction would therefore further affect negatively prices and the choices available to customers. It will also reduce the overall incentives to invest significantly in innovation, as compared to the standard effects of a merger. Finally, given the very high barriers to entry and the nature of innovation competition in this industry, these significant negative effects on innovation will be long term’.

842 OECD, The impact of disruptive innovations on competition law enforcement, Contribution from European Commission, DAF/COMP/GF/WD (2015) 39.

843 guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings,

The EU Commission can intervene in mergers that reduce innovation incentives in an industry post-merger if there is a Significant Impediment to Industry Innovation (SIII test), where there is no need to determine the relevant future product markets. In particular, the HMG considers innovation potential of the merging firms regardless of the current market position of the companies. For example, in the Microsoft/Skype merger the Commission considered market characteristics with regard to the growth of the concerned sector and the expected changes that may affect market share and indicated that innovators generally enjoy a short lead in the market since platforms are constantly being redeveloped.[844] More importantly, the Commission held that '*Market shares are not the best proxy to evaluate the market power of providers of consumer communications services; market share provide a limited indication of competitive strength in dynamic markets'*.[845]

On this basis, the HMG provided important insights, which have allowed the Commission to include, under the (SIII test), potential competitors and firms that are developing products for a new intended use that are likely to compete in new product markets.[846] More importantly, there is a need to analyse if the innovation by the merger parties is a radical force in the concerned market, and whether the merger increases the firm's ability and the incentive to bring new innovation and thus the competitive pressure on other competitors to innovate. If the parties are not considering innovations and have no incentive in investment and the innovation process, this indicates a tendency to practice anticompetitive acts that exclude other competitors.[847]

Official Journal C 31, 5.2.2004, para 8.

See paras 15 and 20 (b): the guidelines advise interpreting market share in its competitive analysis but can be adjusted to reflect reasonable certain future changes especially if the merger involves 'important innovators' or when undertakings influence dynamic competition beyond their market share.

844 Case No COMP/M.6281 - Microsoft/ Skype [2011] OJ C 341, para 70, 72–74, 83

845 Case No COMP/M.6281 - Microsoft/ Skype [2011] OJ C 341, para 78, 99

See Case T-79/12 Cisco Systems and Messagenet v Commission, ECLI:EU:T:2013:635, para 9 and Case No COMP/M.7217 - Facebook/ WhatsApp, para 99

846 European Commission, Competition policy brief, 'EU merger control and innovation' occasional discussion papers by the Competition Directorate–General of the European Commission (2016) 3

See guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) para 20b 'One or more merging parties are important innovators in ways not reflected in market shares'

847 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) para 38 'In markets where innovation is an important competitive force, a merger may increase the firm's ability and incentive to bring new innovations to the market and, thereby, the competitive pressure on rivals to innovate in that market. Alternatively,

Consequently, the commission considers mergers with potential competitors' anti-competitive effects when a significant constraining influence is exerted by the merger or there is a significant likelihood that the merger would become an effective competitive force. Also, there should be a limited number of remaining potential competitors to maintain competitive pressure after the merger.[848]

The Commission can, however, consider any substantiated efficiency claim and it enhances the ability and incentive of the dominant firm to act pro-competitively for the benefit of the consumer.[849] The innovation consideration should not be considered if they will lessen the incentive to innovate, and, accordingly, consumers will be deprived of new and more developed products.[850] The parties have to demonstrate that innovation-related efficiencies are incompatible with the common market, to benefit consumers, be merger-specific and be verifiable. These conditions are cumulative, so that efficiencies outweigh the possible anti-competitive effects of a merger: a balance between innovation-enhancing and innovation-constraining effects. This means that positive innovation effects brought by a merger can generally be assessed in the context of efficiencies put forward by the merging parties.[851]

Under EU Competition rules, the difficulty of quantifying efficiency, especially when the required data are not available to allow for a precise quantitative analysis, is a significant issue. The guidelines imply that it should be possible to foresee a clearly identifiable positive impact on the consumer and not a marginal one,[852] as the parties have to demonstrate that the innovation-related efficiencies are verifiable, likely to materialise, and be

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effective competition may be significantly impeded by a merger between two important innovators, for instance between two companies with 'pipeline' products related to a specific product market. Similarly, a firm with a relatively small market share may nevertheless be an important competitive force if it has promising pipeline products'.

848 guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) para 59, 60

849 see Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31, 5.2.2004, 5–18, para 77

850 Beata Mäihäniemi, The role of innovation in the analysis of abuse of dominance in digital markets: The analysis of chosen practices of Google Search, 11th ASCOLA Conference, Leiden, Netherlands (2016) 4

851 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) paras 76–88

852 guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) para 86

substantial enough to counteract a merger's potential harm to consumers. The same applies in the NHMG, which also emphasises the innovation potential of the merging firms, regardless of the current market position of the companies.

The commission considers whether the merger of anti-competitive effects leads to anti-competitive foreclosure. Specifically, the merger hampers or eliminates the access to an important input by both actual and potential competitors, reducing other competitors' ability and/or incentive to compete. In addition, the merger must have a significant market power to be able to profitably increase the price leading to a significant impediment to the competition process[853] (input foreclosure).

The NHMG also allow the commission to consider merger anti-competitive effects if it forecloses access to the customer base to its actual or potential rivals in the upstream market (the input market) and reduces their ability or incentive to compete, which may lead to increasing the costs of competitors in the downstream market preventing them from obtaining supplies of the input before the merger. Subsequently, the merged entity will be able to profitably raise prices on the downstream market. However, in such circumstances, the commission needs to focus on the effects on customers below the merged entity[854] to identify if this practice causes consumer foreclosure or efficiency.

Furthermore, the EU merger control rules acknowledge that mergers may result in synergies arising from innovation that can offset anti-competitive effects.[855] This was shown in TomTom/Tele Atlas where both parties argued that integrating the navigation software provider TomTom with the digital map

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853 Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 265 (2008) paras 18, 30, 24, 25, 26

854 Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 265 (2008) para 16

'The terms "downstream" and "upstream" are used to describe the (potential) commercial relationship that the merging entities have with each other. Generally the commercial relationship is one where the "downstream" firm purchases the output from the "upstream" firm and uses it as an input in its own production, which it then sells on to its customers. The market where the former transactions take place is referred to as the intermediate market (upstream market). The latter market is referred to as the downstream market'.

855 Competition Directorate-General of the European Commission, 'EU merger control and innovation', (2016) Competition Policy Brief, issue 1

See in the context of merger control, case No COMP/M.4854, TomTom/ TeleAtlas, Commission decision of 14 May 2008.

maker Tele Atlas would improve the quality and timing of the map-making process by using driving data from TomTom consumers.[856] Although the parties argued that their rationale was innovation efficiency, their arguments were not convincing. However, the Commission did acknowledge that the innovation efficiencies were at least partly merger-specific and brought consumer benefits.[857]

Comparatively, the situation differs in the context of Article 101 TFEU, where the EU Guidelines on Horizontal Cooperation Agreements under Article 101 TFEU draw a distinction between sustaining innovation and disruptive innovation with regard to research and development agreements. The rules on R&D agreements in the context of horizontal agreements emphasised the 'competition in innovation' concept, indicating that innovation might not necessarily result in technology that competes in an existing market. Innovation may result in an entirely new product, which creates its own new product market.[858] Accordingly, it is not possible to calculate a market share when the competition process involves a developing product, which will create new demand, but only if an analysis of the effects of the agreement on competition in innovation is possible.[859]

In these circumstances, the rules on R&D stated that the innovation process that occurs in non-existing markets requires distinguishing, to identify if it is possible at an early stage, the efforts directed towards a certain new product or technology (R&D poles), and the substitutes for that R&D. After identifying efforts toward a technology, it should be determined whether after the agreement there will be an adequate number of remaining R&D poles by considering the credibility of competing poles. Additional considerations are the nature, scope and size of any other R&D efforts, their access to financial

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856 Case No COMP/M.4854, TomTom/ TeleAtlas, Commission decision of 14 May 2008.

857 Raphaël De Coninck, Innovation in EU Merger control: in need of a consistent framework, Competition Law & Policy debate, 2, 3, (2016) 48

858 See Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines) OJ 2011 C11/1, para 112

859 Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines) OJ 2011 C11/1, para 126

and human resources, know-how/patents, or other specialised assets as well as their timing and their capability to exploit possible results.

In the same scenario, the Block Exemption Regulation on R&D agreements distinguishes between 'existing product markets'; 'existing technology markets' and 'competition in innovation (R&D efforts)'.[860] Clearly, they acknowledge the potential competition in non-existing markets by distinguishing between two cases: when R&D agreement is between non-competitors, there is no need to calculate market share for the exemption to apply. However, when the R&D agreement is between competitors, the regulation grant exemption applies if the joint share does not exceed 25% and continues to be applicable for seven years.[861] Additionally, the block exemption regulation concerning the transfer of technology under Article 101 (1) (TTBER) distinguishes between relevant product market and relevant technology market and takes disruptive innovation into account in order to ensure that agreements to use licensed technologies will not hinder the emergence of new products or technologies.[862]

To sum, in contrast to the competition rules toward unilateral conducts, merger control rules provide important indications regarding causing harm to innovation; including both negative and positive innovation effects of mergers. In addition, competition rules in the context of restrictive agreements provide valuable insights toward market definition in fast-moving innovation markets.

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860 Josef Drexl, 'Anticompetitive Stumbling Stones on the way to a cleaner world: protecting competition in innovation without a market', (2012) Journal of Competition Law & Economics 8.3, 507

Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines) OJ 2011 C11/1, paras 113,116

see Commission Regulation No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the Treaty on the functioning of the European Union to categories of research and development agreements (R&D BER), OJ 2010 L335/36, Article 1(v) 'relevant technology market means the relevant market for the technologies or processes capable of being improved, substituted or replaced by the contract technologies'.

861 Commission Regulation No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the Treaty on the functioning of the European Union to categories of research and development agreements (R&D BER), OJ 2010 L335/36, Article 4 (1) (2)

see para 18: 'Agreements between undertakings which are not competing manufacturers of products, technologies or processes capable of being improved, substituted or replaced by the results of the research and development will only eliminate effective competition in research and development in exceptional circumstances. It is therefore appropriate to enable such agreements to benefit from the exemption established by this Regulation irrespective of market share and to address any exceptional cases by way of withdrawal of its benefit'.

862 commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER), OJ L93/17, Article 1 (j), (k)

7.3.2 Innovation consideration as a critical factor under EU rules

Innovation could be considered as a critical element and introduced to some extent directly in the assessment to justify intervention by competition authorities. However, in such circumstances, there is no direct consideration into the effect on the rate of innovation and the impact of the practices on innovation are also considered indirectly. Basically, this occurs when the Commission is not able to establish anticompetitive foreclosure to the requisite legal standard, or where it is unable to show that a refusal to licence an intellectual property right prevents the emergence of a new product.

The first scenario implies a methodological approach employed to resolve access to intellectual property rights/facility and/or the emergence of innovative markets and products. Mainly, the refusal of access to such rights, in principle, is missing from the rest of the reasoning of Article 102 TFEU, as it is not deemed abusive as a form of (negative) expression of the incumbent's market power. It is usually only triggered on exceptional circumstances.[863] These exceptional circumstances have been expressed in various cases and sometimes restated in different terms, for instance the ECJ in *IMS Health* cited that the refusal is: 1) preventing the appearance of a new product on the market for which there is potential consumer demand; 2) it is unjustified; and 3) it is excluding all competition on the market. [864]

The GC took an important turn in the Microsoft case, particularly in the refusal to supply part of the case, where Microsoft was obliged to supply fundamental innovative data of its own server software to other competitors, which could not be separated from the internal workings of its operating system software, and accordingly extending the notion of interoperability to be the

863 Jan Broulik and Michael Diathesopoulos, 'The Conceptual Integration of Innovation into the Traditional Establishment of EU Competition Law: Connecting the Dots between Static & Dynamic Competition' (2017) working group presentations, European university institute', 26

864 Case 418/01 IMS *Health v NDC Health* [2004] ECR I-5039, para 44

See DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses' (Brussels, December 2005), para 240: 'A refusal to licence an IPR protected technology, which is indispensable as a basis for follow-on innovation by competitors may be abusive even if the licence is not sought to directly incorporate the technology in clearly identifiable new goods and services. The refusal of licensing an IPR protected technology should not impair consumers' ability to benefit from innovation brought about by the dominant undertaking's competitors'.

additional requirement that competing servers offer the same functionalities.[865] However these intellectual property rights should have some value, otherwise competitors would have invented the products themselves.[866] The GC court held:

> *'The circumstance relating to the appearance of a new product, as envisaged in Magill and IMS Health... cannot be the only parameter which determines whether a refusal to license an intellectual property right is capable of causing prejudice to consumers within the meaning of Article 102(b). As that provision states, such prejudice may arise where there is a limitation not only of production or markets, but also of technical development'.*[867]

This implies that the GC relaxed the conditions of abusive refusal to supply, which were set by the ECJ by not checking whether the refusal of interoperability data would do more than prevent competitors from continuing to develop innovative features. Specifically, the exclusion of other competitor's condition was lowered to the usual standard of competitive disadvantage and the prevention of a new product was effectively substituted by an impediment to technical development, as it demonstrated that the refusal of interoperability information is capable of causing prejudice to consumers and leading to a reduction in technical development, instead of, demonstrating that refusal would prevent other competitors from developing innovative features.[868]

The second scenario relates to the Commission's practice on vertical relationships but with a similar methodological approach to abusive refusal to supply in the first scenario. The Non-Horizontal Merger Guidelines

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865 Daniel F Spulber, 'Competition Policy and the Incentive to Innovate: The Dynamic Effects of Microsoft v. Commission' 25 Yale Journal on Regulation (2008) 255

866 Jessica Guth, 'The Party is Over and Microsoft Have Lost: The Key Issues and Ramifications of the Microsoft Judgment' Bradford University Law School, Law in Brief, Issue 4, (2008)

867 Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, para 647.

868 Francisco Costa-Cabral, 'Innovation in EU competition law: The resource-based view and disruption' Jean Monnet Working Paper Series 2 (2017) 20.

See Case T-201/04 *Microsoft Corp v Commission* [2007] ECR II-3601, [2007] 5 CMLR 11, paras 647–649, 562–563

See guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7 para 87, 'consumer harm may, for instance, arise where the competitors that the dominant undertaking forecloses are, as a result of the refusal, prevented from bringing innovative goods or services to market and/or where follow-on innovation is likely to be stifled. This may be particularly the case if the undertaking which requests supply does not intend to limit itself essentially to duplicating the goods or services already offered by the dominant undertaking on the downstream market, but intends to produce new or improved goods or services for which there is a potential consumer demand or is likely to contribute to technical development'.

demonstrate that vertical mergers could lead to concerns over ‘input foreclosure’ thereby reducing these companies' ability and/or incentive to compete. These guidelines are the basis of denying rival access to an input in order to gain a competitive advantage downstream, but without the requirement of indispensability. The guidelines indicate that foreclosure can be found even if the foreclosed rivals are not forced to exit the market, but are merely disadvantaged and competing less effectively. Such foreclosure is considered as anti-competitive where the merging companies are able to profitably increase the price charged to consumers. [869]

In this situation, the Commission can argue that a certain practice harms other competitor’s incentive to innovate or third parties’ ability to innovate, when it is difficult to conclude that the practice is able to distort competition. This is irrespective of whether the concerned practice is likely or not to exclude equally efficient rivals.[870] For example, in Intel v McAfee, the Commission investigated the binding agreement between Intel as the leading central processing unit (CPU) and McAfee, a security technology company; specifically, integrating the services provided by McAfee in Intel central processors. The Commission acknowledged that the security market is characterised by rapid innovation and implied that the technical tie between Intel’s chips with McAfee’s endpoint security might lead to a significant increase in Intel’s market share or/and the prices on the computer CPU markets.[871] The Commission stated that the technical tie may lead other security vendors to increase prices to be able to fund innovation on specialised markets since lowering the price would result in not being able to invest in innovation. In effect, this may drive competition out of the market and limit the

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869 Francisco Costa-Cabral, ‘Innovation in EU competition law: The resource-based view and disruption’ Jean Monnet Working Paper Series 2, (2017)

See Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 265 (2008) paras 10, 29, 26

870 Pablo Ibáñez Colomo, Restrictions on Innovation in EU Competition Law (2016) European Law Review, 41(2), 201–219.

871 Case No COMP/ M.5984 – Intel/ McAfee, [2011] OJ C98/1, paras 109, 173, 174

See Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2008] OJ C265/6, para 10: ‘An “increase in market power” in this context refers to the ability of one or more firms to profitably increase prices, reduce output, choice or quality of goods and services, diminish innovation, or otherwise negatively influence parameters of competition’.

choice for customers, reducing innovation.[872]

Therefore, the Commission stated that Intel must ensure on an ongoing basis, and in a timely manner, that interoperability information for new functionalities in Intel CPUs and chipsets are available for use by independent SSVs on a royalty-free basis. Such commitment submitted by Intel would ensure that Intel do not impede competitors' solutions from running on Intel's chips, rather Intel must enable effective performance of any alternative endpoint security software that is selected by OEMs or end users and in no way should it be degraded by the replacement of the bundled Intel software. In addition, it does not prevent Intel/McAfee from offering on the market any combined new products but ensures continued competition and innovation in the relevant market.[873] In effect, levelling the playing field for innovation.[874]

Harm to the ability to innovate of the merged entity's rivals was probed in a number of non-horizontal ICT mergers, including Telefonica UK/Vodafone UK/Everything Everywhere Joint Venture. The case involved a joint venture for mobile commerce services (the JV Co.), between the undertakings Everything Everywhere Limited (Everything Everywhere), Telefónica UK Limited (Telefónica UK) and Vodafone Group Plc. (Vodafone Group). The joint firms aimed to develop a mobile wallet platform aiming to supply various services such as payment or ticketing transaction services accessible offline through a Near Field Communication, an enabled mobile handset as well as online via the Internet. To support the supply of various related Near Field Communication services including payment in shops, ticketing, and access to services as well as voucher and loyalty services, enabling the provision of digital vouchers to consumers.[875] The commission investigated whether the JV's companies had the ability to technically block or degrade a competing mobile wallet app from offering their services such as downloading, installing

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872 Case No COMP/ M.5984 – *Intel/ McAfee*, [2011] OJ C98/1 paras 214–218

873 Case No COMP/ M.5984 – *Intel/ McAfee,* [2011] OJ C98/1, paras 298, 342.

see para 307: 'the disclosure of information on a non-exclusive basis to all third parties which depend on the IP rights or information for their activities. It has to be further ensured that the terms and conditions under which the licenses are granted do not impede the effective implementation of such a licence remedy'.

874 Case No COMP/ M.5984 – *Intel/ McAfee,* [2011] OJ C98/1, paras 313, 329.

875 Case No COMP/M.6314 – *Telefónica UK/ Vodafone UK/ Everything Everywhere/ JV*, Commission decision of 4 September 2012, para 5

or even updating on a handset operating on the network of the Notifying Parties.[876] This blocking of services is highly undesirable due to its potential effects on innovation.[877]

Nevertheless, the commission concluded that the JV Co would be unlikely to have the technical or commercial ability, nor the incentive to foreclose entry, or hinder expansion by competitors in relation to mobile wallet platform services. This was based on the sufficient number of competitors emerging and ensuring adequate competitive pressure post-operation, where the concerned market is characterised by technical evolutions in the future. [878]

The third scenario is based on the Commission's decisions on parallel R&D in the context of horizontal mergers. The Horizontal Merger guidelines consider innovation loss post-merger and specifically promising pipeline products that might be abandoned post-merger, if there is a duplication of R&D efforts or the merged entity already commercialises a successful competing product. To avoid such harm to innovation, the Commission has forced the divesture of pipeline products on several occasions. This occurred in the Dow/Dupont case where the Commission analysed the effects of the merger on overall R&D investments innovation and accordingly distinguished the possible discontinuation of parallel innovation efforts from harm to innovation due to an increase in market concentration.[879]

Noteworthy, these scenarios considered the harm to innovation in the context of harm to the competition process and in particular through a proxy where competitive pressure is reduced to the extent that it may harm the incentive to innovate. Nevertheless, the theory of harm has not been based on the adverse effects of a practice on the rate of innovation. Specifically,

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876 Case No COMP/M.6314 – *Telefónica UK/ Vodafone UK/ Everything Everywhere/ JV*, Commission decision of 4 September 2012, paras 294–313

877 Case No COMP/M.6314 – *Telefónica UK/ Vodafone UK/ Everything Everywhere/ JV*, Commission decision of 4 September 2012, paras 294–313

878 Case No COMP/M.6314 – *Telefónica UK/ Vodafone UK/ Everything Everywhere/ JV*, Commission decision of 4 September 2012, para 594, 595

879 Francisco Costa-Cabral, 'Innovation in EU competition law: The resource-based view and disruption' Jean Monnet Working Paper Series 17.2 (2018) 20. See guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, Official Journal C 31 (2004) para 38

See Case M.7932 *Dow/DuPont*, Commission decision of 27 March 2017.

innovation was considered from a limited view of the competition process, where the incentives of market players were influenced negatively due to the impact of certain practices on the competition process and where the capability of other market players to innovate was not considered.

Therefore, the next section seeks to clarify how the competition rules can take greater account of innovation considerations and in particular from a multi-dimensional perspective, where the incentive and the capability of other competitors and the dominant firm is considered.

7.3.3 The impact of practice on the innovation rate

The previous sections demonstrated that the impact of innovation could be considered indirectly as a critical factor. It has been suggested by some literature that the introduction of the innovation consideration directly in competition law analysis, to consider the direct effect of a practice on innovation, moves away from a static understanding. This is significantly prevalent in competition rules and is very difficult to pursue, since EU competition rules aim to preserve the observable competitive constraints faced by firms and does not aim to achieve optimal outcomes or to fine-tune the relevant market to improve its performance. In addition, there are difficulties in providing cogent and convincing evidence to prove the effect on innovation, to the standard that a reviewing court would be satisfied with. The direct introduction of innovation consideration makes it difficult to meaningfully constrain the discretion of Competition authorities, especially when an intervention is based on a plausible legal condition.[880]

Introducing the innovation consideration directly in Competition Law Analysis to consider the direct effect of a practice on innovation, entails a departure from the EU static analysis of the competition rules and independent analysis of market power. This thesis argues that the main issue here is not merely considering the impact of practices on innovation but also considering both positive and negative effects of certain practices on innovation and the

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880 See Pablo Ibáñez Colomo, Restrictions on Innovation in EU Competition Law (2016). European Law Review, 41 (2) 202, 213

need to balance these effects in the light of the circumstances of the specific case. Therefore, competition authorities should prosecute the most egregious anticompetitive violations[881] by ensuring that dominant firms that control resources in innovation markets do not affect other market players negatively, providing incentives to innovate or cause any loss of innovation to the detriment of consumer welfare.[882] Competition authorities should also focus on policies that encourage investments and technology adoption that act as a catalyst to creative destruction and hence the process of innovation-based growth.[883]

This is significant, as competition law plays a major role in structuring the creative environment, affecting the ways in which firms can compete and cooperate. If structured incorrectly, it might deliver unreliable results and stifle growth by creating obstacles to innovation.[884] This could lead to harming capability to innovate and decreasing consumer welfare, as innovation is a fundamental driver of consumer welfare. This balance contributes toward a more economic effects-based approach, which is required to assess each practice according to its effects and to avoid any enforcement error that could lead to condemning pro-competitive behaviours or edgy innovative practice.

For this reason, there is a need to level the playing field for competitors in the market to allow them to stimulate dominant firms to innovate and the need to consider appropriability as a radical factor in influencing the capability to innovate, which in turn may affect the consumers who would not be able to benefit from innovative products. This can be achieved through considering both the contestability principal and appropriability principle, since both can greatly affect innovation incentives, as well as the synergies principle that

881 Robert W. Crandall and Clifford Winston,' Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence'. (2003) Journal of Economic Perspectives, 4

882 See 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, para 28 (hereinafter, the 'Guidelines on horizontal co-operation agreements'); Guidelines on vertical restraints [2010] OJ C130/1, para 23; or Horizontal Merger Guidelines [2004] OJ C 31/5, paras 8, 38; and Non-Horizontal Merger Guidelines [2008] C265/6, para 23

883 Tom Nicholas, 'Why Schumpeter was right: innovation, market power, and creative destruction in 1920s America', The Journal of Economic History 63.4 (2003) 1055.

884 Michal S Gal and Spencer Weber Waller, 'Antitrust in High-Technology Industries: A Symposium Introduction' [2012] Journal of Competition Law and Economics 3

influences the capability to innovate. Such an approach is considered under the horizontal merger guidelines, as mentioned previously, where quantifying efficiencies is very difficult.[885]

The contestability principle implies the necessity to focus on the ability of an innovating firm to protect profitable sales by providing greater value to customers and encouraging innovation. This occurs through considering the nature of ex post product market competition. In such cases there is a need to distinguish between a concentrated market that is highly contestable, where an innovator can gain substantial market share by providing a better product, and that of a concentrated market, which is not highly contestable and where customers exhibit strong brand preferences or when market has high switching costs. Thus, any firm that develops an improved product will gain only a few sales from its rivals.[886] In this regard, it is fundamental to consider freedom to enter and exit the market as the minimum conditions for a contestable market to exist with an instantaneous entry and costless exit.[887] This requires assessing whether the practice reduces the competitive pressure on innovation.

In contrast, the appropriability principle focuses on the extent to which a successful innovator can capture the social benefits resulting from their innovation, which in turn depends on the extent to which a firm can protect the competitive advantage associated with its innovation, including its intellectual property rights. A higher level of appropriability usually encourages innovation, and subsequently lower levels of appropriability discourages innovation. For instance, if a firm that successfully innovates is unable to achieve a significant cost advantage over its rivals, ex post profit margins will be low and innovation incentives will be reduced. In such circumstances, contestability can be of

885See Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings [2004] OJ C31/5, paras 78–88

886 Carl Shapiro, 'Competition and Innovation: Did Arrow Hit the Bull's Eye?' in Josh Lerner and Scott Stern (eds), The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 362

887 see Baumol, W J Panzar, J and Willig, R Contestable Markets and the Theory of Industry Structure, Harcourt Brace Jovanovich, 1982; and Bishop, S and Walker, M The Economics of EC Competition Law: Concepts, Application and Measurement, Sweet & Maxwell, 2010, para 3021

limited relevance, since an innovating firm will not be able to offer superior value to customers.[888]

The appropriability achieved is a choice made by the firm. They can choose control protection from future competition via intellectual property (such as patents or trade secrets) or other pre-emptive entry barriers, or execution of a more rapid approach to market in pursuit of capabilities that can be leveraged for future competitive advantage. An execution approach can be profitable even when the conditions for control are favourable.[889]

To determine the level of appropriability, there is a need to focus on the influencing factors, this includes: low entry barriers combined with weak intellectual property rights which can lead to both more competition and more imitation. A high influencing factor can be the spillover effect to non-innovating firms through imitation. There is a need initially to determine the source of spillovers; since different sources have different impacts. Specifically, spillovers from competitors' imitation, which if induced, the imitator will have lower overall costs and can outbid rivals, which accordingly can lead to a negative impact on the incentives to innovate. Whereas spillovers from customers and suppliers provide valuable knowledge for sales with market innovations and can result in process innovation for the production of existing products but also in improving existing products.[890]

Lastly, the synergies principle suggests that combined complementary assets can offset anti-competitive effects and increase innovation capabilities.[891] For instance, when firms cannot innovate in isolation, such as in certain markets where value is created by systems that incorporate multiple components, and where alternative methods are not viable (such as patent pools, or joint R&D agreements). In these cases, increasing market concentration by combining complementary assets could be a way to create

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888 Carl Shapiro, 'Competition and Innovation: Did Arrow Hit the Bull's Eye?' in Josh Lerner and Scott Stern (eds), The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 362

889 Joshua S Gans and Scott Stern. 'Endogenous Appropriability'. American Economic Review 107.5 (2017): 317–21.

890 Riccardo Cappelli, Dirk Czarnitzki and Kornelius Kraft, 'Sources of spillovers for imitation and innovation' Research Policy 43.1 (2014) 115

891 Carl Shapiro, Competition and Innovation: Did the Arrow Hit the Bull's Eye?' in Josh Lerner and Scott Stern (eds), The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 362

synergies and spur innovation. This is based on the fact that such efficiencies are beneficial for consumers, specific and verifiable.[892] It is important to identify, if the R&D efforts of a dominant firm should be increased in line with its competitors. Specifically, in a case of necessary R&D improvements, where antitrust enforcements against the dominant firm's segregation would lead to two opposing consequences on the firm's incentive to invest in R&D.

7.4 A more 'economic theory of law'-based approach towards technical tying

In the previous chapters, analysis highlighted how the realities of software markets affect the analysis of the competition process, and the extent the EU approach under Article 102 TFEU accommodates the particularities of technical tying in software markets. It also demonstrated that an optimal way of considering the impact of practices on innovation is balancing the incentive to innovate and the appropriability and the consideration of efficiencies. As a result of the research, a more 'economic theory of law'-based approach to assessing technical tying claims has been proposed.

The aim of this approach is to interpret Article 102 TFEU to match the technological integration standard in software markets and for it to be compatible with modern economic theory in relation to the objectives of EU competition rules.

The suggested approach has two elements:

The first element provides precautionary procedures. The EU innovation mentoring system requires development, specifically for the high technology sector where it is possible to provide more guidance for dominance in markets, including early warnings on certain conducts, with the need to avoid the risk of false security that a monitoring system may create, because of the difficulties involved with picking up disruptive innovative trends. Competition authorities

892 Oxera, Advancing economics in business : fewer players, more ideals,(2017) https://www.oxera.com/getmedia/37181e1e-01c8-448d-b653-eb2065b75cde/fewer-players-more-ideas.pdf.aspx?ext=.pdf

may engage in regular interaction with stakeholders and sector experts, attend industry conferences, and conduct sector inquiries to continually learn about digital business concepts.[893]

A dominant firm should submit a plan during the first three months of marketing the product to the monitoring system, to explain the technical integration product functionality, the reason for the integration and any dynamic efficiency it will achieve. The dominant firm should demonstrate that the technical integrated products enhance the ability and incentive of the dominant firm to act pro-competitively for the benefit of the consumer.[894] The monitoring system should carefully scrutinise the dominant firm's plan to address whether it will increase consumer welfare and not deprive consumers from using the current products in the market or any new products. This all implies a checklist criterion to be included in the analysis that includes timing, stringency, flexibility and certainty effects of alternative policy options; the checklist could also refer to alternative types of policy intervention, which typically create different policy concerns.[895]

In addition, there should be a complaint from the consumers or consumer welfare association or from other efficient competitors. This is necessary to avoid double standards in the markets. It appears that previous treatment by the EU commission of pursuing an action against dominant firms, based on its own beliefs does not support equality in the market. The referred complaints will then be assessed by the commission to assess the conduct. Therefore, the monitoring system should be connected with the EC commission and inform it of any technical integration process, especially those where efficiency needs time to be achieved, or where any refusal to interoperate for a certain period occurs due to the development of a product.

893 OECD (2013b). The Digital Economy, OECD Hearings, Paris, DAF/COMP (2012) 22; http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf: A similar suggestion was made by participants to the OECD's hearing the Digital Economy in 2012.
See also EU commission, Monitoring Innovation, https://ec.europa.eu/growth/industry/innovation/facts-figures_en

894 See Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31 (2004) 5–18, para 77

895 Jacques Pelkmans and Andrea Renda, 'Does EU regulation hinder or stimulate innovation?' (2014) centre for European Policy studies (CEPS special report) 96, 27

The second element considers the theoretical aspect. A strong emphasis is placed on 'endogenous entry and market leader's theory', which is a flexible approach toward abuse of the dominant position, by analysing endogenous market structure and considering profit-maximising strategies and entry decisions to determine the influence of conducts on consumer welfare. It also includes insights obtained from both the legal rules on merger control and restrictive agreements. It considers innovation from a multi-dimensional view of the competition process. Furthermore, it considers case-by-case analysis, according to the relevant circumstances and particularities of the market and the involved practice, by determining a reasonable threshold of anti-competitive effects.

This approach requires competition authorities to move away from static analysis tools, when it is possible to use other tools. As explained in chapter four, although structural indication such as market share can be a good indicator in some markets, it can provide misleading results in fast-moving innovation market. In high-tech markets where competition is mostly for market share, it is natural for the better products to achieve a higher market share, and when entry is free, incumbent patent-holders have more incentives to invest. There is no basis to relate, in a significant way, market shares and market power in a fast innovation market.[896] However, due to the difficulty of relying on a self-correcting market and the way that Article 102 is constructed, structural indication will be employed alongside dynamic tools that will contribute to a more forward-looking approach, because of the central role of *potential* competition. In practice this means following a cautious approach with the self-correcting powers of digital markets that make permanent harm less likely.[897]

This method will improve the ability of competition authorities to focus on industry specific facts in fast-moving innovating markets and to analyse unilateral conduct accurately. In addition, it can recognise the effects of a

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896 Federico Etro, Competition Policy for the New Economy: Abuse of Dominance (Y Katsoulacosed, Athens University Press 2007) 57

897 Daniel Rubinfeld, 'Evaluating Antitrust Enforcement: Economic Foundations' in Barry Hawk (ed), Annual Proceedings of the Fordham Competition Law Institute, International Antitrust Law & Policy, Fordham Competition Law Institute (Juris Publishing Inc 2009) 462

dominant company's capabilities on the evolution of the market, by considering the behavioural theory of the firm, which antitrust policymakers should consider to mitigate any harmful unintended consequences of a static analysis,[898] thus ensuring a more predictable approach. This is significant as the modern theory of market leaders and endogenous entry offers a strong link between economic theory and the policy implications of competition law, and has similar mechanisms to the current effects-based approach. The endogenous entry and market leaders' approach suggests that tying-in practices can lead to a variety of effects. These effects may be anti-competitive, including entry deterrence and lowering the benefits of rivals, or may be pro-competition, including cost saving and quality assurance.

According to the theory of market leaders and endogenous entry, several presumptions made by the Post-Chicago School have led to misleading results, when applied without considering the nature of the entry.[899] For instance, the assumption made by Winston's model towards tying-in practices[900] should be applied only to a market with exogenous entry, because tying can reduce the profits of other firms and even deter entry. In contrast, when the models of market leader's theory are applied to a market with endogenous entry such as the software market, the outcomes are different and technical tying can reduce prices without deterring entry into the tied market.

The Report of the Economic Advisory Group for Competition Policy for the European Commission, which was published in the initial stages of modernisation of the Article states that:

> *A natural process would consist of asking the competition authority to first identify a consistent story of competitive harm, identifying the economic theory or theories on which the story is based, as well as the facts which support the theory as opposed to competing theories.*[901]

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898 J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5(4) Journal of Competition Law and Economics 55

899 See Chapter three, section 3.4.2.

900 Michael Whinston, 'Tying, Foreclosure, and Exclusion' American Economic Review (1990) 80(4) 854

901 EAGCP, An Economic Approach to Article 82 (Report of the Economic Advisory Group for Competition Policy for the European Commission, DG Competition, Brussels, 2005)

7.4.1 Identifying the tying and tied product market

Identifying the relevant market is the primary step in analysing an abuse conduct under Article 102. Defining the relevant market allows for the identification of all competitors which are capable of constraining their behaviour and prevents them from acting independently.[902] Once the relevant market has been defined, it is possible to calculate the market share of the undertaking and the market share of its competitors.[903] In an abusive tying claim, there is a need to identify both the tying product market and the tied product market to determine if there is a dominant position in the tying product market. However, as emphasised previously in chapter four, there should be less focus on market definition since traditional tools in competitive analysis do not consider the nature of products in fast-moving innovating markets and where it is difficult to find a perfect substitute. They also tend to focus on existing markets, without considering innovation in the markets and potential competition, a narrow market.

Modern economic theories suggest that an *ex ante* approach is likely to consider wider market definitions.[904] The assessment must be couched in forward-looking terms to focus on the competition for the whole market through innovation. Therefore, considering both actual and potential competition in the relevant market, as dominant firms might be constrained by additional pressures of other potential competitors that develop an innovative product. However, modern economic theories do not provide a unified approach, which can be applicable under Article 102. As discussed in chapter four, the current approach under Article 102 requires defining the relevant market first and then establishing market dominance, before determining the existence of abusive behaviour. This requires the competition authorities to define the relevant market based on the current structure of Article 102 to ensure a more

902 European Commission, 'Commission Notice: on the definition of relevant market for the purposes of Community competition law' OJ C 372 [1997), para 2.

903 Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* (Sweet & Maxwell 2002) 125

904 Nils Wahl, The Assessment of Dominance and Significant Market Power in Mobile Communications; an Analysis of the Interrelationship between Sector Specific Regulation and General Competition Law' 2005.

reasonable definition; otherwise, a reform of Article 102 is required.

An optimal solution is to define the tying product market more rationally by developing a methodology where the definition is partially based on demand substitution, and a higher percentage on supply substitution, since the aim here is to consider the consumer perspective toward the interchangeability of the products. When it is difficult to find a perfect substitute for products in a fast-moving innovation market, there should be some additional guidance. This guidance could be provided by high technology market experts, or the manufacturers categorising each product based on criteria such as functionality or nature of the products. It could also be provided from the consumer's perceptive through surveys to recognise which products could constitute substitutes in these circumstances and which do not. [905]

In addition, competition authorities should take into account factors such as innovative activities in the market, research and development expenditures, product innovation and performance enhancement. For instance, high R&D spending relative to sales is generally an indication that participants view product performance as the ultimate arbiter of competitive strength. Additional factors should also include shifts in market share, the impact on potential entry, shifts in customers purchases and pricing responses and most importantly potential competition that can be assessed, as potential entrants attempt to match or even leapfrog existing technology to secure a foothold in the market.[906] This will provide a more reasonable definition of the relevant market.

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905 See Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER), OJ L93/17, Article 1 (j), (k) defines 'relevant product market means the market for the contract products and their substitutes, that is to say all those products which are regarded as interchangeable or substitutable by the buyer, by reason of the products' characteristics, their prices and their intended use' and then defines 'relevant technology market' means the market for the licensed technology rights and their substitutes, that is to say all those technology rights which are regarded as interchangeable or substitutable by the licensee, by reason of the technology rights' characteristics, the royalties payable in respect of those rights and their intended use'.

906 Christopher Pleatsikas and David Teece, 'The analysis of market definition and market power in the context of rapid innovation', International Journal of Industrial Organization 19.5 (2001): 665–693.

7.4.2 Dominance

After defining the relevant market for the tying product and the tied product, the EU Commission considers the market share of the firm and its competitors as the first indication in establishing a dominant position of the tying product. The assessment of dominance in a high technology market poses many challenges for competition authorities, even if the relevant market is defined correctly.[907] As has been revealed in chapters four and five, these markets have unique characteristics where static assessment tools do not fit. For instance, considering market share in existing innovative markets is irrelevant, and the same applies to other criteria such as high profit margins, which may be caused by risk taking and the specificities of the cost structures in high-technology markets.[908] The assets which have made it possible to achieve earnings in the past, may not be profitable in the future.[909] A firm once seen as the dominant market player can see its market share diminish by the innovation of competitors and may be demoted to an also-ran within a very short time period.[910]

Thus, this thesis argues that an optimal procedure here is to consider potential competition that has a crucial role in dynamic markets and which can be achieved through the endogenous entry and market leaders' approach. This will ensure that market analysis is forward thinking.[911] EU competition rules define the relevant market based on static tools, but establishing a dominant position does not always depend on static tools.

Competition authorities should initially consider the existence of

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907 European Parliament, Directorate General for Internal Policies, Policy Department A: Economic and Scientific Policy, Challenges for Competition Policy in a Digitalised Economy, IP/A/ECON/2014-12, PE 542.235 (2015), 56

908 Nicolas Petit, 'New Challenges for 21st Century Competition Authorities' (2014) 13 Common L Rev 12

909 David Encaoua and Abraham Hollander, *'Competition Policy and Innovation'* (2002) 18(1) Oxford Review of Economic Policy (OUP) 63

910 Miguel Rato and Nicolas Petit, 'Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered' (2013) 9(1) European Competition Journal 7

911 David J Teece, 'Favouring Dynamic over Static Competition: Implications for Antitrust Analysis and Policy' in Geoffrey A Manne and Joshua D Wright (eds), *Competition policy and patent law under uncertainty: regulating innovation* (Cambridge University Press, New York Google Scholar 2011)227–203

see guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 16, 'Competition is a dynamic process and an assessment of the competitive constraints on an undertaking cannot be based solely on the existing market situation. The potential impact of expansion by actual competitors or entry by potential competitors, including the threat of such expansion or entry, is also relevant'.

concerns regarding market share when analysing a technical integration claim in fast-moving innovating markets and focus on other dynamic criteria such as competitive constraints and barriers to entry, which consider potential competition in the market. This includes the current and future alternative routes available to reach end users and the identification of current and future bottlenecks.[912] The legal possibility of considering these concerns relies on considering fast-moving innovation markets as having features such as rapid change and short monopolies, which lead to some concerns about the durability of the dominant position.[913]

The starting point in analysing a dominant position in a technical tying claim is to investigate barriers to entry and barriers to expansion. These can identify the likely behaviour of dominant firms and provide an indication of the dominant position's strength and the possibilities of a dominant firm to exert market power and can have an impact on entry and exit decisions by other competitors. In this scenario, the correct definition for such barriers would be the factors that endogenously limit entry or endogenously determine how many and which firms profitably enter.[914] The main considerations are the economic consequences on the market and the identification of other possible firms who wish to enter the market.

Competition authorities, while analysing a dominant position in a tying abuse claim in fast-moving innovation markets, should analyse the entry condition of the tying product market.

This mainly entails the identification of marginal cost for the integrated product or its upgrade, as well as sunk costs that cannot be recovered on

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912 European Parliament, Directorate General for Internal Policies, Policy Department A: Economic and Scientific Policy, Challenges for Competition Policy in a Digitalised Economy, IP/A/ECON/2014-12, PE 542.235 (2015) 58

Case 27/76 *United Brands v Commission* [1978] European Court Reports 207, para 65: 'Such a position does not preclude some competition, which it does where there is a monopoly or a quasi-monopoly, but enables the undertaking which profits by it, if not to determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it so long as such conduct does not operate to its detriment'.

913 See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7 para 16.

Commission Notice on the definition of relevant market for the purposes of Community competition law, OJ 1997, C 372/03 (Notice on Market Definition), para 24

See Case T-62/98 - *Volkswagen v Commission*, EU:T:2000:180 ECR [2000] II-02707, para 230

914 Federico Etro, 'The EU Approach to Abuse of Dominance' (UCSC, Department of Economics, ECG and Intertic, Milan, February 2006) 5.

exiting an industry. The sunk costs are fundamental to the calculations of potential entrants, because they increase the risk of entering an industry or deter entry when they cannot be recouped on exiting and create a cost asymmetry between entrants and incumbents. Once costs are sunk, they are no longer a portion of the opportunity costs of production, and a firm will require a lower return on costs in order to stay in an industry than will be required to enter.[915]

In addition, there is a need to estimate the absolute cost advantage such as technological superiority by R&D expenditure, which may increase the sunk costs of entry, the extent of product differentiation, advertising, goodwill/reputation, and capital requirements. [916]

Furthermore, there is a need to consider the extent of product differentiation and the magnitude of inter-group externalities. If the extent of inter-group externalities is significant compared to that of product differentiation, tying can be welfare-enhancing because the benefit from internalizing the inter-group network externalities outweighs the loss of product variety. Otherwise, tying reduces welfare; for instance, consumers view products as imperfect substitutes for a number of reasons, such as different varieties (horizontal product differentiation), and product quality (vertical product differentiation). If introducing a new brand is connected with significant fixed costs, horizontal product differentiation may lead to persistent entry barriers.[917]

Another significant consideration is examining the likelihood of new entry and the structure and economic circumstances of the relevant market. Considering the market's nature and structure can identify whether a dominant firm, with a very high market share, is able to make use of its position, if any significant deviation of the price from marginal costs leads to entry by new

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915 David Harbord and Tom Hoehn, 'Barriers to entry and exit in European competition policy' International Review of Law and Economics (1994) 14.4, 411

916 David Harbord and Tom Hoehn, 'Barriers to entry and exit in European competition policy' International Review of Law and Economics (1994) 14.4, 411

917 Diana Heger and Kornelius Kraft, 'Barriers to Entry and Profitability' (2008). ZEW Centre for European Economic Research Discussion Paper No. 08-071. Available at SSRN: https://ssrn.com/abstract=1268245 or http://dx.doi.org/10.2139/ssrn.1268245.

competitors. Entry by new firms can also affect innovation and put pressure on the existing firms not only to refrain from misusing their market power, but also to operate as efficiently as possible.[918]

The EU competition authorities should also analyse whether the dominant firm in a primary market (tying-product market) is also active in a secondary market (tied-product market). This step is especially important in order to identify whether the issue is the lack of competition rather than the tying strategy, because punishing the tying strategy would only serve to guarantee the monopolistic rents of the dominant firm in the secondary market.[919] The secondary market must not be monopolised, but without the necessity of being perfectly competitive in the sense that dominant firms do not price at marginal cost.[920] In this situation, a dominant firm usually reduces its prices through network externalities to expand its market share to almost the whole market, since rivals will also offer alternative products or software at even lower prices to build their own network effects.[921] Tying practices can be an effective device to outplace some of the other firms without deterring entry into the tied-product market (secondary market), as long as the demand for the tie is close enough to the demand for the monopolistic (tying) product.[922] It can be used to reduce the combined price level and thus increase welfare as well as achieve profits for the dominant firm in this market through an aggressive strategy such as competition in prices.[923] The generalisation that a dominant firm may use a tying strategy between two products to deter the entry of other competitors can be highly misleading, especially if the possibility of further entry is neglected, given the fact that the secondary market is characterised by endogenous entry and entry is possible.

Hence, establishing dominance in a fast-moving innovation tying-product market requires not only finding a relevant and manageable

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918 Kai-Uwe Kuhn, Robert Stillman and Cristina Caffarra, 'Economic Theories of Bundling and their Policy Implications in Abuse Cases: An Assessment in Light of the Microsoft Case' (CEPR Discussion Paper No 4756, November 2004).

919 Federico Etro, *Competition, Innovation and Antitrust: A Theory of Market Leaders and its Policy Implication* (Springer-Verlag Berlin Heidelberg 2007) 233

920 Federico Etro, 'Competition Policy: Toward a New Approach' (2006) 2(1) European Competition Journal 44.

921 Federico Etro, 'Competition Policy: Toward a New Approach' (2006) 2(1) European Competition Journal 41.

922 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' (2010) 57(1) International Review of Economics 9

923 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' (2010) 57(1) International Review of Economics 9

interpretation of behaving independently in such markets, but also includes the analysis of the strength of competitive constraints and barriers; these will contribute toward considering potential competition. A significant market power in this context should be considered as having the capability of an undertaking with competitive advantage to control innovation resources and affect negatively other market player capabilities to innovate and compete effectively. Therefore, the loss of innovation is to the detriment of consumer welfare.[924]

7.4.3 The anti-competitive effects and consumer harm

This thesis has demonstrated that EU competition policy toward dominant firms is very strict and implicitly assumes that an undertaking in a high-technology market can do better than an entrant.[925] While other competitors gain some protection, the dominant firms are subject to special responsibility that can have a serious impact on their incentive to innovate and might prevent them from deriving the total return of their investments, since it considers exercising practices by dominant firms as economically inefficient.[926] Therefore, the suggested approach aims to provide a more balanced assessment of a dominant firm's conduct in the market. This thesis argues that market leaders do not have an advantage over new entrants since radical technological changes generate uncertainty in such markets. They also need to innovate constantly to know whether to enter the market or to remain and protect their market power.

Achieving a balanced assessment initially requires that competitive effects should be considered differently from the current EU Commission assessment. This thesis argues that_the EU commission should consider a

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924 See 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, para 28; Guidelines on vertical restraints [2010] OJ C130/1, para 23; or Horizontal Merger Guidelines [2004] OJ C 31/5, para 8, 38; and Non-Horizontal Merger Guidelines [2008] C265/6, para 23

See DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses (Brussels, December 2005), para 24: 'Market power is the power to influence market prices, output, innovation, the variety or quality of goods and services, or other parameters of competition on the market for a significant period of time'.

925 Timothy F Bresnahan, Shane Greenstein and Rebecca M Henderson, 'Schumpeterian Competition and Diseconomies of Scope: Illustrations from the Histories of Microsoft and IBM' in The Rate and Direction of Inventive Activity Revisited (University of Chicago Press 2011) 203

926 Stephane Ciriani and Marc Lebourges. 'The role of market power in economic growth: an analysis of the differences between EU and US competition policy theory, practice and outcomes'. European Journal of Government and Economics 5.1 (2016) 5–28

tying claim abusive if it causes direct harm to consumers in the tied product market, such as hindering innovation or limiting the choices of consumers. This means considering consumer welfare in the short term and long term.

The Commission considers 'an indirect consumer welfare test' to determine whether a practice is abusive or not. The Commission also considers whether consumers could be harmed by a practice that harms an effective competition process in the market, leading to higher prices, lower innovation, limited quality, and narrower consumer choice. This is also clear from the case law that demonstrates that direct harm to consumers is not required to establish an abusive practice, such as technical tying conduct. The EU approach only considers the short-term consumer welfare.[927]

Nevertheless, the short-term consumer welfare criteria can be damaging to a firm's incentive to invest and innovate in fast-moving innovation markets. Firms invest and innovate to the benefit of consumers and expect that the company will be able to gain profits and the return of successful investments compensate firms for taking risks in investments. If profitability is treated with much suspicion, regulators may intervene in practices such as technical integration and treat them as other practices in terms of obliging dominant firms to reduce prices and penalise successful firms.[928]

The mechanism for considering consumer welfare in both the short term and long term, entails moving away from the static approach and towards a less interventionist approach. Some types of efficiency are enhanced in the long term through technological innovation. These technological innovations may occur through cycles of innovation rather than through static price or output competition. Considering ultimate consumer welfare as a goal is necessary with an increasing trend to prioritize a certain aim according to the nature of the industry, and to align more distinct grounds for intervention, especially where sector-specific regulations in network industries have become widely required.[929] The assessment under these circumstances will

927 See chapter six, section 6.2.2.

928 Pinar Akman, 'The concept of abuse in EU competition law: Law and economic approaches' (Bloomsbury Publishing, 2012) 27

929 Nicolas Petit, 'New Challenges for 21st Century Competition Authorities' (2013) 13 Common Law Review 10

be more aligned with the economic theory in fast-moving innovation markets. For example, direct harm to consumers will lead to competition authorities no longer needing to consider if a certain practice has a negative influence on the ability and incentive to innovate; instead, the main consideration will be whether the concerned practice leads to hindering the competitive process in these markets and thus decrease innovation to the detriment of the consumer. If consumer welfare is a goal of competition policy then the promoting of dynamic efficiency is necessary as the greatest driver of consumer welfare, especially given that there is little empirical evidence to suggest that static efficiency will provide direct benefits to consumers or deter anticompetitive practices. [930]

There is also a need to investigate if the innovation is a radical force in the concerned market. This entails analysing the firm's strategies and behaviours in order to obtain reasonable results and predications and analysing if the technical tying practice increases the firm's ability and incentive to bring new innovation, and the competitive pressure on other competitors to innovate.[931] If the dominant firm is not pursuing innovations and has no incentive in the investment and innovation process, this indicates that it has the tendency to practise anticompetitive acts that exclude other competitors to the detriment of consumers.

While analysing a firm's strategies, there should be a distinction between the type of the competition as discussed previously in section 7.2, for instance, in the competition process when quantity and product are homogenous it should be determined if the leader has expanded its production using scale of economies and thus setting a lower price to benefit the consumer. Whereas in the competition process based on price, it should be determined if the leader is likely to set high prices when the fixed costs of entry

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See Dennis W Jansen, *The New Economy and Beyond: Past, Present and Future* (Edward Elgar Publishing 2006) 5, 96: some key network industries, such as telecommunications, have significant regulations, whereas other networked industries, such as banking and computing networks, are almost deregulated.

930 Robert W Crandall and Clifford Winston,' Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence.' (2003) Journal of Economic Perspectives, 4

931 See a similar approach in the context of merger rules, Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31, (2004) 5–18 para 38, 60

are small or set low prices as an aggressive strategy that would not necessarily deter, but discourage, entry. If the fixed costs allow entry, the tying strategy is pro-competitive, and it will contribute to lowering prices and firms will compete aggressively. Thus, it is not possible to consider whether the dominant firm will necessarily tie for exclusionary purposes, since this process depends on recognising that the entry costs are above the relevant level.[932]

EU competition authorities should also consider if the dominant firm aims to achieve preliminary investments when price or quantity competition is not efficient and there is a constant competitive pressure. In such cases, the dominant firms overinvest in cost, reducing R&D independently from the form of competition and this overinvestment will allow the dominant firms to act aggressively and discourage entry.

Competition authorities should also consider the nature of the market and any indicators that inform on contestability, such as the nature of barriers to entry and expansion in the tied market, as well as other alternative routes to reach end-users, while analysing the effect of the technical tying. This is important to recognise any potential threat against the dominant firm.[933] This is in parallel with the guidelines on horizontal mergers that take into account the effect of the practice based on the market barriers to entry.[934] This is also parallel with criteria extracted from the economic theories that have addressed technical tying in multi-sided markets which could be incorporated, as follows:[935]

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932 Kai-Uwe Kuhn, Robert Stillman and Cristina Caffarra, ‘Economic Theories of Bundling and their Policy Implications in Abuse Cases: An Assessment in Light of the Microsoft Case’ (November 2004). CEPR Discussion Paper No. 4756.

933 See European Commission, ‘Antitrust: Commission sends Statement of Objections to Google on Android operating system and applications’, Brussels, 20 April 2016, available at http://europa.eu/rapid/press-release_IP-16-1492_en.htm, Case AT.40099 – Google Android Commission Decision of 18 July 2018, available at http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_40099: It is clear that the EU commission does not give adequate consideration to the potential threat that Android faces from Apple.

934 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, [2004] Official Journal C 31, para 70: ‘potential entrants may encounter barriers to entry, which determine entry risks and costs and thus have an impact on the profitability of entry. Barriers to entry are specific features of the market, which give incumbent firms advantages over potential competitors. When entry barriers are low, the merging parties are more likely to be constrained by entry. Conversely, when entry barriers are high, price increases by the merging firms would not be significantly constrained by entry. Historical examples of entry and exit in the industry may provide useful information about the size of entry barriers’.

935 See section 5.4.

- It must be determined whether there is another substitute that performs in the same way as the tied product, in the same conditions and characteristics. This is important to determine if the tying product was designed to work only with the tied product or it permits functioning with other substitute products (i.e. multi-homing).[936] The multi-homing option reflects the direct and indirect aims of the firm's conduct in the market, especially in technical markets, where undertakings are capable of manufacturing products that can operate on other products, including third-party products.
- There is a need to determine if a multi-homing is costly or free.
- It must be determined if the dominant firms, which practise technical tying, interoperate widely in the market or not, this will indicate its intended aims and whether it aims to foreclose competitors in a way that causes harm to consumers directly.
- There is a need to consider the performance of both the tying and the tied product, which must be assessed with, and without, integration. This can reflect the functional relationship of both products and what the integration brings to consumers, whether in terms of quality, speed or other benefits.
- This emphasises the need to distinguish between the flexibility of entry into a tied market, as not all the practices of market leaders should be curbed. This analysis can enable competition authorities to determine whether those factors counteract the anticompetitive effects of the tying practice in the tied product market or not. The competition authorities could establish whether a dominant firm's conduct is closing down routes to reach end-users, such as employing an aggressive strategy that would foreclose other competitors and harm consumers directly or when these strategies are implemented by a dominant firm with genuine market power which is not constrained by effective

936 Jay Pil Choi, 'Tying in Two Sided Markets with Multi-homing' The Journal of Industrial Economics (2010) 58, 610

entry or when the dominant firm has built barriers to artificially constrain entry and without efficiency reasons.[937]

7.4.4 Efficiency

The competition authorities are very strict in dealing with the practices of dominant companies but do not always consider the threats of potential competitors towards a dominant company or consider its right to protect its own position. Therefore, there is a difficulty for competition authorities in considering the type of efficiency that dominant firms pursue. The threat of potential competition is more common in fast-moving innovation markets that are characterised by network effects and rapid change. Considering static efficiency, such as allocative and productive efficiency is considered to be possible, whereas introducing dynamic efficiency of a technical tying practice is particularly difficult and nearly impossible. This has been discussed in the previous chapter, which states that competition authorities provide dominant firms with a very limited scope to justify its practice. A dominant firm could justify its alleged abusive practice by showing that 'it is objectively necessary' or by showing that it 'produces substantial efficiencies which outweigh any anti-competitive effects on consumers'.[938] Specifically, the dominant firm must also show with an adequate degree of probability and based on verifiable evidence, that the following cumulative conditions are fulfilled: 1) the efficiencies have been, or are likely to be, realised as a result of the practice; 2) the practice is indispensable to achieve the efficiencies; 3) the likely efficiencies achieved by the practice must outweigh any likely negative effects on competition and consumer welfare; and 4) the practice must not eliminate effective competition.[939]

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937 Federico Etro, 'Endogenous Market Structures and Antitrust Policy' International Review of Economics (2010) 57(1) 9

938 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7 para 28

939 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, para 30

See Stephane Ciriani and Marc Lebourges, 'The role of market power in economic growth: an analysis of the differences between EU and US competition policy theory, practice and outcomes' (2016) European Journal of Government and Economics 5(1): The European competition authorities, under the influence of the post-Chicago synthesis, tend to prevent efficiencies and consider that certain practices are potentially anticompetitive and may allow the exercise of market power than to generate efficiencies.

However, the ability to verify dynamic efficiency under these circumstances and providing evidence is not an easy task.[940] This is because under Article 102, a claim should be substantiated in detail on the basis of existing data and strong evidence and efficiency should be evident in the short term to be considered by the competition authorities, while dynamic efficiency based on innovation is forward looking and involves future benefits that can be difficult to prove instantly. Therefore, dynamic efficiency is rarely considered, which can lead to a loss of dynamic efficiency, where a dominant firm's incentive to innovate is diminished or hampered, and practices are condemned that can be efficient for consumers and give rise to too many type I errors (false positives).

As a result of the above discussion, this thesis argues that the main problem of the verification issue could be sidestepped by resorting to pre-appraisal of efficiency as well as ex-post appraisal of efficiencies.[941] The competition authorities, which require a two-stage efficiency review under Article 102 could permit an undertaking to demonstrate the plausible efficiency of the technical integration. This could occur when applying to the responsible system, such as the innovation monitoring system, in the first three months of marketing the integrated product and another efficiency review during any claim issued against the dominant firm. Both reviews will permit an undertaking to demonstrate the plausible efficiency of the technical integration before any antitrust claim and after it if it occurred subject to an assessment after a certain period, to determine whether the claimed efficiencies were actually achieved.[942]

However, incorporating a dynamic efficiency review in the assessment of a technical tying abuse should be considered during the assessment of the anti-competitive effects of the technical tying practice. This will allow a far more confident appraisal of efficiencies and determine whether the claimed

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940 Jan Broulik and Michael Diathesopoulos, 'The Conceptual Integration of Innovation into the Traditional Establishment of EU Competition Law: Connecting the Dots between Static & Dynamic Competition working group presentations', European university institute (2017)

941 see Joseph F Brodley, 'Proof of efficiencies in mergers and joint ventures'. Antitrust Law Journal 64.3 (1996) 611
A similar approach is applied on mergers where ex-post appraisal of efficiencies is occurred after the merger take place

942 See Joseph F Brodley, 'Proof of efficiencies in mergers and joint ventures,' Antitrust Law Journal 64.3 (1996) 611

efficiencies were actually achieved or about to be achieved including analysing the intended aims of the dominant firms. Firms spend more resources on introducing a major innovation to diffuse the efficiency, profit from it, and increase the incentives to innovate.[943] The necessity for incorporating this dynamic efficiency is to enhance the ability and incentives of the dominant firm to act pro-competitively for the benefit of consumers.[944]

In effect, innovation considerations should not be considered if they will lessen the incentive to innovate and consumers will be deprived from new and more developed products.[945] This implies a balance between innovation-enhancing and innovation-constraining effects.[946] This is necessary because high technology markets characterised by research and development are a radical source of economic growth. In particular, there is a high correlation between research and development expenditure and productivity growth after accounting for investment in ordinary capital.[947]

7.5 Conclusion

This chapter provided a discussion on the relationship between innovation, dominance and types of competition. It concluded that there has not been an acceptance or consensus toward a certain or unified relationship between the competition process and innovation. This issue has had an impact on the EU approach, which has a negative perspective toward the relationship between

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943 Michal S Gal and Spencer Weber Waller, 'Antitrust in High-Technology Industries: A Symposium Introduction' [2012] Journal of Competition Law and Economics 3

944 See Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31 (2004) 5–18, para 77

945 Beata Mäihäniemi, 'The role of innovation in the analysis of abuse of dominance in digital markets: The analysis of chosen practices of Google Search' (11th ASCOLA Conference, Leiden, Netherlands, 2016) 4
see Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ C 31 (2004) 5–18, para 77

946 Jacques Pelkmans and Andrea Renda, 'Does EU regulation hinder or stimulate innovation?' (2014) centre for European Policy studies (CEPS special report) issue 96, 27
see in the context of merger rules, Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the EC Merger Regulation) Official Journal L 024, 29/01/2004, 0001–0022, Article 2 para 1: 'Article 102 TFEU through the mechanism of the objective justification of an allegedly abusive behaviour allows scope for the consideration of innovation and particularly of the pro-innovation effect of the anti-competitive behaviour as a compensating, balancing and neutralising factor for any harm generated by the restriction of competition'.

947 Richard Gilbert, 'Looking for Mr. Schumpeter: Where Are We in the Competition – Innovation Debate?' in Adam B Jaffe, Joshua Lerner, Scott Stern: *Innovation Policy and the Economy*, Vol 6 (2006) MIT Press,159–215.

innovation by dominant firms. It has been demonstrated that the EU approach does not consider the impact of practices on innovation, but merely takes account of innovation when it has been assumed to be negatively affected by the creation or the strengthening of market power. This treats innovation as a parameter similar to quality or output.

Competition based on innovation does not receive adequate protection from the competition authorities in the EU competition rules. Until the last decade, competition based on innovation was not a type of competition that the competition authorities were keen to protect in the market or assure the efficiency of its process.[948] Innovation considerations have been considered indirectly under EU competition rules in general and without considering the impact of practices on the rate of innovation except on rare occasions. Although a significant development has occurred in the context of merger rules and restrictive agreement with the modernised approach, and in particular toward more recognition of potential competition and competition in innovation. the EU approach remained focussed on protecting the incentives to innovate and does not consider the capability to innovate or efficiency resulting from the practices in fast-moving innovation markets.

This chapter has provided a possible mechanism toward considering the impact of practices on innovation rate, where innovation could be considered in the phase of objective justification and in particular as an efficiency defence and where there is a need to balance innovation-enhancing and innovation-constraining effects.

Lastly, this chapter suggested a more 'economic theory of law'-based approach toward assessing technical tying claims in the fast-moving innovation market, which is based on the endogenous entry approach and additional insight from law. This approach is based on the methodology of the effects-based approach and aims to contribute towards a more legal certainty by considering the nature and structure of the market, and, particularly, the barriers to entry: the strategic interaction between the dominant firm toward

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948 Rafael Alves de Almeida, 'Market Dominance in the New Economy'. Revista Direito GV 2/2 (2006) 76

the type of competition, considering dynamic efficiency and increasing consumer welfare.

CHAPTER 8: CONCLUSION

8.1 Summary

This thesis set out to contributes to the understanding of technical tying practices in fast-moving innovation markets and clarify how to interpret Article 102 TFEU to match the technological integration standard in software markets and to be compatible with modern economic theory in relation to the objectives of EU competition rules.

This thesis initially provided a background on Article 102 TFEU followed by brief discussion on the shift from the form-based approach to an economic based approach and demonstrated the old and new approaches to abuse of dominant position. The analysis mainly highlighted that the structure and interpretation of Article 102 is significantly broader than its strict wording and poses many difficulties in determining an abuse of dominance.

This was followed by investigating the EU approach assessment framework toward tying in practices pre-modernisation process and post-modernisation process. The analysis highlighted crucial issues to be considered when discussing proposals for refinement of the current approach, it revealed that although an overall contribution by the Commission has been generally applauded for incorporating economic theory under Article 102 TFEU, competition rules under Article 102 is still influenced by a structuralist approach to prove market power independently of economic efficiency and investments in technology. This makes it very difficult to follow an economic effects-based approach to the required extent hence problematic approach in fast innovating markets that requires a more case-by-case analysis and adequate consideration of the economic aspects of each case. the lack of acknowledgment towards fast innovation market created various misconceptions and challenges in regulating such markets without hampering innovation or reducing consumer welfare.

Specifically, exploring the assessment of technical tying in practice as one of the common practices in fast innovating markets , as in the Microsoft

case revealed that the EU approach allows a very limited scope in its analytical framework to accommodate the unusual characteristics of the software market as a fast innovating market.

This was demonstrated where the EU approach under Article 102 failed to provide an efficient mechanism to define the relevant market in the software markets and depends totally on static assessment tools such as the hypothetical monopolist test, which depends mainly on the price of the product or the service, and which in its turn is deemed as inefficient, wile what predominantly drives competition in software markets is leading innovative product and not price. thus, it has been emphasised that the applied approach is merely capable of capturing the competition process in the existing market without considering the potential competition and the threats that are faced by domain firms from other competitors in fast innovating markets.

Besides, it has been indicated that the traditional criteria that have been used widely in the assessment of market power in the software market as a fast innovating markets can deliver mixing results. This applies on high market share that is not tantamount to market power in fast innovation market, and on high profits margin since fast innovating markets which are characterized by inequality in market shares, rapid change, and continuous innovation leads to destruction as a result of the shift in market powers. Whereas other indicating factors such as barriers to entry and expansion has been given a margin role in the assessment of the market power in fast innovation market.

Notwithstanding the abovementioned difficulties, it has been demonstrated that the static assessment does not only affect market power perquisite in a technical tying claim, but also the analysis of technical tying practice as one of the common practices in the software market as a fast innovating market. Although there are significant differences between both contractual tying and technical tying, whether in terms of the nature of the market they are involved in, or in terms of the nature of the tied product or even the economic rationale behind both practices, technical tying claim was treated very similarly to contractual tying practice. A case-by-case analysis was not sufficiently established; the analyses were based, in many instances, on

presumptions with debatable theoretical possibilities that by themselves do not prove anything and are considered as being highly problematic.

In more detail, it has been established that the distinct product test treats technical integrated products no differently than regular products; the interpretation for the two distinct products is considered a restrictive approach to be applicable for cases of technical tying, as this approach does not take into account the circumstances of the technical tie in a high-technology market nor differentiate between the nature of the tied products (whether regular products or intangible and durable products that can be complementary and non-complementary). Nor does such a conception consider the functional relationship and the improvements between the integrated products and whether or not the tied product is free. This concept accordingly raises an issue when a new product is brought to a high-technology markets with their rapid changes and continuous innovative products, where strategies in providing separate products change all the time, and where what used to be supplied separately are becoming a constituent part of more developed products.

Besides, the coercion criterion (which distinguishes between some types of tying and also between forcing consumers and giving them an additional option in different packaging) has not been manifested adequately when it involves technical product. For instance , a certain packaging of the software was considered to be coercion, instead of an additional option that was given for free and which only occupied a trivial space in an operating system.

Further, the foreclosure effect is believed to constitute an important step towards an effects-based approach. However, it was employed very generally in case law especially when it comes to fast innovation market. It has been interpreted to an extent that it ‘put competitors at an advantage’. In more detail, the foreclosure criteria tended to be implied to be harmful to competition and competitors, rather than harmful to the competition process and the consumer. besides harm to the consumer was only considered through a proxy where the competition process in the tied market and adjacent market has been changed

Furthermore, the absence of justification as a vital element in an effects-based approach that could justify a technical tying-in practice after balancing its pro-competitive effects with its anti-competitive effects is proved to be very hard to satisfy. It was implemented in such a way to make it impossible for dominant firms to justify their practices, especially certain types of efficiencies.

Hence, this thesis argued that such an approach taken by the Commission in fast innovation market has shortcomings in terms of an economic effects-based approach assessment. In particular, the Commission failed to adopt a coherent approach towards developing multifunctional products by dominant firms without violating Article 102 TFEU. the EU competition approach has been reluctant to adopt an ultimate consumer welfare approach. the Commission has been attached/loyal to the indirect consumer welfare approach and on a short-term basis and which enables a more interventionist approach by the competition authorities. This is although that applying an indirect consumer welfare approach and neglecting the dynamic efficiency diminishes the incentive and the capability to innovate to the detriment of consumers.

For this purpose, it has been suggested that competition authorities competition should not rely on their long-established presumptions that a dominant position will reduce innovation or harm consumer welfare.[949] Thy should not also presume that network industries are more subject to monopolization than other markets, nor that network effects are a source of market failure, which in turn may justify inappropriately strict scrutiny from the competition authorities towards such firms in these markets.[950] Neither should harm by proxy be assumed as being the effects of a practice on the competitive process, such as the potential foreclosure of other competitors or the creation of a near monopoly. as perfect competitive markets are not compatible with increasing returns, which are at the heart of the growth process.[951]

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949 Michael L Katz and Howard A Shelanski, 'Schumpeterian Competition and Antitrust Policy in High-Tech Markets' (2005) 14 Competition 19

950 Daniel F Spulber and Christopher S Yoo, 'Antitrust, the Internet, and the Economics of Networks' (2013) Faculty Scholarship 568.13-

951 Jean-Luc Gaffard, '*Innovation, Competition, and Growth: Schumpeterian Ideas within a Hicksian Framework*' in Uwe Cantner, Jean-Luc Gaffard and Lionel Nesta (eds), *Schumpeterian Perspectives on Innovation, Competition and Growth*' (Springer-Verlag Berlin Heidelberg 2009) 19

Along the same, even with the recent development in the decision anal practice post the Microsoft case, while the enforcement competition authorities have some discretion to forward to a more reasonable assessment in traditional markets and avoid condemning pro-competitive effects (type 1 error), the EU current purported effects-based approach still translates in some instances some per se abuses into abuses by nature, besides, it does not provide a clear threshold in the assessment to ascertain if the practice has an anti-competitive foreclosure effect, the approach followed has rarely accepted efficiency arguments and usually presumes the possible anticompetitive effects that could be likely or only probable.

In the aftermath of these discussions and analysis, the thesis reached out that the current EU approach under Article 102 is far from a unified economic theory with strong emphasis on the welfare of the consumers. The main issue here it is not only the way the EU approach followed by the EU competition authorities and its interpretation, but also the way that competition rules are structured and resolve around the market power. Much more, there has not be consensus toward a certain relationship between the competition process and innovation and which lead to the fact that the EU only takes account of innovation when it has been assumed to be negatively affected by the creation or the strengthening of market power.

To this end, the thesis suggests that there is a need to implement of an economic theory that translate economic principles into legal rules. This implies considering the pro-competitive effects of technical integration in fast innovating market that provides many efficiencies for consumers and acts as an incentive for market players to develop new products and achieve innovation in the fast innovation market, and not according to the possibility that he practice have a foreclosing effect on competitors, since all unilateral conducts have the potential to exclude competitors, even in a competitive market. Equally important, competition policies should consider dynamic efficiency as a competition goal in high-technology markets by providing firms

with the appropriate incentives to invest in R&D.[952] Otherwise, efficiency-enhancing practices that benefit consumers could be denied, especially given that the EU Commission in its current approach pursuing both the goals of preventing foreclosure and protecting consumer interests, which is highly difficult to be applicable in fast innovation market and may impede desirable innovation and reduce technological progress.

On these grounds, this thesis has found that modern theories have considerably considered in its analysis additional elements including the particularities of high-technology markets, such as product differentiation that could be horizontal or vertical, whether the market is one-sided or multi-sided, and whether there is multi-homing in multi-sided markets. In addition, it found mainly that that the optimal solution is an acceptance of the market leaders and endogenous entry theory alongside an effects-based approach to take into consideration the economics of the case. This is next to insights from the context of merger control rules and the restrictive agreements exemption regulations. This is necessary to lead the competition authorities to the right approach and avoid the misleading presumptions of a very interventionist approach such as harm inferred by potential foreclosure of other competitors or the creation of a near monopoly, and to match the technological integration standard and other similar practices in high-technology markets and to be compatible with modern economic theory.

The endogenous entry approach does not only aim to accommodate the relationship between innovation and market structure, but also pursue to ensure a more flexible and predictable approach through offering a strong link between economic theory and the policy implications of competition law. Indeed, it clarify that some competitive practices, such as tying-in practices, can lead to different impacts than those presumed in traditional theories when additional factors such as 'firms' strategies and barriers to entry that are considered be the essence of the economic approach to competition rules in high-technology markets, in particular when entry is endogenous.

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952 See Stefano Comino and Fabio Mara Manenti, *Industrial Organisation of High-Technology Markets: The Internet and Information Technologies* (Edward Elgar Publishing 2014) 256

It also requires that the goal of competition law must be towards the protection of consumer welfare and therefore it consider the pro-competitive effects of technical tying when it offers efficiencies for consumers and increase consumer welfare, especially when technical tying does not prevent the access of other competitors with the existence of endogenous entry and multi-homing.

8.2 Policy implications and recommendations

This section presents possible practical implications and future avenues for improvement.

EU competition law should consider increasing consumer welfare as an ultimate goal. This entails advocating an approach that takes adequate consideration of dynamic efficiency, eliminating other aims that may contradict the goal of consumer welfare, such as protecting inefficient players in the market from efficient players in non-price abuses. This is essential because there cannot be a unified and a certain approach towards different types of practices when the aims of competition policy are not prioritised.

The EU Commission, in prioritizing consumer welfare as an ultimate goal, should elaborate practices according to their effects in order to guarantee more applications based on an effects-based approach. From an economic perspective, this can be done in two ways: first, by increasing the requirements to show harm towards consumers in an effects-based analysis, and only intervene if there is direct harm to consumers; and second, reconsider the requirement of justification. Where there is very limited scope for a dominant firm to defend its practices before the Commission, there will be a need to re-balance the burden of proof in a way that both sides have equal scope for condemning and defending, particularly in a technical tying case due to the non-existence of precedent and the absence of legal provision regarding the integrated products in the software markets.

The EU Commission should provide a comfort zone to firms operating in high-technology markets. This will mean that such markets should not be subject to such strict scrutiny as more traditional markets, given their unique nature and the prevalence of short-term monopolies. This will require a less

interventionist approach, including a not overly interventionist approach in determining the structure of such markets, or the technologies employed by innovative firms. This is necessary to avoid diminishing the incentive to innovate of market players and dominant firms.

The Commission should give more attention to high-technology markets, and this can be ensured by creating an experienced committee or innovation monitoring system that can run economic models, survey the market, or conduct trials into the effects of practices around the technical integration of products for a period of between, say, one to three years before contemplating any case against a firm allegedly acting anti-competitively.

The European Commission should also seek out experts in matters related to complex areas in high-technology markets. In particular, it should seek to attract independent experts rather than relying on the expertise of persons connected to the parties in dispute.

The European Commission should pursue policies that seek to reduce the costs of errors by advocating an error analysis and comparing between the costs of the 'type I error' and the 'type II error'.[953] This is necessary since such uncertainty will have a deep impact on future innovation and the incentive to innovate.

The European Commission should not take any prohibition decisions and impose large fines in cases involving novel issues or not regulated through commitment decisions, especially when there is no previous precedent in a new market.

Policy towards dominant firms in high-technology markets should be changed to suit the nature of such markets and the dynamic competitive processes within them. In order for this to be effective, competition authorities must acknowledge that information is not merely a commodity and cannot be

953 Josef Drexl, 'Real Knowledge is to Know the Extent of One's Own Ignorance: On the Consumer Harm Approach in Innovation-Related Competition Cases' (Max Planck Institute for Intellectual Property, Competition & Tax Law Research Paper 09-15, 2005) 13
(false positives or 'type I error') (false negatives or 'type II error').

treated in the same way as the traditional products. This is of paramount importance given the recent increase in high-technology market cases.

Policy makers should consider the relevance of market leader theory as an interpreting guideline in high-technology markets. Such an approach will require the framing and interpretation of competition rules on a more economics-based approach by providing the ideal conditions to be applied in high-technology markets with consumer welfare standards.

8.3 Avenues for further research

This research represents an important step towards understanding a future legal framework that deals with technical tying practices in high-technology markets that comply with solid economic analysis. However, several questions require resolution: What would be best way to shape the competition pillars in high-technology markets if reinterpretation with guidelines turns out to be ineffective? Is a new regulation of high-technology market necessary, as in other network industries?

8.4 Final words

To conclude, this study has shown that the EU approach treats technical tying claims as other contractual claims. This is even though information and innovation have been the vital commodities of a high-technology economy in an information age. Consequently, information is the vital engine behind innovation and economic growth. Treating such elements of a modern economy in the same way as any other product or material diminishes its value.[954] The IT sector and its associated software market have unique realities that require competition authorities to focus on long-term technological competition, where the goal should be an ultimate consumer welfare and the promotion of dynamic efficiencies rather than static

954 Pamela Samuelson, 'Five Challenges for Regulating the Global Information Society' in Chris Marsden (ed), Regulating the Information Society (Routledge Press 2000) 316

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