Does the EU Commission really hate the US? Understanding the Google decision through competition theory

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Abstract

This article analyses EU competition law to identify its theoretical influences. It finds that there are two distinct periods. The first, the 'mono-theoretical period', is influenced by Ordoliberalism. The second, the 'poly-theoretical period', has a number of influences, not least the Chicago School, post-Chicago analysis and behavioural economics. These new theories refine the way the law is used to achieve Ordoliberal aims, in particular, the aim of protecting economic freedom. This insight is then used to analyse the EU competition law approach to software markets. This reveals that software markets have characteristics that allow dominant, up-stream software firms to conceal the choice consumers have (choice evasion) and undermine competition. Recommendations on how to avoid this abuse are made.

Introduction

The *Google Android* case has just resulted in a fine of €4.34 billion. Perhaps more importantly the decision is already being criticised with one author stating that '[i]t's hard to find any antitrust expert, European or American, who has endorsed the logic or outcome of the ruling by the European Commission'.[1] It has also drawn the ire of the President of the United States who is already of the view the EU Competition Commissioner 'really hates the U.S.'.[2] At first glance, this criticism may be easy to understand: in the last two decades, breaches of EU competition law have meant Google has been fined €4.34 billion for Android, fined €2.4 billion[3] for abuses of its shopping search and another is soon expected. Microsoft Corp over two decisions has been fined €1.34 billion.[4] In addition, there has been a €12 billion state aid decision against Ireland[5] for is tax arrangement with Apple Inc. and a €250 million state aid decision against Luxembourg[6] due to their arrangements with Amazon.[7] This may suggest that either the EU Competition Commission (the Commission) has an extremely strong distaste for US technology companies or that Silicon Valley simply cannot bring itself to work within the EU's competition framework. The truth is neither of these conclusions are quite true. Rather, the simple fact is that, in relation to anticompetitive conduct, EU regulators are exploring how to apply the competition rules to new business

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[1] James B. Stewart, 'Why Trump Is Right About the E.U.'s Penalty Against Google' *The New York Times* (New York, 26 July 2018)

[2] <https://www.politico.eu/article/margrethe-vestager-i-do-work-with-tax-and-i-am-a-woman-donald-trump-google/> (Accessed on 01/08/2018)

[3] Google Search (Shopping) (Case AT.39740) Commission Decision of 27 June 2017

[4] €497,196,304 breach of tying, *Microsoft* (Case COMP/C-3/37.792) [2005] 4 CMLR 1011; €280,500,000 periodic penalty payments, Commission Decision fixing the definitive amount of the periodic penalty payment imposed on Microsoft Corporation by Decision C (2005)4420 final and amending that Decision as regards the amount of the periodic penalty payment (12 July 2006); €561 000 000 breach of commitments decision, *Microsoft* (tying) (Case COMP/C-3/39.530).

[5] State Aid SA.38373 (2014/C) (ex 2014/NN) (ex 2014/CP) implemented by Ireland to Apple Commission Decision of 30.8.2016

[6] State Aid SA.38944 (2014/C) (ex 2014/NN) implemented by Luxembourg to Amazon Commission Decision of 4.10.2017

[7] Consider also Facebook was fined €110 million in relation to a merger with Whatsapp (Case No. M.8228 – Facebook/Whatsapp) Commission Decision imposing fines under Article 14(1) of Council Regulation (EC) No. 139/2004 for the supply by an undertaking of incorrect or misleading information of 17.5.2017

models in a new world of digital services just like the other major competition jurisdictions. But this does not mean companies are left unable to understand how the law applies to them. The rules can be understood and applied predictably, but what is essentially to enable this, is to understand the foundational economic principle that forms the corner stone of EU competition law, a corner stone that currently has no corresponding feature in US antitrust: the protection of freedom.

This article, therefore, has two goals corresponding to its two main sections: first to establish, using the law on tying as an illustration, the economic theoretical influences on EU competition law; second, to apply those theoretical insights in order to explain some of the more complicated and controversial EU competition decisions in the technology markets in recent years and, using this new found understanding, explain its implications for the fast moving, innovative technology industries of both the United States, the European Union and beyond.

This will be done as follows: First, the article will analyse the EU's competition jurisprudence[8] to ascertain which economic theories have influenced tying law and when they did so. In so doing, this analysis will show, that it is no longer true to say that EU competition law is 'largely static and immune to influence from economics'[9] but rather that it is continually taking on new economic influences and incorporating these into the application of the law. It will track the law as it has absorbed different economic influences starting with Ordoliberalism in the 1950s all the way to behavioural economics in the present day. Thus contributing to the debate on the aims[10] and theoretical underpinnings[11] of EU competition

[8] Jurisprudence here encompasses relevant decisions of the EU Commission, the judgments of the General Court and Court of Justice of the European Union, the Attorney General's opinions, the Commission's Guidance on the application of Article 102 and the commitment decisions.

[9] Christian Ahlborn, David S. Evans, 'The Microsoft Judgement and its implications for Competition policy towards dominant firms in Europe' (2008) 75 Antitrust L.J. 887, 905

[10] See Laura Parret, 'Shouldn't we know what we are protecting? Yes we should! A plea for a solid and comprehensive debate about the objectives of EU competition law and policy' (2010) 6(2) European Competition Journal 339, 345-346; S Bishop and M Walker, Economics of EU competition law: Concepts, Application and Measurement (London, Sweet & Maxwell, 1999) 5; Richard Whish, Competition Law (LexisNexis, 5th edn, 2003) 18; Massimo Motta, Competition policy theory and practice (Cambridge University

law.[12] This section itself will be broken down into two subsections, the first analysing what the author describes as the 'mono-theoretical period'; a period where the only clearly identifiable influence on EU competition law was Ordoliberalism. The second subsection analyses what the author calls the 'poly-theoretical period'; a period where the influence of a number of economic schools of thought becomes apparent.

The second section will then use these theoretical insights to explain the current difficulties and challenges facing the technology industry, in particular, dominant US technology companies. This section will also be broken down into two subsections. The first explains the inplications of the (Ordoliberal) desire to protect economic freedom and how it has led the Commission to focus on ensuring both third parties who are use the software of dominant firms and the technology companies' consumers are free to choose the combination of products/services that they consider best. The next subsection will analyse how this desire has led to a concern for what this author calls 'choice evasion'; the ability of a dominant

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Press 2004) 15; G Monti, "Article 81 and Public Policy" (2000) 39 Common Market Law Review 1057; Ahlborn and Padilla, "From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EU competition law" in European Competition Law Annual 2007 "A Reformed Approach to Article 82 EC" (Oxford, Hart Publishing, 2008), 55; Ioannis Lianos, 'Some reflections on the objectives of EU competition law' in Lianos and Geradin, (eds.) Handbook in EU competition law: Substantive aspects (Cheltenham, Edward Elgar 2013); Paul Nihoul, 'Freedom of Choice': The Emergence of a Powerful Concept in European Competition Law' (2012) 3 Revue Concurrences 55; Pinar Akman, 'The role of 'freedom' in EU competition law' (2004) 34(2) Legal Studies 183; Pinar Akman, 'Consumer Welfare and Article 102 EC: Practice and Rhetoric' (2009) 32 World Competition 71; Pinar Akman, 'Searching for the Long-Lost Soul of Article 82EC' (2009) 29(2) Oxford Journal of Legal Studies 267; Oles Andriychuk, 'Dialectical Antitrust: An Alternative Insight into the Methodology of the EC Competition Law Analysis in a period of Economic Downturn', (2010) 31(4) European Competition Law Review 155; Oles Andriychuk, 'Rediscovering the Spirit of Competition: On the Normative Value of the Competitive Process' (2010) 6(3) European Competition Journal 575; Eugene Buttigieg, Competition Law: Safeguarding the Consumer Interest. A Comparative Analysis of US Antitrust Law and EC Competition Law, (Kluwer 2009); Drexl, Kerber, Podszun (eds.), Competition Policy and the Economic Approach – Foundations and Limitations, (Cheltenham, Edward Elgar 2010); Liza Lovdahl-Gormsen, 'The Conflict Between Economic Freedom and Consumer Welfare in the Modernization of Article 82 EC' (2007) 3(2) European Competition Journal 329; Okeoghene Odudu, 'The Wider Concerns of Competition Law' (2010) 30(3) Oxford Journal of Legal Studies 599; Christopher Townley, Article 81 EC and Public Policy, (Oxford, Hart Pub 2009); Ben van Rompuy, 'Economic Efficiency: The Sole Concern of Modern Antitrust Policy? Non-Efficiency Considerations under Article 101 TFEU' (Kluwer 2012) Daniel Zimmer (ed), The Goals of Competition Law, (Cheltenham, Edward Elgar 2012)

[11] David J. Gerber, *Law and Competition in Twentieth Century Europe, Protecting Prometheus* (first published 1998, OUP 2001); A. Kuenzler and L. Warlouzet, 'National Traditions of Competition Law: Europeanization through Convergence?' in K. K. Patel, H Schweitzer (eds), *The Historical Foundations of EU Competition Law* (OUP, 2013); M. Cole, 'Ordoliberalism and its influence on EU tying law' (2015) 36(6) ECLR 255

[12] Note the purpose of this paper is not to argue that the economic theory is or is not valid, rather to make the point that it is the basis of the law, merited or not.

upstream company to make consumers less likely to utilise alternative software by concealing the fact a choice exists. The rationale behind this concern will be explained and this will be used to make testable predictions in relation to the (as yet unpublished[13]) *Android* case against Google.[14] Finally the way forward will be set out explaining how the law is likely to develop in future and what technology companies should be aware of in order to avoid the bruising fines being levied by the Commission. This will therefore be of particular use to dominant firms active in the EU software markets.

[13] As of 21/03/2019

[14] Or 'Alphabet Inc.'

The economic influences on EU Competition Law

There have been two main periods in EU tying law. The first period extends from the signing of the EEC Treaty to just before the *Microsoft I* Commission decision[15] and the second period extends from the *Microsoft I* Commission decision until the present day. This first period will be referred to as the mono-theoretical period due to it only including clear influences of a single theory during this time: Ordoliberalism. The second period will be referred to as the poly-theoretical period due to the clear imprint of a number of theoretical influences, from Ordoliberalism to behavioural economics.

This will be demonstrated in the following manner: First, the mono-theoretical period will be analysed. This part will set out the various Ordoliberal concepts that have been incorporated into the law. Second, the poly-theoretical period will be considered. This will includes analysis of the *Microsoft I* case,[16] the Guidance[17] and the *Microsoft II*[18] commitments decision. The *Microsoft I* judgment will be used to demonstrate the difference in approach by the courts and Commission to foreclosure before *Microsoft I*, when a causal link between tying and foreclosure was largely assumed and in the *Microsoft I* case, when the existence of a causal link was carefully analysed in light of the specific characteristics of the market. This method of identifying economic harm is then compared with and shown to have characteristics consistent with post-Chicago analysis. Next, analysis of the Guidance will show it contains a number of references to tying situations that are likely to cause economic harm that are identical to those posited by post-Chicago and even Chicago theorists. Finally, an assessment of the *Microsoft II* commitments decision will show that it employs insights from behavioural economics. This influence will be highlighted in the following aspects of the

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[15] Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965

[16] Case T-201/04 Microsoft v Commission [2007] ECR II- 3601, [2007] 5 CMLR 846, Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965

[17] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02

[18] Microsoft (tying) (Case COMP/C-3/39.530)

decision: the use of survey data to look beyond ‘rational choice’ assumptions, consideration of default bias in the remedy and the remedy itself.

It is useful to understand at this point that whilst during the poly-theoretical period a number of new theories begin to be visible in the law, these new theories are used to determine the presence of anti-competitive effects. In contrast, the fundamental aims of the law show a surprising consistency. The Ordoliberal principles established in the mono-theoretical period are still relevant and applied even now and thus the influence of Ordoliberalism runs through both the mono- and the poly-theoretical periods. Therefore, while it appears that Ordoliberalism is no longer the only economic influence on the law on tying, it has not been replaced by more recent forms of economic analysis, rather, in the present poly-theoretical period, Ordoliberal rules and objectives (e.g. protection of market access) are now being pursued thorough detailed and sophisticated forms of economic assessment, such as post-Chicago analysis, where appropriate.

The mono-theoretical period

It has been argued recently[19] that Ordoliberalism appears to have had a strong influence on the treaty provisions on tying law, primarily because the original Treaty Article on tying (now Article 102(d)) has a clear connection with the German competition law equivalent in the Gesetz gegen Wettbewerbsbeschränkungen (GWB), and that on the basis of the evidence available and the significant Ordoliberal influence on policy at the time, this provides evidence that EU Treaty provisions on tying are based upon Ordoliberalism. But this considers only the Treaties. The next step is to analyse whether the case law flowing from the Treaty bears the same hallmarks of Ordoliberalism.

The analysis undertaken in this article reveals a number of aspects of Ordoliberal thought that can be found within the decisions of the Commission, judgments of the courts and opinions of the Advocate Generals. These include the following: the definition of monopoly,

[19] Matthew Cole, 'Ordoliberalism and its influence on EU tying law' (2015) 36(6) European Competition Law Review 255

the special responsibility of dominant firms and the requirement to behave 'as if' subject to competition.[20] It is argued that this is significant evidence of an Ordoliberal influence on EU tying law.

Starting with the definition of monopoly: when *Hilti* was being decided before the General Court, it was restated that a dominant position was characterised by the ability of an undertaking to behave to an appreciable extent independently of its competitors and therefore ultimately of customers.[21] This follows the pattern of market characterisation expressed by the Ordoliberal Walter Eucken when explaining his empirical test for identifying whether a market is a monopoly, partial monopoly, oligopoly or whether it is a competitive market.[22] Likewise in the *Tetra Pak II* decision, the fact that the dominant undertaking's contract clauses were so onerous, lead the Commission to believe that it was dominant because it was 'barely conceivable' that customers would agree to such restrictive clauses in a competitive market.[23] This again demonstrates that the Commission was using the undertaking's ability to act independently of their customers to show they were dominant.

Perhaps one of the most obvious Ordoliberal aspects of EU competition law is the special responsibility held by dominant firms. It is an established doctrine that a dominant

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[20] The concept of being required to behave 'as if' subject to competition was rejected by many proponents of Ordoliberalism, however, the fact that it was accepted by some members means it is still worthy of consideration here.

[21] Case T-30/89 Hilti AG v Commission [1991] ECR II – 1439, [3], this definition is originally taken from the leading case: Case 27/76 United Brands v Commission [1978] ECR 207, [1978] 1 CMLR 429 [65], also repeated in: Case 85/76 Hoffman-La Roche v Commission [1979] ECR 461, [1979] 3 CMLR 211, [38]

[22] Walter Eucken, Foundations of Economics, History and Theory in the Analysis of Economic Reality (William Clowes & sons 1950) p138

[23] Tetra Pak II (IV/31.043) Commission Decision 92/163/EEC [1992] OJ L72/1, [146], see also Case C-333/94 P Tetra Pak v Commission [1996] ECR I – 5951 Opinion of AG Ruiz-Jarabo Colomer, [60] "Tetra Pak also enjoyed freedom of conduct *vis-à-vis* other economic operators"

undertaking has a special responsibility not to allow its conduct to distort competition.[24] This again is a tenet of Ordoliberalism.[25]

There is, finally, the requirement that dominant undertakings behave 'as if' subject to competition. In the *Centre Belge* judgment the Court said that in order for an abuse to exist the undertaking must use its dominance and the resulting lack of competition to: 'obtain advantages which it could not obtain if there were effective competition'.[26] Preventing a dominant undertaking from obtaining advantages which it could not obtain in a competitive market bears a very strong resemblance to the requirement set out by some Ordoliberal thinkers that, where a monopoly exists or 'natural monopoly' exists, the dominant undertaking should be required to act 'as if' it were subject to competition.[27] Logically if an undertaking is prohibited from making use of benefits that would not be available if competition did exist, it is essentially being required to act 'as if' it is subject to competition.

Finally one of the most important aspects of EU competition law in relation to Ordoliberalism is the pre-eminence of choice. This is not choice merely in terms of the variety of products or services, but a broader concept encompassing the freedom and ability to make economic decisions. This concept will not be covered here as it has already been reviewed elsewhere in some detail.[28] Suffice to say however that economic freedom of choice, whether for buyers, suppliers or consumers, is a crucial part of the economic structure upon which

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[24] Case 322/81 Michelin v Commission [1983] ECR 3461, [1985] 1 CMLR 282, para 57; repeated in various cases including: Van den Bergh Foods Limited (Case IV/34.073 and IV/35.436) Commission Decision 98/531/EC [1998] OJ L 246/1, para 267 and Trans-Atlantic Conference Agreement (Case IV/35.134) Commission Decision 1999/243/EC [1999] OJ L 95/1, para 567

[25] Christian Ahlborn and Carsten Grave, 'Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective' (2006) 2 CPI 2 Autumn 197, 208

[26] Case 311/84 Centre belge d'etudes de marché – Télémarketing (CBEM v SA Compagnie luxembourgeoise de télédiffusion (CLT) and Information publicité Benelux (IPB) [1985] ECR 3261, para 21

[27] David J. Gerber, Law and Competition in Twentieth Century Europe, Protecting Prometheus (first published 1998, OUP 2001) p252, see also: Leonhard Miksch, Wettbewerb als Aufgabe: Grundsätze einer Wettbewerbsordnung (2d.ed Godesberg, 1947); Leonhard Miksch, Die Wirtschaftspolitik des Als Ob (1949) 105 Zeitschrift für die gesamte Staatswissenschaft 310

[28] Matthew. Cole, 'Tying law in the European Union: theory and application.' (Ph.D. thesis, Cardiff University 2014); Paul Nihoul, 'Freedom of Choice': The Emergence of a Powerful Concept in European Competition Law' (2012) 3 Revue Concurrences 55

competition is built from an Ordoliberal perspective.[29] Consequently, this is further evidence of the influence Ordoliberalism has had and continues to have on EU competition law. As will be discussed in section two, it is this element of Ordoliberalism (and EU competition law), which is so crucial to understanding the Commission's approach to technology markets, as illustrated so clearly by the Google decisions.

The Poly-theoretical period

Prior to the *Microsoft I*[30] case there had been little express economic analysis included in Commission and court decisions leading some to criticise the Commission for a lack of economic rigor.[31] For example, foreclosure was almost assumed after a dominant undertaking had been found to be tying.[32] Although, foreclosure was considered occasionally in the pre-*Microsoft I* case law, but it was not analysed in detail.[33] Jones and Sufrin state that the Commission found abuse after 'very little analysis of the market'.[34] As a consequence, the law on tying prior to *Microsoft I* was castigated as being 'largely static and immune to influence from economics'.[35] As a result the Economic Advisory Group on Competition Policy suggested that a more economic approach should be taken.[36]

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[29] Lisa Lovdahl Gormsen, 'The conflict between economic freedom and consumer welfare in the modernisation of Article 82 EC' (2007) 3(2) European Competition Journal 329; David Gerber, *Law and Competition in Twentieth Century Europe: Protecting Prometheus* (first published 1998, OUP 2001) p240

[30] Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965; Microsoft v Commission (Case T-201/04) [2007] ECR II- 3601, [2007] 5 CMLR 846

[31] See Valentine Korah, 'The paucity of economic analysis in the EEC decisions on competition Tetra Pak II' [1993] 46 Current Legal Problems 148; Liza Lovdahl Gormsen, Why the European Commission's enforcement priorities on article 82 EC should be withdrawn (2010) 31(2) E.C.L.R. 45, 45; J. Ratliff, "Abuse of Dominant Position and Pricing Practices--A Practitioner's Viewpoint"; D. Ridyard, "Article 82 Price Abuses--Towards a More Economic Approach" in C.D. Ehlermann and I. Atanasiu (eds), European Competition Law Annual--What is an Abuse of a Dominant Position? (Oxford: Hart Publishing, 2006); D. Waelbroeck, "Michelin II: A Per Se Rule against Rebates by Dominant Companies?" (2005) 1(1) Journal of Competition Law & Economics 149, 151

[32] This is discussed below under 'foreclosure prior to *Microsoft I*'

[33] See also: Christian Ahlborn, David S. Evans, 'The Microsoft Judgement and its implications for Competition policy towards dominant firms in Europe' (2008) 75 Antitrust L.J. 887, 904-905

[34] Alison Jones, Brenda Sufrin, EC Competition Law (3rd edn., OUP, 2008), 518

[35] Christian Ahlborn, David S. Evans, 'The Microsoft Judgement and its implications for Competition policy towards dominant firms in Europe' (2008) 75 Antitrust L.J. 887, 904-905

[36] Report by the Economic Advisory Group on Competition Policy: "'An economic approach to Article 82" (July 2005)

However, the *Microsoft I*[37] decision marks a watershed moment when the greater use of economic analysis began to be incorporated into the pursuit of tying. In particular the Commission began to make use of the work of post-Chicago theorists. More recently, they have made use of the findings of behavioural economics scholars.[38] (Although it is being stated here that the Commission and courts have embraced this approach, there are few court judgements to confirm whether the courts are fully committed to this new approach. What can be seen so far is that the EU courts have not resisted this new approach and are willing to engage with this new analysis.[39]) Therefore it is from this point that the law on tying entered the poly-theoretical stage. These new theories, it will be seen, did not supplant Ordoliberalism, but rather became part of the assessment process to establish economic factors relevant to determining the appropriate application of the law in pursuit of Ordoliberal aims.

The *Microsoft I* decision

The *Microsoft I* decision related *inter alia* to tying Microsoft's dominant operating system 'Windows' with Microsoft's media player 'Windows Media Player' (WMP). This case was a landmark decision because, for the first time, it took what could be considered to be a more economics based approach to assessing whether the dominant undertaking had abused its position by tying its products. It did this under the heading 'foreclosure'[40] and to understand its significance it is important to first understand how foreclosure was dealt with in decisions prior to *Microsoft I*. Foreclosure's express inclusion in the new test for tying articulated in the decision has paved the way for greater use of economic theories of exclusion to be taken into account.

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[37] Microsoft v Commission (Case T-201/04) [2007] ECR II- 3601, [2007] 5 CMLR 846, Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965

[38] Discussed below

[39] Discussed below

[40] Microsoft (n 4) para 794

Foreclosure prior to *Microsoft I*

Prior to the *Microsoft I* decision, foreclosure was an implied requirement dealt with under the heading of 'market access'. In the *Hilti* decision the Commission stated that *Hilti* had abused the market by attempting to 'limit the entry of independent producers'[41] into the market. It was also said that aspects of Hilti's commercial behaviour were 'designed' for that purpose[42] stating that their policy was to 'hinder new entrants' by obstructing access to the tying product needed to make use of the tied product.[43] Other Commission decisions have emphasised the need to protect small competitors from behaviour designed to: exclude competitors from the market,[44] protect 'equality of opportunity', particularly for 'new market entrants',[45] and other similar concepts. So while there was no express requirement of foreclosure prior to *Microsoft I* there was still a concern when the actions of the dominant firm would have the effect of excluding competitors unfairly.

The strongest example of effects similar to 'foreclosure' being evaluated before *Microsoft I* are found in *Tetra Pak II*. Advocate General Ruiz-Jarabo Colomer noted in his opinion that the Court had held that one of the reasons for the behaviour being abusive was because it limited access to the market by other producers[46] but greater analysis is found in the Commission decision, where Tetra Pak was described as limiting 'competition to the area most favourable to it'.[47] The Commission said that Tetra Pak's contract 'closes the door to any competitor on the maintenance and repair services market'.[48] This is all but the same as stating that there is foreclosure of the maintenance and repair market. Discussing a product tie in the same contract the Commission stated that their:

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[41] Eurofix-Bauco v Hilti (IV/30.787 and 31.488) Commission Decision 88/138/EEC [1988] OJ L 65/19, para 74
[42] ibid
[43] ibid para 74 see also para 98.
[44] Van den Bergh Foods Limited (Case IV/34.073 and IV/35.436) Commission Decision 98/531/EC [1998] OJ L 246/1, para 262
[45] DSD (Case COMP D3/34493) Commission Decision 2001/463/EC [2001] OJ L 166/1, para 114
[46] The other reason is not relevant for present purposes
[47] Tetra Pak II (IV/31.043) Commission Decision 92/163/EEC [1992] OJ L72/1, para 120
[48] ibid para 108

> ‘system of tied sales…makes the [tied] market completely dependent on the [tying] market … They place competitors … in an extremely uncomfortable position.’[49]

Further analysis continued:

> ‘[Through tying] Tetra Pak thereby limits competition to the area which is most favourable to it, i.e. that of machines, where the technological entry barriers are very high … these same contractual clauses prevent the emergence of any competition in the [tied] sector, where the technological barriers are much lower.’[50]

Therefore, it can be seen that the Commission has previously considered foreclosure pre-*Microsoft I* and to a very limited extent there was even some discussion regarding the economic impact of tying obligations, but it is limited in scope and detail and it was not stated that foreclosure was required for a tie to exist, rather it was set out as one of its negative effects.

Foreclosure in *Microsoft I*

In *Microsoft I* the Commission makes it clear that it did not assume foreclosure existed, expressly stating that since users could obtain third party media players from the internet free there were ‘indeed good reasons not to assume without further analysis that tying WMP constitutes conduct which by its very nature is liable to foreclose competition.[51] Therefore the Commission went further and analysed whether or not Microsoft’s behaviour foreclosed or ‘harmed’ competition.[52] To demonstrate that this was the case an economic argument was presented setting out how the Commission believed, by tying WMP to Windows, Microsoft could credibly start a feedback loop that would eventually result in Microsoft’s dominance in

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[49] Tetra Pak II (IV/31.043) Commission Decision 92/163/EEC [1992] OJ L72/1, para 117
[50] ibid para 120, see also para 146
[51] Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965, para 841
[52] Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965, para 835

the media player market almost independent of the quality of its media player.[53] As such the Commission set out that:

1) Microsoft's behaviour would result in WMP being present on almost every personal computer;[54]

2) That this ubiquitous presence would act as an incentive for content producers to code their audio and film only in Microsoft's proprietary format;[55]

3) That this move towards content producers coding their content in one single format would then result in consumers moving to WMP;[56]

4) That the move towards customers using WMP instead of other media players would damage competition from the market;[57] and,

5) Consequently control over the Windows proprietary format would act as a serious barrier to entry to any new entrants to the media player market even if their media player was technologically superior.[58]

The Commission also considered other ways for Microsoft's competitors to get their media players onto users computers[59] and whether these methods were sufficient to undermine the foreclosure effect of Microsoft's tie.[60] They were deemed not so.

When the decision came before the Court its analysis was concise. The Court stated that Microsoft had merely asserted that the finding of foreclosure was based on conjecture and

[53] Microsoft (Case COMP/C-3/37.792) Commission decision [2005] 4 CMLR 965, para 882
[54] ibid para 844
[55] ibid para 842, 889
[56] ibid para 881
[57] ibid para 953
[58] ibid para 889
[59] ibid para 840
[60] ibid para 859, see also 849 in reference to OEM distribution agreements.

had not succeeded in showing that was the case. While this does not add much to the discussion of foreclosure specifically in *Microsoft I*, it is very important more generally. First it suggests that the Court does now consider foreclosure important in determining a tie. Second, the Court's response suggests that it would be willing to consider economic arguments that undermine or empirically demonstrate that the Commission's arguments on foreclosure are conceptually or empirically flawed.[61] This opened the way for far greater use of economic theory and the use of empirical economic evidence in the analysis of tying. That said, how far the court is willing to go to analyse large volumes of complicated economic data is yet to be seen.

Foreclosure and the Post-Chicago Approach

By presenting the theory of harm set out above the *Microsoft I* judgement engaged in greater economic evaluation of the effect of the tying behaviour. This approach appears to conform to a Post-Chicago approach. In contrast to other schools of thought (most obviously the Chicago School, which tends to look at cases through price theory and from this devise general conclusions[62]) Post-Chicago analysis tends to analyse competition problems by considering the behaviour of the market actors in the context of that particular market.[63] The analysis of *Microsoft I* included looking at the way in which 'network effects'[64] affected the decision making process of content and application producers. The foreclosure loop itself is based upon the reactions of market actors, such as content producers, to the actions of

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[61] Microsoft v Commission (Case T-201/04) [2007] ECR II- 3601, [2007] 5 CMLR 846, para 1058

[62] Richard A. Posner, The Chicago School of Antitrust Analysis (1979) 127 U.Pa.L.Rev 925, 926; Jean W. Burns, Challenging the Chicago School on Vertical Restraints (2006) Utah L. Rev. 913, 913, here Burns describes how Chicago School principles gave clear, logical answers to questions that the US judiciary had found confusing for some time.

[63] Herbert Hovenkamp, 'Post-Chicago Antitrust: A review and critique' [2001] 2 Colum.Bus.L.Rev. 257, 270

[64] What the Commission and Court mean by network effects is defined in the decision itself: "A product market is said to exhibit network effects when the overall utility derived by consumers who use the product in question is dependent not only on their private use of the product, but also on the number of other consumers who use the product. Such a network effect is a direct network effect. An indirect network effect occurs when the value of a good to a user increases as the number and variety of complementary products increase." Microsoft (Case COMP/C-3/37.792) [2005] 4 CMLR 965, para 420 footnote 536. So for example, a direct network effect may be exhibited in relation to camera phones. If one person has a camera phone, then they can take pictures, but the more people who buy them, the more people to whom they can send images. In direct effects could be illustrated by a computer games console. The more games that are written to function on that console, the greater the variety of games that an owner can purchase and thus the greater utility to that user.

other market actors. So, for example, the Commission anticipated that with the tie in place media content producers would not code their content on the basis of the best media software available, but rather they would chose WMP on the basis that the tie would mean it was ubiquitous. This consideration of the particular characteristics of the market combined with the analysis of the likely decisions of market actors[65] in light of other market actors' behaviour reflects a Post-Chicago approach to assessing the effect of Microsoft's tie.

Having considered the case law that has been handed down during the poly-theoretical period, it is now necessary to consider some of the soft-law that has been published by the Commission, to show that this too exhibits a poly-theoretical character.

Guidance on the Commission's enforcement priorities in applying Article [102] of the EC Treaty to abusive exclusionary conduct by dominant undertakings

Since the *Microsoft I* decision, the Commission has released a communication giving guidance on its enforcement priorities when applying Article 102 of the TFEU to exclusionary conduct.[66] The Guidance is particularly useful in demonstrating the new desire within the Commission to take account of and apply the latest economic thinking in the application of competition law. This demonstrates the Commission's clear departure from the mono-theoretical period and commitment to a poly-theoretical approach.

Analysis of the Guidance yields two points of particular note in relation to the theoretical basis of tying: The Guidance confirms that the restriction of customer choice determines the presence of a tie and further confirms the importance of economic theory in the Commission's assessments.

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[65] Present in post-Chicago analysis' use of game theory, see: Federico Etro, 'Competition Policy: Toward a new approach' (2006) 2(1) Eur. Competition J. 29, 33-34; See generally Steven J. Brams, 'Applying game theory to antitrust litigation' (1978) 18 Jurimetrics J. 320; Dennis A. Yao, Susan S. Desanti, 'Game theory and the legal analysis of tacit collusion' (1993) 38 Antitrust Bull. 113, 122-124; Martin Shubik, 'Game theory, law and the concept of competition' (1991) 60 U. Cin. L. Rev. 285.

[66] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02

In relation to the first point, the Guidance continues to hold customers' freedom of choice as a defining characteristic of tying law. It states that: '[e]vidence that two products are distinct' includes evidence that, '*when given a choice*, customers purchase the tying and the tied products separately from different sources of supply'.[67] The customers' freedom to choose the combination of products that suits them best is the driving force behind the law on tying[68] and as such the restriction of this freedom is an essential element in determining the existence of a tie.

Secondly and most importantly, the Commission's Guidance demonstrates a deliberate attempt to incorporate economic theory into its policy and decision-making. In conformity with earlier law, there are references to Ordoliberal doctrine, for example: market power being the ability of a competitor to act appreciably independent of its competitors and customers,[69] but there are also elements that strongly reflect the work of Post-Chicago authors. In terms of general principles, the Commission states that it will take into account the specific facts and circumstances of each case.[70] This alone does not prove a strong Post-Chicago link, but it shows that the Commission will consider how the specific characteristics of each market affect each case, a further move away from assuming abuse exists *per se* as soon as a tie and dominance is established. Further, the guidance appears to taking into account game theory based corporate behaviour. That is where undertakings make decisions based upon the likely behaviour and reactions of other market actors. The Guidance states that when predicting expansion or entry of a market it will take into account *inter alia* 'the likely reactions of the allegedly dominant undertaking and other competitors'.[71] This consideration of market actors' reactions to certain behaviour is characteristic of Post-

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[67] ibid, para 51

[68] Matthew. Cole, 'Tying law in the European Union: theory and application.' (Ph.D. thesis, Cardiff University 2014), chapter 4

[69] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02, para 10

[70] ibid para 8, 9

[71] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02, para 16

Chicago analysis.[72] These aspects of the Guidance are of a general Post-Chicago character, of even greater significance however are the following references that are far more identifiably Post-Chicago in character.

The Guidance states in reference to tying that the risk of anti-competitive foreclosure is expected to be greater where the dominant undertaking makes its tying strategy a lasting one, for example by tying in a manner that is costly to reverse.[73] Although there is no citation, this is based upon the work of the Post-Chicago theorist M. Whinston.[74] The Guidance also states that if there is a tie, and the tied product of that tie is an important complementary product for the customers of the tying product, reducing the number of suppliers of that tied product through tying may make entry into that market more difficult.[75] These concepts mirror the arguments made by Carlton and Waldman.[76] The Guidance explains that when two products can be used in variable proportions to a production process, increases in the price of one element may be avoided by customers if they can increase their use of the other product. In such a scenario, tying the two products together can allow the dominant undertaking to avoid this risk and raise prices.[77] This reflects the economic theory of harm established by Burnstein.[78] Burnstein is a member of the Chicago School, thus this demonstrates that the Commission, although rejecting some of the general tenets of the

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[72] Federico Etro, 'Competition Policy: Toward a new approach' (2006) 2(1) Eur. Competition J. 29, 33-34; David R. Bickel, The Antitrust Division's adoption of a Chicago school economic policy calls for some reorganisation: but is the division's new policy here to stay?, (1983) 20 Hous. L. Rev 1083, 1123.

[73] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02, para 53

[74] 26 Michael D. Whinston, 'Tying Foreclosure, and Exclusion' (1990) 80 Am.Econ.Rev. 4 837

[75] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02, para 58

[76] Dennis W. Carlton, Michael Waldman, 'The Strategic use of tying to preserve and create market power in evolving industries' (2002) 33 RAND.J.Econ 194

[77] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02, para 56

[78] Meyer L. Burstein, 'A theory of Full-line forcing' (1960) 55 Northwestern University Law Review 62

Chicago School's approach,[79] are willing to incorporate their work where they consider it appropriate. This is evidence that all economic theories will be considered by the Commission, and thus confirms that the Commission has truly entered a poly-theoretical period.

The final reason why the Guidance is of great importance is because it shows that this new poly-theoretical approach is not limited to tying law alone. It is clear from the title of the Guidance[80] as well as the topics covered in its contents that it is intended to apply to Article 102 abuses generally. This shows that the poly-theoretical approach applies to a wide range of anti-competitive behaviour and not just tying.[81] Before moving on from the Guidance it is also worth mentioning that although the Guidance intended to address criticism[82] that the Commission needed a more economic approach,[83] whether such an approach has been implemented,[84] whether it has been accepted by the Commission and courts, or even if it is

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[79] For examples of the rejection of the Chicago School approach consider the Commission's approach to consumer welfare (Van den Bergh Foods Limited (Case IV/34.073 and IV/35.436) Commission Decision 98/531/EC [1998] OJ L 246/1, para 240) as opposed to total aggregate welfare preferred by Bork (Steven C. Salop, 'Question: What is the real and proper antitrust welfare standard?' [2010] 22 Loy. Consumer L. Rev. 336). Consider also the Commission's recognition of barriers to entry caused by tying, (Tetra Pak II (IV/31.043) Commission Decision 92/163/EEC [1992] OJ L72/1, para 120) which are largely rejected by Chicago Scholars (Richard A. Posner, The Chicago School of Antitrust Analysis (1979) 127 U.Pa.L.Rev 925, 932; Richard Posner, Antitrust Law: An Economic Perspective (University Of Chicago Press 1976) 178-83)

[80] Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' (Communication) (2009) OJ C 45/02

[81] However detailed consideration of how and when this became the case in every area of EU competition law is beyond the scope of this paper.

[82] J. Ratliff, 'Abuse of Dominant Position and Pricing Practices--A Practitioner's Viewpoint' in C.D. Ehlermann and I. Atanasiu (eds), *European Competition Law Annual--What is an Abuse of a Dominant Position?* (Oxford: Hart Publishing, 2006); D. Ridyard, 'Article 82 Price Abuses--Towards a More Economic Approach' in C.D. Ehlermann and I. Atanasiu (eds), *European Competition Law Annual--What is an Abuse of a Dominant Position?* (Oxford: Hart Publishing, 2006); E. M. Fox, 'Monopolization and Dominance in the United States and the European Community: Efficiency, Opportunity, and Fairness' (1986) 61 Notre Dame Law Review 981,1004; P. Jebsen, R. Stevens,'Assumptions, Goals and Dominant Undertakings: The Regulation of Competition Under Article 86 of the European Union' (1996) 64 Antitrust Law Journal 443; B. Sher, 'The Last of Steam-Powered Trains: Modernising Article 82' (2004) 25 ECLR 243; J. Kallaugher, B. Sher, 'Rebates Revisited: Anti-Competitive Effects and Exclusionary Abuse under Article 82' (2004) 25 ECLR 263; D. Waelbroeck, 'Michelin II: A Per Se Rule Against Rebates by Dominant Companies?' (2005) 1(1) Journal of Competition Law and Economics 149; Valentine Korah, 'The paucity of economic analysis in the EEC decisions on competition Tetra Pak II' [1993] 46 Current Legal Problems 148

[83] EAGCP, 'An Economic Approach to Article 82' (Brussels, 2005)

[84] J. Killick and A. Komninos, 'Schizophrenia in the Commission's Article 82 Guidance Paper: Formalism Alongside Increased Recourse to Economic Analysis' (2009) (February-1) Global Competition Policy; Y.

considered desirable[85] is still a hotly contested subject. This is not least because of the varying economic approaches that exist, as can be seen from the current discussion. After the Guidance there is one final source of evidence that needs to be analysed: the Commission commitments decision against Microsoft.

The Microsoft commitments decision: Behavioural Economics comes to EU competition law?

The commitments decision[86] between Microsoft and the Commission was the first tying decision to be reached by the Commission since the publication of its Guidance. It shows that the Commission has continued to utilise new theories of economic harm, in this decision considering and applying the findings of behavioural economics research in order to identify and resolve tying problems. While behavioural economics is not identifiable by reference to a specific overarching theory of behaviour (it has none presently[87]) the decision has a number of aspects that highlight the influence of behavioural economics. Namely: the use of survey data to look beyond rational choice assumptions, consideration of default bias in the remedy and the remedy itself.

Katsoulacos, 'Some Critical Comments on the Commission's Guidance Paper on Art. 82 EC' (2009) (February-I) Global Competition Policy; B. Heitzer, 18-19 November 2008, Paris available at http://www.bundeskartellamt.de/wDeutsch/download/pdf/Diskussionsbeitraege/081127-ECD-Paris.pdf; H. Schweitzer, 'Recent developments in EU competition law (2006-2008): Single-firm dominance and the interpretation of Article 82' (2009) 2 European Review of Contract Law 175, 184; L. Lovdahl Gormsen, 'Why the European Commission's Enforcement Priorities on Article 82 EC Should be Withdrawn' (2010) 31 ECLR 45; Pinar Akman, 'The European Commission's Guidance on Article 102TFEU: From Inferno to Paradiso' (2010) 73 Mod. L. Rev. 605

[85] The question of whether the economic approach has been implemented and whether it should be implemented often tends to blur into one argument. No one is likely to suggest competition law should be independent from economics, but 'whose' economics and to what extent a case by case analysis is possible is likely to impact ones perception as to whether a economic approach has been implemented. Consider: Pablo Ibanez Colomo, 'Beyond the "more economics-based approach": a legal perspective on Article 102 TFEU case law' (2016) 53(3) C.M.L. Rev. 709; Edith Loozen, 'The requisite legal standard for economic assessments in EU competition cases unravelled through the economic approach' (2014) 39(1) E.L. Rev. 91; Wouter Wils, The judgment of the EU General Court in Intel and the so-called more economic approach to abuse of dominance (2014) 37(4) W. Comp. 405; Patrick Rey, James S. Venit, 'An effects-based approach to article 102: a response to Wouter Wils.' (2015) 38(1) W. Comp. 3; Rupprecht Podszun, 'The role of economics in competition law: the "effects-based approach" after the Intel-judgment of the CJEU.' (2018) 7(2) Eu. C.M.L., 57; Friedrich Preetz, 'Does the notion of legal certainty prohibit an effects-based approach to rebates?' (2017) 38(3) E.C.L.R. 99; Giorgio Monti, 'Article 82 EC: what future for the effects-based approach?' (2010) 1(1) J.E.C.L. & Pract. 2

[86] Microsoft (tying) (Case COMP/C-3/39.530), hereafter '*Microsoft II*'

[87] See Russell Korobkin, Thomas Ulen, 'Law and Behavioural Science: Removing the Rationality Assumption from Law and Economics' (2000) 88 California Law Review 1051, 1057-1058

In the *Microsoft II* decision the Commission explained a theory of foreclosure, which was very similar to that which was used in the *Microsoft I* case.[88] What is interesting about this decision however is not the theory of foreclosure[89] itself, but rather the way in which it reached its decision. The Commission considered that Microsoft gave its browser an 'artificial distribution advantage' by being tied to its Operating System (OS) and found that Microsoft's competitors had no alternatives that would offset this advantage.[90] The Commission proffered that this was because there were issues overcoming users' 'inertia' to get them to change browser from that which was pre-installed,[91] and other market specific issues such as users' ability to search, choose and install competing web browsers, which can be difficult if the users lack the required skills, understanding or confidence to do so.[92] The Commission supported this supposition with market surveys.[93] These surveys stated that of all Windows users who had never or had only once downloaded a web browser, 31% said they did not know how to install or download software, 15% replied that they consider downloading or installing software as difficult or complicated, 8% fear security risks and 7% were not aware that they could download a web browser.[94] The consumer survey was all the more stark in its findings. It reported that: '84% of Windows users who use Internet Explorer as their primary web browser never use another web browser on their computer because they are unaware of the other options, or because they do not want to [download] or do not know how to download.'[95]

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[88] See above.

[89] This is set out in para 55-56

[90] Microsoft (tying) (Case COMP/C-3/39.530), para 45

[91] An issue that arguably applies to most entrants in many markets.

[92] Microsoft (tying) (Case COMP/C-3/39.530), para 48

[93] ibid para 51-53

[94] ibid para 51

[95] Microsoft (tying) (Case COMP/C-3/39.530), para 52, 54

The Commission's use of surveys to establish why customers were not exercising their freedom of choice in a way that rational market actors may be expect to do so appears to be consistent with the behavioural economics methodology, which is in contrast to the 'rational choice' theorist's assumption that all customers are rational market actors seeking to maximise their subjective utility and who will thus select the best browser available for them all things being equal. This is actually quite ground breaking. A search through the competition judgements of the courts and Commission decisions shows that in only one other case customer surveys have been used in a similar manner to try to understand customer behaviour[96] and in that instance it appeared to be more concerned with what decisions customers would make in future, given various different possibilities, rather than what lead the customers to make decisions previously.

The decision also referred to biases that have been identified by behavioural economics. Behavioural economics has established a number of 'irrational' behavioural traits that can influence market actors and it has been argued that these traits must be taken into account when formulating the law.[97] One of these is that people feel worse when they actively make a decision that leads to a loss than when they suffer a loss due to inaction. This has been described as 'status quo' bias[98] and inertia.[99]. In this context this bias would mean users are reluctant to change their internet browser for fear of using a browser that is actually inferior to the one already installed (which is the status quo).

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[96] Van den Bergh Foods Limited (Case IV/34.073 and IV/35.436) Commission Decision 98/531/EC [1998] OJ L 246/1. This decision seems to be an isolated event rather than the beginning of a trend having occurred in 1998 but not being followed again until 2009.

[97] Russell Korobkin, Thomas Ulen, 'Law and Behavioural Science: Removing the Rationality Assumption from Law and Economics' (2000) 88 California Law Review 1051

[98] Russell Korobkin, 'The status quo bias and contract default rules' (1998) 83 Cornell Law Review 608

[99] For a discussion of inertia in contracts see ; Russell Korobkin, 'Inertia and Preference in Contract Negotiation: The Psychological Power of Default Rules and Form Terms' (1998) 51 Vanderbilt Law Review 1583, 1592-1609

This effect appears to be clearly and expressly recognised in the decision: To begin, the Commission's decision explicitly uses the term 'inertia'[100] in this context and further states, when considering the option to have Windows shipped with its browser inactive as a default, that 'defaults are generally considered to have a strong effect on user behaviour'.[101] This clearly demonstrates that the impact of status quo bias was being considered when deciding whether or not to turn off Internet Explorer as the default setting.

Finally, the remedy that was offered[102] by Microsoft and accepted by the Commission[103] shows the hallmarks of behavioural economics in its design. The main commitment offered by Microsoft was that it would provide a 'choice screen' for users. This would be a piece of software sent to computers in the European Economic Area running Windows through the Windows update mechanism. If the user had Microsoft's browser set as the default web browser, it would display to the user two windows, one informing the user of the importance of web browsers and what they do, and a second giving the user the option of downloading one of twelve of the most popular browsers (by market share). The list of browsers would be updated every six months.[104] The list would be populated in accordance with market share, but the order of the browsers in the list would be randomised so as not to produce a bias in favour of those browsers in one particular position.[105]

This remedy appears to have been designed to overcome status quo bias. By asking users to choose their web browser, selecting Internet Explorer becomes a choice rather than a default. If users wished to use Internet Explorer they were able to do so, but if they had only used Internet Explorer previously because of a bias towards inaction, then they would now

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[100] Microsoft (tying) (Case COMP/C-3/39.530), para 47, 48

[101] Microsoft (tying) (Case COMP/C-3/39.530), Para 85

[102] Microsoft (tying) (Case COMP/C-3/39.530) Annex, para 1-6

[103] Under Article 9 of Regulation 1/2003 the Commission can accept and make binding commitments offered by a dominant undertaking under investigation to meet its concerns.

[104] Microsoft (tying) (Case COMP/C-3/39.530) Annex, para 7-19

[105] ibid para 72(c)

no longer have a default selection made for them. Consequently the user would be placed in a position where they had no obvious status quo[106] to rely on and this would make them more likely to decide on a browser based on the merits of those browsers presented. As if this was not sufficient evidence in itself, press announcements in relation to the Google *Android* case now contain explicit reference to status quo bias[107] proving that the Commission is now confident enough to openly rely on concepts established in behavioural economic theory.

[106] Microsoft (tying) (Case COMP/C-3/39.530), para 94. Clicking away the choice screen would prevent the window from loading again therefore it the remedy did not force the consumer to make use of the choice screen, this was deemed as too intrusive, however it can be seen as far as could be done reasonably, the consumer was put in a situation where they could not simply keep the status quo.

[107] European Commission - Press release 'Antitrust: Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine' IP/18/4581 (Brussels, 18 July 2018)

The implications of theory for practice

Until this point the focus has been on the theoretical influences on EU competition law: the continuing influence of Ordoliberalism, combined with the increasing use of sophisticated economic theory to ensure that the Commission pursues genuine threats to competition and the importance of protecting economic freedom as a goal of competition law. This section applies those very same insights to explain how the Commission and courts are seeking to preserve that same economic freedom in technology markets. The reason why technology markets have been chosen is because they have characteristics that give rise to a new form of anti-competitive harm that is only prevalent in software markets. This anti-competitive harm the author calls 'choice evasion'. It will be argued that due to the specific characteristics of the software market; high fixed and low marginal costs, network effects, automatically activated software and often a lack of understanding of the market/software on the part of the consumer, dominant undertakings are able to hinder competition in software markets. This is done through the dominant undertaking utilising the aforementioned characteristics to obfuscate the choice that consumers have, making them less likely to understand there is a choice and consequently far less likely to use it. This type of competitive harm is not possible in traditional markets, but will become an increasing concern for competition authorities as technological development increases the scope for implementing a choice evasion strategy. Further, this theory will be shown to be supported by the recent statements made with regard to *Google shopping*[108] and it will be used to make predictions regarding the unpublished Commission decision against Google in connection with its Android mobile operating system.[109]

[108] Commission 'Antitrust: Commission sends Statement of Objections to Google on comparison shopping service' MEMO/15/4781 15 April 2015

[109]Commission 'Antitrust: Commission opens formal investigation against Google in relation to Android mobile operating system' MEMO/15/4782 15 April 2015

Microsoft I[110] demonstrates a difficulty that arises when applying tying law to software markets. The problem becomes apparent when looking at the remedies that were applied and their effects. Prior to *Microsoft I*, tying cases' remedies were very simple. Under Regulation 17/62 Article 3[111] the Commission had the power to require infringements to be brought to an end. The Commission did this by requiring the tie to be broken, allowing users to purchase the products/services independently. This was done in *Hilti,*[112] in *Tetra Pak II,*[113] while in *London European/Sabena* and *Napier Brown/British Sugar* the infringements had been brought to an end when the Commission began to intervene.[114] In these traditional, non-software markets an order to simply end the infringement sufficed.

This same approach was used in *Microsoft I*. The Commission determined that Microsoft had tied its Windows OS with WMP and ordered that Microsoft provide a new version of its operating system that came without WMP installed[115] (Windows N) thus breaking the tie. However this remedy, although legally successful in the sense that it was put into effect by Microsoft, was a total failure in terms of sales volume.[116] In the time Windows with WMP had

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[110] *Microsoft* (Case COMP/C-3/37.792) [2005] 4 CMLR 965; T-201/04, *Microsoft v Commission* [2007] ECR II-3601

[111] Council Regulation (EEC) 17/62 of 6 February 1962 First regulation implementing Articles 85 and 86 of the Treaty [1962] OJ L13/204. Now Council Regulation (EC) 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 (now 101 and 102) of the Treaty [2003] OJ L1/1, Article 7

[112] *Eurofix-Bauco v Hilti* (IV/30.787 and 31.488) Commission Decision 88/138/EEC [1988] OJ L 65/19 Article 3

[113] *Tetra Pak II* (IV/31.043) Commission Decision 92/163/EEC [1992] OJ L72/1, Article 3(1)

[114] *London European – Sabena* (IV/32.318) Commission Decision 88/589/EEC [1988] OJ L 317/47, para 35 and *Napier Brown – British Sugar* (Case IV/30.178) Commission Decision 88/518/EEC [1988] OJ L 284/41, para 82

[115] This was not just for users who did not want a media player, but also for those who wanted to choose their own. Microsoft retained the ability to offer users a bundle of Windows and WMP in addition to the version without WMP. *Microsoft* (Case COMP/C-3/37.792) [2005] 4 CMLR 1011. This remedy was upheld on appeal by the Court of First Instance; T-201/04, *Microsoft v Commission* [2007] ECR II-3601, para 1229.

[116] Pierre Larouche, 'The European Microsoft Case at the Crossroads of Competition Policy and Innovation: Comment on Ahlborn and Evans' (2008) 75 Antitrust L.J. 933, 955

sold 35.5 million copies, Windows without WMP sold 1,787 copies.[117] Customers were not exercising their freedom of choice.[118] If the purpose of the remedy was to facilitate and liberate customers to choose their own media player and thereby spur competition, the Commission had failed.

The Commission's enhanced approach to software tying (Microsoft II)

In light of the previous failure it is perhaps not surprising that in the next tying decision in a software market (involving Microsoft tying Internet Explorer to Windows) the Commission changed its approach. The Commission, rather than pursuing the case, accepted commitments[119] to which Microsoft agreed to be bound. This included a number of minor commitments[120] and the most significant commitment, that of the 'choice screen'[121].

This decision is interesting for two reasons: Firstly, this novel remedy goes beyond requiring the independent sale of the tying and tied good. Secondly, the description given by the Commission as to how Microsoft's tying behaviour would foreclose the market, although potentially flawed,[122] helps explain what is argued here to be the actual anti-competitive harm the Commission is trying to resolve in software tying cases: choice evasion.

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[117] < http://www.microsoft.com/presspass/legal/european/04-24-06windowsxpnsalesfs.mspx> published April 2006 (accessed 29 May 2013)

[118] The reason why customers were not exercising their freedom of choice relates primarily to customers being offered two versions of Windows, one with more features than the other, but both for the same price. This in itself is worthy of discussion but is unfortunately outside the ambit of this article.

[119] Under Article 9 of Regulation 1/2003 the Commission can accept and make binding commitments offered by a dominant undertaking under investigation to meet its concerns. The Commission appears to be increasingly using Article 9 Regulation 1/2003 to quickly resolve competition concerns in a less confrontational manner.

[120] 1. Microsoft enabled OEMs and end users to turn off and on Internet Explorer, when off, it would not be activated by any means other than the user choosing to turn it back on again; 2. OEMs would be free to pre-install any web browser/s of their choice and set them as default; 3. Microsoft would not use its productivity software or Windows update to distribute new versions of IE, unless IE was turned on; 4. Microsoft would not retaliate against any OEM for developing, using distributing, promoting or supporting software that competes with IE; 5. Microsoft would not enter into agreements granting consideration to an OEM for avoiding software that competes with IE; and Microsoft would not terminate a direct OEM licence without having first given written notice of the reasons for the proposed termination and at least 30 days to resolve those issues. *Microsoft* (tying) (Case COMP/C-3/39.530), Annex para 1-6

[121] Described above.

[122] Although not essential to this paper it could be argued that the theory of foreclosure in *Microsoft II* was flawed due to the different expectations of users of browsers when compared with software such as media

If the Commission simply followed their previous decisions then to rectify the tie they would merely require Microsoft to make Windows available without Internet Explorer. They did not, and this marks an important departure from previous decisions because it shows that the Commission appears to realise that tying in the software market cannot be dealt with using the same remedies as in other markets. As already discussed above, in the *Microsoft I* case and prior to the *Microsoft I* case the Commission's remedies were consistent and simple; the firm was required to break the tie. This remedy failed to work in *Microsoft I* as even when the tie was broken customers still bought the tied products together. In *Microsoft II* the same decision could have been taken, but instead Microsoft was required to install a choice screen where users would be informed what a browser is and given an opportunity to install one in a safe environment. Why did the Commission choose to do this? Why require a choice screen and treat this market differently to others? It is argued that the reason why the Commission has been forced to treat the software market differently begins to be revealed when the facts given by the Commission, describing the threat of foreclosure in *Microsoft II*, are examined.

Choice evasion: the real threat to competition in software markets

The facts given in the commitments decision can be seen to represent a new theory of anti-competitive harm that the Commission appears to be gradually discovering. This theory of foreclosure only exists in software markets and can be used by dominant undertakings to impede competition; it is called 'choice evasion'. Choice evasion occurs when a software firm does not give customers the option to avoid installing or to uninstall tied software. By doing this consumers may be unaware that there is any distinction between the dominant

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players. Media players play content in a particular format. These formats are generally not interchangeable. What will play on one player does not play on another media player. Consumers expected this as it has largely been the case since streaming media players began to be popular. Thus if Microsoft could incentivise content creators to code in Microsoft's proprietary format this would act as a barrier to entry for other media players. The complete reverse is true of browsers and web content. HTML (Hyper Text Mark-up language) is the coding language used to encode webpages. It can be interpreted by any browser. Consumers expect their browser to be able to access any web-page. As a consequence it is likely that if a user cannot access a web-page because it only works with one particular browser, the web-page will be considered inferior rather than the browser. This creates a strong disincentive for webpage content creators to programme webpages that work exclusively with Internet Explorer and without this there would be no barrier to new browsers as each webpage would continue to work with any HTML compatible browser that was created.

software product and the tied software in the first place. Consequently, the user is less likely to realise there are alternatives available because they do not realise that they are actually using two different types of software. This illusion means that customers do not realise they have a choice of applications and, as a result, they do not exercise it. The aim of choice evasion is to make consumers less likely to search out alternatives and pick a different, possibly superior software configuration. The dominant company can evade the customer's exercise of choice by hiding the fact that it exists, hence 'choice evasion'.

The term 'choice evasion' is the author's own and therefore it is not used in the *Microsoft II* decision expressly. So what is the evidence that it was an underlying concern? When discussing potential foreclosure effects, the Commission states 'users are prevented from switching from Internet Explorer to competing web browsers … due to the barriers associated with such a switch, such as searching, choosing and installing such a competing web browser, which can stem from a lack of technical skills…'[123] The Commission referred to surveys indicating that of all the Windows users who had never or had only once downloaded a web browser, 31% did not know how to install or download software, 15% replied that they consider downloading or installing software as difficult or complicated, 8% feared security risks and 7% were not aware that they could download a web browser.[124] It would be interesting to know how many consumers did not fill in the survey because they did not understand what the terms meant. The consumer survey indicated that 84% of Windows users who used Internet Explorer as their main web browser never used another web browser on their computer because they are unaware of the other options, or because they do not want to or do not know how to download alternatives.[125] This demonstrated a general lack of knowledge regarding browsers and the associated technologies. As such, the more Microsoft could blur the distinction between its OS and its browser, the less consumers

[123] *Microsoft* (tying) (Case COMP/C-3/39.530), para 48

[124] *Microsoft* (tying) (Case COMP/C-3/39.530), para 51

[125] *Microsoft* (tying) (Case COMP/C-3/39.530), para 52

would be likely to consider alternatives.[126] The aim as it were, was to make Internet Explorer less a browser and more 'the button for the internet'.[127]

The Commission appears to have learnt from the failure of Windows N that resolving tying issues in software markets is far more complex than just offering the tying product alone at the same price. As such, the Commission required commitments that would not only provide Windows free of Internet Explorer, but also overcome choice evasion. This is why Microsoft was required to inform users about what a browser did and give them choices about which alternative browsers they could download. This would help overcome user lethargy and reverse choice evasion by making users aware of the distinction between operating systems and browsers and make them aware that alternatives exist in a safe, technologically unchallenging environment, rather than subtly hiding it.

The rationale behind choice evasion

There are logical reasons why this particular type of foreclosure through tying is a unique concern within software markets. These are as follows:

First, software markets are characterised by high fixed costs and exceptionally low marginal costs. This is because the cost of programming a piece of software is very high but once programmed the cost of making a second copy is virtually £0.00. As a result there can be cost savings by tying software.[128] As a consequence, it can be cheaper for a dominant undertaking to provide their software together and charge the same price than to market and distribute each piece individually. This is not often the case with normal goods such as cars

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[126] This could be an explanation of why Microsoft's CEO Bill Gates received an email in relation to Window Media Player software in January 1997 from Mr Bay, a Microsoft executive, "in which the latter proposed to 'reposition [the] streaming media battle from NetShow vs. Real to Windows vs. Real' and to 'follow the [Internet Explorer] strategy wherever appropriate'. T-201/04, *Microsoft v Commission* [2007] ECR II-3601, para 911 (Netshow was the predecessor to WMP).

[127] Followers of the Sit-Com 'The I.T. Crowd' will understand this comment better than most.

[128] Distribution costs for example; see David S. Evans, Michael Salinger, 'Why do firms bundle and tie? Evidence from competitive markets and implications for tying law' [2005] Yal.J. on Reg. 41

or computers themselves.[129] Second, software markets are often subject to network effects, this means that having a wide distribution of client software can help capture further market share in related markets such as server software, content coding software or other interrelated software. Third, software can often be programmed to be activated automatically. As such a user who does not want to use the software or is not even aware that the software is installed on their computer can find that the software activates itself when the user tries to access particular formats or inadvertently engages some other trigger mechanism (this reinforces the second element). Fourth, users of software often have a limited understanding of how software works, little confidence in changing it and are unable to distinguish between various pieces of software and their functions. As a result of this they are less likely to be aware that there are competing goods that can perform the same functions as well as or better than the software they already have. They are also less likely to make use of this software, even if they know it exists, if they are not confident in accessing/installing it.

Finally there is one other characteristic that is essential for the Commission to consider choice evasion a threat to competition: being located in an upstream market. This is best illustrated by contrasting scenarios where the Commission has intervened to stop choice evasion with those where similar behaviour has been permitted without interference.

In the following scenarios the Commission pursued the dominant firm for abusive conduct: Microsoft making Windows available only with WMP (tying), Microsoft making Windows only available with Internet Explorer, (alleged tying), Google requiring Google Search and Google's Chrome browser to be pre-installed and Google Search set as the default search service on manufacturers' devices, as a condition to license them certain Google proprietary apps (tying).

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[129] It is also these high fixed costs and low marginal costs that it very difficult to accurately assess the value of a piece of software, making it difficult for competition authorities to assess how much an "untied" piece of software should cost compared to the price of the tie.

Now contrast the following situations where the Commission has not alleged that there was abusive behaviour: Facebook creating a messenger function and integrating it into its social network offering, Google enrolling all YouTube users in Google+ by automatically turning YouTube accounts into Google+ accounts and Microsoft making Excel, Powerpoint and other applications accessible only as a package in Office 360.

These two sets of scenarios have a lot in common. In both there are multiple functions being combined into a single transaction, single accounts for accessing those multiple functions, automatic enrolment and activation without user consent, the potential for significant network effects to be generated for the dominant undertaking by significantly increasing the number of nominal users and the potential for profits from the dominant element to be used to cross-subsidise the development and maintenance of the other elements. If the Commission was concerned with any of these issues in of themselves, then they would have pursued all the scenarios set out. Each could be considered a form of tying as: it requires customers to obtain two separate products (as defined by consumer demand), the undertaking is dominant in the tying product (Facebook, Youtube and Powerpoint are all arguably dominant in their respective markets) and the undertakings do not give customers a choice to obtain the products separately. The only requirement that is not clearly satisfied is whether the practice forecloses competition. Clearly the Commission considers that those in the former group foreclose competition and those in the latter group do not. The distinguishing feature between the two groups is vertical integration.

In each case where the behaviour was pursued, the undertaking concerned was not only dominant but held that dominance in an upstream market that they used to control/restrict the freedom of firms downstream. If using dominance in one market to exploit network effects to gain an advantage in another market through integration is an abuse then all the scenarios would be of concern. This shows more is needed for there to be abuse. Viewing this issue though choice evasion once again is key. When an upstream producer requires

the installation of their applications as a condition of accessing their operating system (particularly when combined with exclusivity requirements) their software reaches every user of their system causing the application to benefit from the associated network effects. But this is the same as in the Facebook/messenger scenario. What is different is that users of the system will be likely to view the feature as part of the system. As the *Microsoft II* decision describes users are prevented from switching to competing web browsers 'due to the barriers associated with such a switch, such as searching, choosing and installing such a competing web browser, which can stem from a lack of technical skills'.[130] This is all the more of a risk when users do not know that it is possible to obtain alternatives, do not know which alternatives exist, do not know how to obtain them, find accessing them complicated or fear security risks.

Some might argue that a Facebook/messenger scenario just lacks the foreclosure effect that could be found in other ties because customers are in fact downloading competing messenger apps without any problem. Therefore, the Commission would not interevene because there is no foreclosure effect. This however just inverts the order of events. There is no foreclosure because people are downloading competing messenger apps, but people are downloading competing messenger apps, because there is no choice evasion. If choice evasion was being successfully implemented this would lead to a reduction in downloaded apps and this would draw the attention of the Commission.

To exemplify this consider the following counterfactual, imagine that rather than Facebook integrating a messenger function into its social network, contemplate what would happen if instead Google required all manufacturers to install a digital messenger app on Android that automatically activated and imported the contacts from the users address book. The user would be able to instantly start receiving messages from contacts without activating the application or consenting to it being installed. The wide distribution of Android would ensure

[130] Microsoft (tying) (Case COMP/C-3/39.530), para 48

that most users would have plenty of contacts automatically available and every user who did not know how to install alternatives, considered doing so difficult, feared security risks, were not aware they could get alternatives or were not aware what those alternatives were would have had their choice evaded. They would be users of the hypothetical Google service without meaningfully exercising their freedom of choice. Meanwhile their handset manufacturer, who in this case would normally have acted as their proxy in making the choice for them, may face either contractual restrictions or financial disincentives to providing an alternative. For such customers, their choice has been made for them, possibly without them ever knowing it existed. Such behaviour would likely be considered abusive, but since in reality it was actually carried out by Facebook, which is not upstream, it was not.

To summarise then, the combination of characteristics described above can allow dominant undertakings to perform choice evasion. They can minimise the chance that consumers will realise they have the choice to access various different versions of the software and make it undesirable for manufacturers to make the best choice of apps for them to compete for their custom. This allows the dominant firm to capitalise on the network benefits that such a tie provides and make entry more difficult for competitors. This raises the question; why has the Commission itself not explicitly stated that this is its concern in the software market? It is possible, that the Commission is only starting to discover this form of foreclosure due to the failure of its previous remedies, such as the provision of Windows N in *Microsoft I*, and therefore the Commission is only just learning of its existence. Nonetheless, it appears that, through trial and error and careful examination of the particular characteristics of the market, the Commission is adapting to these difficulties in order to try to spur competition in software markets and is now crafting remedies (or commitments) that are better suited to this aim.

Using 'choice evasion' to understand the Google Android decision

As stated at the beginning of this paper it has been said that '[i]t's hard to find any antitrust expert, European or American, who has endorsed the logic or outcome of the ruling by the

European Commission'.[131] In light of this, hopefully the discussion below in the context of what has been said above will help balance the situation. The Commission's investigation into Google's alleged abuse of its position using its Android mobile operating system is focused on three matters:

1. Google requiring or incentivising smartphone and tablet manufacturers to exclusively pre-install Google's own applications or services;
2. Google preventing smartphone and tablet manufacturers from developing and marketing modified and potentially competing versions of Android on other devices;
3. Google tying or bundling certain Google applications and services distributed on Android devices with other Google applications, services and/or application programming interfaces.[132]

While the decision has been announced[133] it is likely to be months before a full reasoned decision is made public. Nonetheless there is already evidence that the exercise of choice is a fundamental basis of the decision. While the initial announcement of the fine yielded little new information, in the question and answer session after the announcement Lewis Crofts (a journalist at the proprietary website MLex) asked why, if the Commissioner had previously considered competing apps easy to download, she believed competition was at risk.[134] Commissioner Vestager's response is telling. She noted that of those who buy Android phones, only 1% of them download another search app and only 10% of them download another browser.

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[131] James B. Stewart, 'Why Trump Is Right About the E.U.'s Penalty Against Google' *The New York Times* (New York, 26 July 2018)

[132] Commission 'Antitrust: Commission opens formal investigation against Google in relation to Android mobile operating system' MEMO/15/4782 15 April 2015;

[133] European Commission - Press release 'Antitrust: Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine' IP/18/4581 (Brussels, 18 July 2018)

[134] < https://ec.europa.eu/avservices/video/player.cfm?sitelang=en&ref=I159073> (Accessed 01/08/2018)

This demonstrates that once again choice evasion is a concern here. End users do not change their search or browser service.[135] Consequently an up-stream company such as Google can capitalise on this by requiring or paying downstream third parties to ship devices exclusively with their applications and software. When combined with Google tying their own services and applications to their Android operating system, users will not exercise their freedom of choice to acquire another and their exercise of choice will have been evaded. End users may do this because they assume Google search is an inherent part of the Android system, that the Google applications are the only applications that are available that fulfil that particular function or users might be uncomfortable seeking out and/or downloading other applications that have not come pre-installed by either Google or the handset/tablet manufacturer. It could be just status quo bias. Exactly which factors come into play and in what measure will likely be set out when the final decision is published, but whichever are involved, when these issues are considered in combination with potential network effects and tipping effects the risk of foreclosure of the market becomes apparent.

In defence of Google, commentators such as Prof. Akman highlight that despite Google's behaviour 'the consumer is free to download any other app — for search or browsing — as they wish' in seconds and consequently Google's behaviour does not in fact foreclosure competition.[136] It is perfectly feasible that the reason consumers use Google's apps is less to do with status quo bias and just the outright superiority of the apps over their competitors. After all, Google's apps are some of the most popular on iOS, the operating system of Apple, Google's competitor.[137] If this is true then consumer behaviour has little to do with choice evasion or status quo bias, neither does it foreclose the market. To this point there are two counter-arguments however:

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[135] Or do so very rarely.

[136] <https://truthonthemarket.com/2018/07/19/will-the-european-commissions-google-android-decision-benefit-consumers/> (Accessed 01/08/2018)

[137] The most downloaded Apple App Store apps in the last 10 years include Google Maps and YouTube: <https://www.standard.co.uk/tech/app-store-anniversary-top-10-apps-a3883306.html> (Accessed 05/02/2019)

First, proof of the impact of status quo bias has been addressed directly by Commissioner Vestager,[138] she noted that on mobile phones using Microsoft's operating system 75% of searches were carried out with Bing, Microsoft's own search engine. If customers really are keeping Google search on their phones because they actively want it, it would be expected that Microsoft's users would switch their search service to Google rather than using Bing. The fact that, as a whole, users appear to use whatever search is set as default on their phone strongly supports the Commission's argument that it is pre-installation and default settings that are driving the use of these apps. Consequently, requiring manufacturers to ship all handsets with Google's software could help foreclose certain app markets, even if it does not foreclosure them entirely.

Second, even if Google's apps are in fact superior and without the prohibited behaviour 'Google apps will remain the preferred apps of billions of users'[139] because users and manufacturers will actively seek them out in order to use them on their devices, this does not nullify the Commission's position. Should Google's apps continue to be used after the abusive behaviour has ceased, Google will simply be competing on the merits, which is what EU competition law is intended to achieve in the first place. This does not mean the Commission has failed by pursuing Google for the infringements. By way of analogy, Usain Bolt is in likelihood the fastest 100m runner in the whole world. If however he decided to use a banned substance in a race,[140] he would not be able to challenge his disqualification on the basis that he is the fastest man alive and would have won anyway. If he is, there is no reason for him to take the performance enhancing drugs. Likewise, Google cannot break established EU competition law principles and then argue that they dominate the market because of the superiority of their products/services. If customers will genuinely seek out and use Google's apps over and above whichever is installed as a default on the device, it is

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[138] < https://ec.europa.eu/avservices/video/player.cfm?sitelang=en&ref=I159073> (Accessed 01/08/2018)

[139] <https://www.wsj.com/articles/at-the-expense-of-u-s-tech-a-european-star-is-born-1532729696> (Accessed 01/08/2018)

[140] Which, before some very serious accusations of liable are directed my way, I am not suggesting has ever happened!

unnecessary to require manufacturers to install Google apps as a contractual requirement and financially wasteful to grant manufacturers 'significant financial incentives'[141] to install them exclusively. Consequently, even if the market remains largely the same after the infringements are brought to an end, that will be a testament to the needlessness of the infringing behaviour rather than a flaw in the decision against Google.

The way forward

This raises the question: What impact will choice evasion have on competition enforcement in the next decade and beyond? The features of the software market that allow choice evasion[142] are likely to become increasingly common as the digital age continues to revolutionise industry after industry and those new digital elements increasingly depend on a network of interconnection and communication, also known as the 'Internet of Things' (IoT). With this in mind, how can dominant companies ensure their behaviour falls within the permitted limits of competition? Which technology companies have business models that are liable to bring them into conflict with the law through restricting freedom? If the approach of the Commission and courts is not clear dominant companies' directors may feel unable to make decisions in highly dynamic digital markets because they have a limited ability to decern what is legal and what is not. The damaging effect on competition and innovation in such a scenario is axiomatic.

It is therefore essential for dominant digital companies to understand the following three points:

First, the Commission is not trying to 'punish' US competitors. While it is true to say that many of the major competition cases and statements of objections that have come from the

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[141] European Commission - Press release 'Antitrust: Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine' IP/18/4581 (Brussels, 18 July 2018)

[142] high fixed costs and low marginal costs, network effects, automatic activation and a complexity that can make consumers less aware of how their software operates

Commission in recent years have been directed towards US companies, some of the targeted business practices are well established breaches of EU competition law. Take for example Google, on the one hand the Google Shopping case[143] targets a new practice of advantaging ones own services in search results, this is indeed a relatively novel type of abuse. In contrast however, the forthcoming decisions on Android and Adsense relate to what appears to be allegations of tying[144] and exclusivity contracts, behaviours that EU competition law clearly pronounced to be abusive long before Google even existed. Therefore, it is possible that rather than there being an anti-US bias, these decisions are more of a surprise to US undertakings because, unlike in the EU, US antitrust law is informed more by the Chicago-School. Consequently if the theoretical differences between the EU and US legal systems are not recognised undertakings may feel they are being pursued for legitimate business practices.

Second, firms with some business models are more at risk of being found to have abused their position in this regard than others. To begin, Apple Inc, is unlikely to have much to fear in relation to this particular type of abuse. Apple Inc tends to have an entirely internal technological 'ecosystem'. This has been described as building a 'walled garden'.[145] They write software for their own phones, laptops and tablets. Consequently there is little opportunity to require third party hardware manufacturers to install their applications or software. They are the only manufacturer of Apple phones and other hardware and this means they have complete control over which software their products are shipped with. As a result, they are unlikely to need to be concerned by this sort of infraction.[146] Second, looking

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[143] Google Search (Shopping) (Case AT.39740) Commission Decision of 27 June 2017

[144] It should be noted that although Android may not be considered a 'classical' tying case, in the sense that the consumer was not required to pay a distinct sum for the tied product and was able to download alternatives, it was established in *Microsoft I* that neither of these are requirements for Article 102(d) TFEU to be made out; see T-201/04, Microsoft v Commission [2007] ECR II-3601 paras 969-971

[145] Nicholas Petit <http://thehill.com/opinion/technology/399742-eu-engaged-in-antitrust-gerrymandering-against-google> (Accessed on 02/08/2018)

[146] That is not to say that Apple will be unconcerned by competition law at all, rather their concerns will not relate to access to pre-installation on their mobile phones, rather they will likely be concerned with access to

at Amazon as another example, Amazon operates both on the platform level as an online market place while also operating as a retailer selling its own products on the platform. Operating at the upstream level means any behaviour that conceals competing products, makes them more difficult for users to find or removes them from the platform will likely be seen to erode consumers' freedom of choice. This points to another issue that could affect Google, Microsoft, Apple and Amazon. Extrapolating the decision from the Google shopping case suggests that should Alexa, Cortana, Siri, Google Assistant or any other digital assistant become dominant, they will be under a legal obligation not to exclude other services in favour of their own as this would be interfering with customers' freedom to choose the products and services most appropriate for them.[147]

Third, looking further into the future, the Internet of Things will require products to interconnect and work together effectively. This may result in a dominant, open source operating system that can be modified by manufacturers; an Android for your kettle, refrigerator and television. In such a scenario it is essential for the owner of that system, if also operating in the downstream market, to allow third parties to put their own competing applications onto that system, allow competing products to work with that system, avoid implementing exclusivity arrangements in relation to their own applications and to try to make it clear, where their own applications are installed, that they are additional elements not part of the operating system.

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their app store market and how that may disadvantage third party software firms or using developers profits from the app store as leverage to prevent competiting software being developed. Consider: <http://lineadirettaeuropa.eu/wp-content/uploads/2017/05/European_Innovators_Open_letter.pdf> (Accessed on 12/02/2019); <https://www.iphoneincanada.ca/news/apple-japan-app-store/> ; <https://www.nytimes.com/2017/08/10/business/china-apple-app-store.html> (Accessed 12/02/2019) ; Tim Bradshaw, Supreme Court to review Apple app store commissions case (19 June 2018) *Financial Times*.

[147] Consider in this light the comments of Prof. A Ezrachi in relation to digital assistants 'you get a sense of how we are truly outsourcing a lot of our decision making. So what we have is now voice controlled activation … it take us a step further away from the decision making, for the extreme cases, when one of you or more of you were willing to move into the second or third page of the search, you still had some choice. With voice activation that is all gone. What you get is a single answer to your question. … This has an impact on the market for products, the market for services, … because what you have is a single gatekeeper that controls much of what you do.'; Ariel Ezrachi, 'on competition, data, privacy, and artificial intelligence' Panel 1, (Shaping Competition Policy in the Era of Digitisation, Brussels 17/01/2019) <https://webcast.ec.europa.eu/shaping-competition-policy-in-the-era-of-digitisation> accessed 05/03/2019>

In short, a company can open up their operating system/platform to benefit from the creativity, ingenuity, lower risk, flexibility and breadth of choice created by an open system or they can build a 'walled garden' where their own software is installed on their own hardware and hold complete control over which applications are pre-installed and their default settings, but, what is crucial to understand, is that they cannot do both.

Conclusion

This article highlighted the difficulties that dominant technology companies have faced in the last two decades of competition enforcement in the EU. It has been explained that in order to understand the manner in which EU competition law is being applied to these fast-moving, dynamic markets it is necessary to understand the foundational aims of competition law in the EU by investigating the theoretical influences on the law.

Finding two distinct periods of theoretical influence, it was argued that during the first period only the influence of Ordoliberalism was apparent. In the second period, Ordoliberal aims were still pursued, but with the assistance of a number of economic approaches and insights gathered from numerous sources including the Chicago School, Post-Chicago analysis and even behavioural economics.

Understanding the implication of these theoretical influences, in particular, the Ordoliberal aim of preserving economic freedom has provided the opportunity to better analyse the Commission's approach to competition in software markets. This has revealed that the unique combination of characteristics of the software market[148] give rise to a situation where choice evasion can take place. This is where dominant undertakings are able to exploit these characteristics in order to obfuscate the options that consumers have and minimise the chance of consumers exercising their freedom of choice. Through this they can restrict competition. It has been argued that the EU competition authorities are now adapting their

[148] high fixed costs and very low marginal costs, potential network effects, automatic activation and users who are often not necessarily familiar or comfortable with the complexities of software, nor familiar with the varieties available

approach to software firms that have abused their dominant position. They are crafting remedies that aim to ensure that customers are aware of the differences between various services and software and exercise their freedom to choose the combination of software that they consider superior.

This analysis is relevant for two fundamental reasons, first it provides greater understanding of how tying is established and what aims and principles underlie tying law: It shows that the Commission and courts have consistently sought to protect customer freedom.[149] This analysis is applicable regardless of the relevant market. Secondly, it has explained how the characteristics of the software market mean that the law is developing to prevent dominant software firms from using choice evasion to limit competition in the market. This novel theory of anti-competitive harm explains why the law on software tying is developing in the present manner, it allows the current progression of the law to be better understood and makes it possible to predict how the law is likely to be applied in future. On the basis of this, it has been recommended that technology companies that are dominant on a market and operate down stream of that market both now and in future ensure; that they do not universally and irreversibly integrate their downstream products with their upstream product, that they leave third parties free to install and integrate their own products and services with their upstream product and allow customers the freedom to choose the combination that *they* consider best.

[149] providing further evidence that this area of law is based upon or has been significantly influenced by Ordoliberalism