

IS IMPEDING INNOVATION ANTICOMPETITIVE?

Abstract

This article considers innovation from the standpoint of contemporary EU competition law, by investigating whether and to what extent it protects the spread of innovation and conceptualising the anti-competitive characteristics of practices impeding innovation.

JEL CLASSIFICATION: K10; K21

SUMMARY

1 Introduction: Fundamental theories of US antitrust law and the *sui generis* form of EU competition law - 1.1 Innovation and EU competition law - 1.2 Actual and potential problems concerning the impediment of innovation in terms of EU competition law - 2 The increase in innovation-related considerations by the EC - 2.1 The current perspective of the EC on innovation - 2.2 The EC's approach to innovation in antitrust matters - 2.3 Innovation considerations in merger analysis - 3 Theoretical analysis of impeding innovation in terms of competition and intellectual property laws - 3.1 Impeding innovation as an anti-competitive practice - 3.2 Relevant patent theories on innovation suppression - 4 Reasons justifying impeding technological innovation - 4.1 The lawfulness of innovation suppression practices - 4.2 What if technologies remain unpatented? - 5 Conclusion

1 Introduction: fundamental theories of us antitrust law and the *sui generis* form of EU competition law

When EU competition law was established by the Rome Treaty in 1957, US Antitrust law had already moved forward by the implementation of the Sherman Antitrust Act in 1890. Hence, there seems little doubt that a study focusing on EU competition law will presumably fall short if the theories of US Antitrust law are not questioned even to a small extent. Besides, it is almost certain that competition law and economics are an integral part of a system as economic thinking has exerted an influence over the foundation of competition law. Therefore, this preliminary remark necessarily proceeds to encapsulate basic socio-economic justifications of US Antitrust law before it demonstrates the foundation of EU competition law together with its controlling idea behind to estimate aims and objectives. Last, it argues the practicability of this law in whether it ensures the necessary safety of the progression of innovation.

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As regards the wide-ranging discussions while the foundations of US Antitrust law were laid, one may simply observe that every discussion leads to an economic controversy. While industrial policy advocates had the opinion that antitrust policies will improve social welfare only if they sustain large industrial organisations,¹ the critical legal studies movement presented by Unger, Fox and Sullivan merely underlined that the application of antitrust is of no use in terms of the welfare of people, but it legitimises the capitalist (monopolistic) exploitation.² However, the sharpest, long-standing, and continuing debate started between Harvard and Chicago schools' intellectual movements. Bain, Turner, Mason and others from Harvard school made no compromises over the discussion of 'structure-conduct-performance' regarding their position against the centralisation of capital.³ They consequently emphasised the necessity of market intervention with respect to several criteria such as price flexibility, development of new technologies and market entry conditions. The Chicago School objected to this interventionist-inclined phenomenon because it did not coincide with the American dominant economic thought of neoliberalism, which reached its apogee in Reagan's time.

The elementary idea of the Chicago School is to maximise productive efficiency to increase public wealth.⁴ This is why per se prohibitions of the Court without ratiocinating the effects of practices on consumer welfare are required to be extinguished. For instance, they took this assertion much further with the seemingly contestable argument that monopolies and concentrations may provide much more efficiencies.⁵ According to Bork, unless the practice increases the cost of consumption (immediate cost), legal intervention would be required.⁶ Scholars from the Chicago School, namely Coase, Director, and Posner, also established the relationship between law and welfare economics by demonstrating the canons of pareto-optimal equilibrium.⁷ The major pillar of this Pareto efficiency is to achieve social welfare (socially optimal outcome) with the help of competitive markets (limited market intervention). Bork subsequently formed a basis for the concept of welfare in practice on top of this burgeoning literature.⁸ However, it should be noted that this welfare concept is different from European understanding.

It is generally acknowledged that this is not all that Antitrust has affected with other doctrines, such as populist and post-Chicago.⁹ Such aspects, as well as the

¹ David Audretsch, 'Industrial Policy and Industrial Organization' in Dennis Mueller, Alfred Haid and Jürgen Neumann (eds), *Competition, Efficiency, and Welfare* (Springer 1991) 223.

² Roberto Unger, *The Critical Legal Studies Movement* (Verso 2015); Eleanor Fox and Lawrence A. Sullivan, 'Antitrust-Retrospective and Prospective: Where are we coming from? Where are we going?' (1987) 62 *New York University Law Review* 936, 961-964.

³ Paul Ferguson, *Industrial Economics: Issues and Perspectives* (Macmillan Education 1988) 7-22.

⁴ Richard Posner, 'The Chicago School of Antitrust Analysis' (1979) 127 *University of Pennsylvania Law Review* 925.

⁵ Richard Posner, *Antitrust Law* (The University of Chicago Press 2001); Herbert Hovenkamp, *The Antitrust Enterprise: Principle and Execution* (Harvard University Press 2005).

⁶ A requirement imposed by law for the validity of a legal transaction.

⁷ Jules Coleman, 'Efficiency, Utility, and Wealth Maximization' (1980) 8 *Hofstra Law Review* 508; See also, Posner (n 4).

⁸ Robert Bork, *The Antitrust Paradox* (The Free Press 1993).

⁹ Robert Atkinson and David Audretsch, 'Economic Doctrines and Approaches to Antitrust' (The Information Technology and Innovation Foundation, 2011) 1-33 <<https://www2.itif.org/2011-antitrust.pdf>> accessed 14 March 2023.

abovementioned ones, have aroused curiosity concerning different perspectives of welfare. Pittman measured welfare by using the deadweight loss, which addresses the difference between the appraised value of consumers and requested reasonable value by manufacturers.¹⁰ In reference to the distribution of this amount, scholars have not arrived at a consensus yet. While some argue competition law aims to maximise total welfare (total surplus of society including both consumers and producers),¹¹ others defend the principle of maximising consumer welfare (benefit of consumers based on their consumption).¹² In conclusion, the enforcement of competition rules today took its final form in the US based on not only this debate but also untold other discussions. Even if, EU competition law shows similarities with US Antitrust law and its economic theories to some extent, it has a sui generis structure.

The fundamental aim of EU competition law is to provide free and undistorted competition to make the internal market more competitive for the sake of consumers and the better functioning of the internal market.¹³ The CJEU verified this in the *Continental Can* case that competition law does not only consider direct damages to consumers, it also undertakes other anti-competitive conduct having direct or indirect effects on the market.¹⁴ Therefore, the impact area of EU competition law, particularly Article 102 TFEU's scope of application, consistently enlarges¹⁵ in accordance with the everchanging political and economic objectives of the EU and the values of European societies.¹⁶

The protection and operability of the European common market is the distinctive target of EU competition policy.¹⁷ Since this special characteristic requires a one-size-fits-all approach, it precisely corresponds to the theory of ordo-liberalism developed by Freiburg School in the process of harmonising the economic interests of Member States.¹⁸ It is more

¹⁰ Russell Pittman, 'Consumer Surplus as the Appropriate Standard for Antitrust Enforcement' (2007) 3(2) *Competition Policy International* 205.

¹¹ *ibid*; Joanna Goyder and Albertina Albors-Llorens, *EC Competition Law* (OUP 2009); Ken Heyer, 'Welfare Standards and Merger Analysis: Why not the best?' (2006) 2(2) *Competition Policy International* 29.

¹² Pursuant to Massimo Motta, *Competition Policy and Practice* (CUP 2004), who served to EC as a chief economist, both approaches give approximately same results. Also see, Damien Neven and Lars-Hendrik Röller, 'Consumer surplus vs. welfare standard in a political economy model of merger control' (2005) 23 *International Journal of Industrial Organisations* 829; Sven-Olof Fridolfsson, 'A Consumer Surplus Defense in Merger Control' in Vivek Ghosal and John Stennek (eds), *The Political Economy of Antitrust* (Emerald Publishing 2007).

¹³ Article 3/1(b) of TFEU. See also, Case C-52/09 *Konkurrensverket v TeliaSonera Sverige AB* [2011], paras 20-21.

¹⁴ Case 6/72 *Continental Can Company Inc. v Commission of the European Communities* [1973], para 26. This is also stated in the Commission's enforcement priorities with regard to the use of Article 102 TFEU as "What really matters is protecting an efficient competitive process and not simply protecting competitors." See Communication from the Commission 2009/C 45/02 of 24 February 2009 Guidance on the Commission's enforcement priorities in applying Article 82 of the EC (2009) OJ C 45/7 6; Case 85/76 *Hoffman-La Roche & Co. AG v Commission of the European Communities* (1979) ECR 1979-00461, para 6; Case C-52/07 *Kanal 5 Ltd and TV 4 AB v Föreningen Svenska Tonsättares Internationella Musikbyrå (STIM) upa.* (2008), para 25.

¹⁵ Steven Anderman, 'The IP and Competition Interface: New Developments' in Steven Anderman and Ariel Ezrachi (eds), *Intellectual Property and Competition Law - New Frontiers* (OUP 2011) 5.

¹⁶ Richard Whish and David Bailey, *Competition Law* (OUP 2018) 20.

¹⁷ Maher Dabbah, *International and Comparative Competition Law* (Cambridge University Press 2010) 164; Alison Jones and Brenda Sufrin, *EU Competition Law: Text, Cases & Materials* (OUP 2016) 34; Whish and Bailey (n 16) 18-24.

¹⁸ David Gerber, *Law and Competition in Twentieth Century Europe: Protecting Prometheus* (Clarendon Press 1998) 240.

than likely to say that an ordoliberal thought had a significant influence on the development of EU competition law, particularly in shaping its economic foundations. Since this phenomenon had already faced German cartels in the 1930s concerning the abuse of their economic powers, it proactively foresees a controllable economic system (instead of the Anglo-Saxon economy) to improve democracy.¹⁹ Therefore, this conception regards some legal arrangements as necessary even though it adheres to taking a ‘hands-off approach’ regarding market interventions (no intervention unless it is really necessary). Although this thought was criticised by Keynesian theories several times, it was put into practice by cause celebres cases of *Consten/Grundig*²⁰ and *Continental Can*²¹ regarding the integration of the common market.

After the Maastricht and subsequent treaties, since the beginning of the 90s, the EU has lacked enough uniformed regulations with regard to the organisation of the internal market as they commenced to proceed step by step to the common market objective. In this connection, the White Paper in 1999 gave clear signals of a new move by demonstrating that current measures were not sufficient to meet the new challenges and therefore, a more efficient system was required.²² This process thereafter ended with the Council Regulation No 1/2003, which assured an undistorted common market with the effective and uniformed application Articles 101 and 102 of TFEU.²³ Dabbah, Jones and Sufrin named this era from 1957 to 2004 as pre-modernisation, and they claimed since that time, competition law has been in its modernisation period by adopting a consumer welfare standard based on the ‘more economic approach’.²⁴ The accepted opinion of the economic approach has been addressed in many cases like *Intel* and *Microsoft* where a review was requested of these cases due to insufficient economic approaches and analyses. For example, the CJEU returned the *Intel* case through a lack of showing actual and likely effects (the effect-based approach) supplied with a convincing theory of harm (logically consistent counter-factual analysis supported by empirical shreds of evidence).²⁵

¹⁹ Elias Deutscher and Stavros Makris, ‘Exploring the Ordoliberal Paradigm: The Competition-Democracy Nexus’ (2017) 11(2) *The Competition Law Review* 181; Conor Talbot, ‘Ordoliberalism and Balancing Competition Goals in the Development of the European Union’ (2016) 61(2) *The Antitrust Bulletin* 264; Ignacio Anchustegui, ‘Competition Law through an Ordoliberal Lens’ (2015) 2 *Oslo Law Review* 139; Jones and Sufrin (n 17) 27-28.

²⁰ Joined Cases 56 and 58-64 *Établissements Consten S.à.R.L. and Grundig-Verkaufs-GmbH v Commission of the European Economic Community* (1966).

²¹ Case 6/72 *Continental Can Company Inc. v Commission of the European Communities* (1973).

²² Communication from the Commission 2020/C 99 I/01 of 26 March 2020 Guidance to the Member States concerning foreign direct investment and free movement of capital from third countries, and the protection of Europe’s strategic assets, ahead of the application of Regulation (EU) 2019/452 (FDI Screening Regulation) (2020) OJ C1 99/1, art 10.

²³ Council Regulation No 1/2003 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2002] OJ L 1.

²⁴ Maher Dabbah, *International and Comparative Competition Law - New Frontiers* (CUP 2010) 177-179; Jones and Sufrin (n 17) 46-49; Heike Schweitzer and Klaus Patel, ‘EU Competition Law in Historical Context: Continuity and Change’ in Klaus Patel and Heike Schweitzer (eds), *The Historical Foundations of EU Competition Law* (OUP 2013).

²⁵ Hans Zenger and Mike Walker, ‘Theories of Harm in European Competition Law: A Progress Report’ in Jacques Bourgeois and Denis Waelbroeck (eds), *Ten Years of Effects-based Approach in EU Competition Law* (Bruylant 2012).

Nevertheless, competition law has a dynamic structure that enables the review of actual needs and trends.²⁶ For instance, the Treaty of Lisbon presented different discourses such as the social market economy and securing the social justice in 2007, which are likely to change the mainstays of ‘multi-purpose’ objectives by considering mounting concerns such as the protection of the environment and the progression of innovation.²⁷ When current initiatives and jurisdictions are examined, it can be observed that competition law targets different viewpoints such as consumer protection and dispersal of economic power (welfare distribution).²⁸ Indeed, Vestager expansively outlined the aim of competition policy, which contributes “to efficient use of society’s scarce resources, technological development and innovation, a better choice of products and services, lower prices, higher quality and greater productivity in the economy as a whole.”²⁹ This verifies that the EC currently follows the multi-purpose objectives through considering the progression of innovation and the economy as well as other identified matters.

1.1 Innovation and EU competition law

Regarding the innovation perspective of competition law, the EC started to formulate a policy regarding science and technology at the end of the 1960s.³⁰ The Commission, up to present, has been of the opinion that competition law enforcement is not only beneficial to price and quality but also to the innovation process.³¹ Therefore, so far, the progress and promotion of innovation have been seen as natural consequences of the protection of EU competition law rather than the phenomenon required to be protected in itself. Therefore, competition law is considered as a tool for clearing the way for innovations.³² However, in recent years, key aspects of EU competition law underwent a

²⁶ For example, the EC has recently adopted a Temporary Framework, which encourages Member States to apply the ‘full flexibility’ for State aid rules to reinvigorate the economy during the COVID-19 pandemic. It has also published emergency guidance respecting foreign direct investments (FDI) published in March 2020 for the application of FDI Screening Regulation due to the emergent needs. See, Communication from the Commission, Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak (2020) C(2020) 1863 final; European Commission, ‘State aid: Commission adopts Temporary Framework to enable member states further to support the economy in the COVID-19 outbreak’ (Press Release, 19 March 2020) <https://ec.europa.eu/commission/presscorner/detail/en/ip_20_496> accessed 14 March 2023; see for foreign direct investment updates in the period of COVID-19 outbreak, Communication from the Commission, ‘Guidance to the Member States concerning foreign direct investment and free movement of capital from third countries, and the protection of Europe’s strategic assets, ahead of the application of Regulation (EU) 2019/452 (FDI Screening Regulation) (2020) C(2020) 1981 final.

²⁷ Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community [2007] OJ C 306, art 3.

²⁸ Whish and Bailey (n 16) 18-24; Jones and Sufrin (n 17) 28-34.

²⁹ European Commission, ‘EU competition policy in action’ (2016) 9 <<https://ec.europa.eu/competition/publications/kd0216250enn.pdf>> accessed 14 March 2023.

³⁰ Schweitzer and Patel (n 24).

³¹ Pablo Ibáñez Colomo, ‘Restrictions on Innovation in EU Competition Law’ (2016) 41(2) European Law Review 202.

³² Pieter Cleynenbreugel, ‘Innovation in competition law analysis: making sense of on-going academic and policy debates’ in Paul Nihoul and Pieter Cleynenbreugel (eds), *The Roles of Innovation in Competition Law Analysis* (Edward Elgar 2018).

radical change that IP-based considerations superseded to price-output considerations as can be seen in cases of *Motorola*³³ and *Lundbeck*.³⁴

However, the extent to which EU competition law overcomes problems about innovation as the Commission has not determined any benchmarks to elucidate future competition law analysis. This is because the place of innovation can be questioned in EU competition law is a vague moot point among scholars whether and to what extent it exists within the structure of the theory of harm.³⁵ Ibáñez Colomo argues there are static concerns of EU competition law because this kind of approach based on static variables can only provide a solution for short terms, this is to say, likely affects the technological progress (rather than creating or cementing market power) can only be discovered as long as a dynamic understanding is developed.³⁶ Kerber also considers forming innovation-emphasised assessment concepts instead of traditional concepts obligatory in compliance with the digital revolution wave, which has a potential to change the whole legal thinking by virtue of the fact that all new concepts of digitalisation such as big data, artificial intelligence (AI), and algorithms likely pose problems in terms of markets.³⁷ In this regard, it is important to mention that the EC and European courts are currently experiencing difficulties with making relevant market definitions. Akman,³⁸ Robertson,³⁹ Ferro⁴⁰ and several other scholars⁴¹ state that EU competition law should redress itself by generating analytical tools for establishing harm theories in relation to digital markets and other forthcoming innovative markets.

Creating market definitions is a legal obligation in EU competition law assessments, as indicated by the court in its *Continental Can* decision, which determined that the EC must define the market and show that a dominance position was held to reach a decision.⁴² The initial phase of a “market power” judgment is the determination of the relevant market and whether the use of market power in this market has anti-competitive outcomes. In this regard, market power was defined in the *United Brands* and *Hoffmann-La Roche* cases

³³ Case *Motorola - Enforcement of GPRS Standard Essential Patents* (2014) C(2014) 2892 final.

³⁴ Case *Lundbeck* (2013) C(2013) 3803 final.

³⁵ Cleynebreugel (n 32) 2.

³⁶ Ibáñez Colomo (n 31) 202-203.

³⁷ Wolfgang Kerber, ‘Competition, Innovation, and Competition Law: Dissecting the Interplay’ (Joint Discussion Paper Series in Economics No 42-2017, 2017) 1 <<https://www.semanticscholar.org/paper/Competition%2C-Innovation%2C-and-Competition-Law%3A-the-Kerber/5c779025e7163b9726ef9d110d4da32bc8c350e1>> accessed 14 March 2023.

³⁸ Pinar Akman, ‘Competition Policy in a Globalized, Digitalized Economy’ White Paper, World Economic Forum (December 2019) <http://www3.weforum.org/docs/WEF_Competition_Policy_in_a_Globalized_Digitalized_Economy_Report.pdf> accessed 14 March 2023.

³⁹ Viktoria Robertson, ‘Antitrust Law and Digital Markets: A Guide to the European Competition Law Experience in the Digital Economy’, in Heinz D. Kurz and others (eds), *The Routledge Handbook of Smart Technologies: An Economic and Social Perspective* (Routledge 2020).

⁴⁰ Miguel Ferro, *Market Definition in EU Competition Law* (Edward Elgar 2019).

⁴¹ Ariel Ezrachi and Viktoria Robertson, ‘Competition, Market Power and Third Party Tracking’ (2019) 42 World Competition 5; Bruno Deffains, Olivier d’Ormesson and Thomas Perroud, ‘Competition Policy and Industrial Policy: for a reform of European Law’ (2020) <https://www.robertschuman.eu/en/doc/divers/FRS_For_a_reform_of_the_European_Competition_law-RB.pdf> accessed 14 March 2023.

⁴² *Continental Can* (n 21) para 32.

as “a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of its consumers.”⁴³ Although a broad market definition has been made, more than 40 years have passed since these decisions. During this period, the evaluation of new economic developments and changing market structures (such as multisided platforms, zero-price and data-centric digital markets) have been left entirely to the EC’s margin of appreciation through defining and assessing the relevant market. The EC accordingly makes detailed market analyses as such in the *Google Shopping*⁴⁴ and *Google Android*⁴⁵ cases in accordance with the more economic approach. However, arguably, there is a lack of examining pre-market conditions and competition in innovation in R&D markets, where businesses are competing to make more innovative products. While defining the relevant market and market power, the things to look at in today’s technology-intensive markets should also be granted patents and the capacity to innovate, apart from traditional criteria such as determining the market share in a specific geographic market. Hence, the EC should emphasis on making market analyses by specifically assessing R&D markets within its margin of appreciation to establish more comprehensive and fitted determinations. This kind of approach will likely enable to react with dynamic reflections against dynamically expanding business models and market structures.

Dynamic competition is a fundamental characteristic of the new economy. This causes a breakthrough change in the elements of competition as competition in the level of innovation substitutes the competition in price. In other words, while traditional markets consist of static competition where businesses capitalise on the comparative cost advantage, latter-day markets have a dynamic character as businesses are competing based on their innovations. Porter, accordingly, expressed that modern competition hinges upon productivity rather than having access to resources. This productivity is a form of innovation, which is one of the most effective tools to bestow competitive capacity.⁴⁶ This actuality promotes and even necessitates making a considerable R&D investment. The terms ‘promote’ and ‘necessitate’ are intentionally distinguished. The new economy encourages businesses to make innovation because they can gain favour from the network externalities, the first-move advantage and the low marginal cost even if there is a risk of facing enormous sunk costs.⁴⁷ It also necessitates businesses to adapt to such innovation-making strategies to make their presence felt, or otherwise, they will presumably have no more market power.

⁴³ Case 27/76 *United Brands Company and United Brands Continental BV v Commission* (1978) ECR 207, para 65, and *Hoffmann-La Roche* (n 14) para 38.

⁴⁴ *Google Search (Shopping)* (2017) C(2017) 4444 final.

⁴⁵ Commission Decision C(2018) 4761 final of 18 July 2018 relating to a proceeding under Article 102 TFEU and Article 54 of the EEA Agreement (Case AT.40099 - Google Android).

⁴⁶ Michael Porter, ‘Clusters and the New Economics of Competition’ (1998) 76(6) *Harvard Business Review* 77.

⁴⁷ OECD, ‘The New Economy Beyond the Hype: Final Report on the OECD Growth Project’ (Meeting of the OECD Council at Ministerial Level, 2001) 41-86 <<http://www.oecd.org/economy/growth/2380634.pdf>> accessed 14 March 2023.

Overall, this dynamic structure of the new economy assures the prevention of monopolisation of businesses unless they provide innovation. In contrast, if continuous innovations are provided, monopolisation arguably becomes harmless.⁴⁸ Despite the fact that the new economy seems to be able to self-regulate itself in theory, the main argument of the state interventionists is based on the view that monopolistic formations will likely eliminate the courage of other firms to innovate.

As a consequence of that, states ought to remove the likely obstacles of innovative process in order to maximise consumer welfare as well as to protect other businesses. On the contrary case, monopoly businesses may impose on their rivals to use their operative systems or to make tied selling.⁴⁹ These examples, of which more exist, present danger of the suppression of innovation. To the extent that the progression of innovation is disrupted, both consumer welfare and the innovation-driven economy are affected negatively. Therefore, it appears that all conduct, which is prejudicial to the development of innovation, ought to be dogmatised as unlawful, notwithstanding any other dynamics in the new economy. It is quite apparent that there is a need for more innovation-focused policies and analyses. Studies also affirmed that developing a consistent policy is a must for the promotion of innovation inasmuch as uncertainties in policies negatively affect the quality and quantity of innovation.⁵⁰

It seems that in the orientation period of dynamic efficiency in competition law enforcement, it would likely be to examine to what extent businesses contribute to innovation before arriving at a penalty conclusion regarding competition law infringements. However, one may raise the question the extent to which such efficiency defence is regarded as juridically acceptable (even though it is not easy to apply it in practice) because a similar efficiency defence was accepted in *Intel* whereas it was rejected in *Magill*. Therefore, there is no obstacle to put forth an 'innovation defence' as an additional objective justification considering Article 102 TFEU. In another saying, defendants can basically assert an innovation defence while plaintiffs are entitled to stay loyal to structuralist arguments. In the face of such a situation, although EU competition authorities have preferred structural dominance analyses (such as cost-benefit analysis) pursuant to narrow market interpretation, nevertheless it is required to make a point of considering cogent grounds of defendants.⁵¹ In spite of the difficulty to measure non-economic efficiencies such as innovative and environmental benefits, taking a futuristic approach seems necessary.⁵² However, at the same time, she has been criticised in relation to the stifling of innovation due to massive fines levied by the Commission against

⁴⁸ Giorgio Monti, 'EC and New Economy Markets' in Cosmo Graham and Fiona Smith (eds), *Competition, Regulation and the New Economy* (Hart 2004).

⁴⁹ Robert Hahn, 'A Primer on Competition Policy and the New Economy' (2001) 1 Milken Institute Review 38.

⁵⁰ Utpal Bhattacharya and others, 'What Affects Innovation More: Policy or Policy Uncertainty?' (2017) 52(5) Journal of Financial and Quantitative Analysis 1869.

⁵¹ Monti (n 48) 49.

⁵² This kind of approach is supposed to be adapted to protect other public interests such as innovation and the environment alongside the price and quality of products.

technology companies such as Google and Qualcomm.⁵³ It is quite evident that the progression of competition and innovation ought to be taken into consideration together rather than expecting more innovation ipso facto by only protecting competition.

1.2 Actual and potential problems concerning the impediment of innovation in terms of EU competition law

Recently, the EC's general attitude in its competition analyses has shifted towards an IP-based approach, especially in the high-tech industries. This means that competition analyses (and enforcements) no longer confine with only price-quality considerations but also innovation considerations.⁵⁴ However, it remains uncertain how the Commission handles innovation-related problems since it has not determined any criteria in reference to its analyses. This uncertainty arises from the static standpoint of the Commission while specifying the impact of innovation is required to have a more dynamic standpoint, because long-term outcomes of innovation considerations are too complex to show their likely effects on the technological process, the market, and the consumer welfare. Ibáñez Colomo attributed this challenge to 'quintessentially static in nature' structure of EU competition law.⁵⁵

Ibáñez Colomo, accordingly, argues that innovation has only an indirect effect on EU competition law analysis according to contemporary decisions of the CJEU.⁵⁶ When these decisions are examined by only taking account of Article 102 TFEU-related cases, it can be said that there are some certain practices, which are deemed per se anti-competitive regardless of their influences on the competitive structure such as exclusive dealing and loyalty rebates.⁵⁷ In respect to some other practices, it is necessary to show anti-competitive effects by instantiating as it is the case with margin squeeze practices and selective price cuts.⁵⁸ However, it would not be sufficient to show the influences of these practices on between price and output because the CJEU does not only prohibit practices that directly harms to consumers but also the competitive process. In this regard, it has to be primarily addressed the *TeliaSonera* case in which it was determined that "... an undertaking which holds a dominant position has a special responsibility not to allow its conduct to impair genuine undistorted competition in the internal market."⁵⁹ That means

⁵³ Geoffrey Manne, 'The EU's Google Android antitrust decision falls prey to the nirvana fallacy' (Truth on the Market, 18 July 2018) <<https://truthonthemarket.com/2018/07/18/the-eus-google-android-antitrust-decision-falls-prey-to-the-nirvana-fallacy>> accessed 14 March 2023; Dirk Auer and others, 'Why the Commission's Google Android decision harms competition and stifles innovation' (Truth on the Market, 18 July 2018) <<https://truthonthemarket.com/2018/07/18/why-the-commissions-google-android-decision-harms-competition-and-stifles-innovation>> accessed 14 March 2023.

⁵⁴ Ibáñez Colomo (n 31) 202.

⁵⁵ *ibid* 203.

⁵⁶ *ibid*.

⁵⁷ *Hoffmann-La Roche* (n 14) para 89.

⁵⁸ C-209/10 *Post Danmark A/S v Konkurrenceradet* (2012), paras 34-39.

⁵⁹ Case C-52/09 *Konkurrensverket v TeliaSonera Sverige* (2011), para 24.

Article 102 TFEU does not only deal with practices causing direct harm to consumers but also other practices causing harm to consumers because of their impacts on competition.⁶⁰ It is possible to interpret this development as referring that there are other parameters, which can harm to consumers indirectly rather than price and output.

Thus far, EU competition law has inspired the progress of innovation to an extent as it paid to regard the increase of competition, which spurs innovation, by considering quality/price trade-off. However, considering the current discussions, it seems that innovation becomes a part of this classical trade-off discourse. That is to say, innovation is shown as such a ‘skeleton key’ to resolve the problems from economic growth to climate change.⁶¹ On top of that, as EU competition law professes to regulate innovation, it ought to focus its attention on evaluating and addressing ‘harm to innovation’ through considering assets granting innovation capabilities. It also should be obliged to throw light on a comprehensive analysis, including innovative capacity with respect to examine market power.⁶²

For instance, existing (traditional) competition law tests seem insufficient to measure potential harms as it has been mostly ignored the impact of innovation and economic benefits of foreclosed innovation.⁶³ Therefore, one may argue that the EC ought to concentrate on investigating a network (rather than a simple market analysis), the rate of innovation by benefiting from its historical roots (rather than focusing on price/quality trade-off) and barriers to make innovation (rather than barriers to market entry).⁶⁴ However, Monti argued against this transformation and found it speculative because of two reasons: (1) the hardship to transfer these phenomena into practice, (2) these suggestions are inimical to EU competition law culture as it stands now.⁶⁵ Indeed, assessing competition over innovation is a sticky situation with a static point of view. However, it is far from impossible to incorporate innovation considerations into competition law analyses and enforcements.⁶⁶ For example, the introduction of new products, the

⁶⁰ Case 322/81 *Nederlandsche Banden-Industrie-Michelin v Commission* (1983) ECR 3461, para 57; Joined Cases C-395/96 P and C-396/96 P *Compagnie maritime belge transports and Others v Commission* (2000) ECR I-1365, para 37; Case C-202/07 P *France Télécom v Commission* (2009) ECR I-2369, para 105.

⁶¹ European Commission, Expert Group on Evaluation Methodologies for the Interim and Ex-post Evaluations of Horizon 2020, ‘Applying relevance-assessing methodologies to Horizon 2020’ (February 2017).

⁶² Francisco Costa-Cabral, ‘Innovation in EU Competition Law: The Resource-Based View and Disruption’ (2018) 37 *Yearbook of European Law* 305.

⁶³ Kevin Caves and Hal Singer, ‘When the Econometrician Shrugged: Identifying and Plugging Gaps in the Consumer Welfare Standard’ (2018) 26(2) *George Mason Law Review* 1.

⁶⁴ Note, ‘Antitrust and the Information Age: Section 2 Monopolization Analyses in the New Economy’ (2001) 114 *Harvard Law Review* 1623.

⁶⁵ Monti (n 48) 35-36.

⁶⁶ In merger control, the EC gave the first signals of this move in *Deutsche Börse* by making clear references to innovation considerations. According to this case, the Commission determined that the proposed merger between Deutsche Börse AG and NYSE Euronext Inc. has a potential to very likely increase exchange fees and decrease innovation because of the decrease in offered platforms to consumers. As stated by the Commission, the disappearance of intensive competition in innovation would likely be a foregone conclusion as well as a ‘non-negligible’ incentive decrease to innovate. This is because concentration parties trigger each other, and they would not have any drivers to innovate in terms of product

frequency of launching those products or the improvements (upgrades) of existing products may provide an insight into competition dynamics.

Innovation-related claims have no place to assert in competition law analysis because of the difficulty of verifying innovation-related efficiency claims, which are ambiguous outcomes in the long run. Taking this issue a step further, one may argue that innovation by its very nature and elusiveness is not conducive to be a subject of such analysis. From another angle, it is also next to impossible to show the causal link between relevant practice and the process of innovation.⁶⁷ For example, Microsoft raised suchlike claim that restraints on its IP rights by being compelled to offer interoperability for its products annihilate incentives to make innovation because its profit expectation in return to reserved budget for research and development investments is interrupted. However, not surprisingly, the General Court affirmed the Commission's analyses, which found Microsoft's claims inadequate, vague, general and theoretical because Microsoft fell short of specifying which technologies in what way are affected. This is because Microsoft simply stated that "disclosure would ... eliminate future incentives to invest in the creation of more intellectual property" without specifying the technologies or products to which it thus referred.⁶⁸ However, it can be said that the Commission left the door open to make further claims through better and provable arguments as much as it sounds difficult.

2 The increase in innovation-related considerations by the EC

The consideration of innovation appears more in most recent EU competition law cases in comparison with the decisions has taken during the 20th century. Hence, this consideration can be regarded as a new trend. It is irrefutable that the Commission uses its reasonable efforts to boost innovation against all the odds mentioned so far. For instance, it stipulates that dominant businesses have to cooperate with other undertakings in light of FRAND (fair, reasonable and non-discriminatory) conditions as it was the case with *IMS Health*⁶⁹ and *Aéroports de Paris*.⁷⁰ Therefore, exclusionary practices of dominant businesses have been regarded as unlawful to encourage innovation by furnishing an occasion to other firms to benefit from the network of dominant businesses through linking

innovation if the merger was accepted. At this point, the EC was not convinced to change its consideration coming from its preliminary conclusion, as parties did not put forward to any valid evidence in the presented statement of objections even though they made some commitments regarding the continuity of innovation to some degree. It is obvious that the EC has questioned the dimensions of workability and effectiveness of claims rather than whether the presented remedies are sufficient. This manner validates the thoughts of Monti regarding the impracticability of applying innovation analysis under existing legal standards. See Case T-175/12 *Deutsche Börse AG v European Commission* (2015), para 138; Commission Decision Case No COMP/.6166 *Deutsche Börse / NYSE Euronext* (2012) C(2012) 440 final, para 635; Monti (n 48); Jones and Sufrin (n 17) 1197.

⁶⁷ Ibáñez Colomo (n 31) 201-219.

⁶⁸ Case T-201/04 *Microsoft Corp* (2007), para 698.

⁶⁹ Case C-418/01, *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG* (2004).

⁷⁰ Case C-82/01 *Aéroports de Paris v Commission of the European Communities* (2002).

their goods and services to this network.⁷¹ In contrast, it can also be seen that EU case law does not presume practices directly abusive (unlawful) in terms of Article 102 TFEU just because they leave competitors in a difficult situation. Before intervening in such practices, the Commission wants to see whether they exceed predetermined thresholds, where actual and potential exclusionary effects of those practices on rivals are brought to light with a minute inquiry.⁷² For instance, the Commission determined that refusal to license practices would not be evaluated as an abuse of market dominance in general if this license is not indispensable and therefore, it does not affect downstream market competition.⁷³ Likewise, it was determined in *Post Danmark I* that selective price cuts would not constitute an abuse of dominance unless the relevant undertaking excludes its competitors and limits their ability (and incentives) to innovate in the long run.⁷⁴ In reference to more recent cases, the Commission fined Google to €2.42 billion because of abusing dominance for the reason that Google does not level the playing field in terms of every competitor in its shopping search service, which provides price comparison of selected businesses. To put it in a different way, this service prevents European consumers from taking full advantage of potential innovation because other rivals have not enough incentive to innovate as they do not have the same opportunity. One of the significant preliminary conclusions of the Commission concerning Google is below:

Google's conduct has a negative impact on consumers and innovation. It means that users do not necessarily see the most relevant comparison-shopping results in response to their queries, and that incentives to innovate from rivals are lowered as they know that however good their product, they will not benefit from the same prominence as Google's product.⁷⁵

It can be stated that innovation considerations were taken into consideration in the first phase. However, the general approach of the Commission remains to be seen because it is hard to take to any means from this statement. On the one hand, a more likely scenario, this innovation consideration stems from an apprehension of excluding rivals. On the other hand, one may put forward that the essence of the matter restricts the competition. On top of that, the point to consider from the statement is to specify an innovation consideration irrespective of the connotation under which meaning as the word of innovation is not frequently used. Article 102 TFEU and innovation have been strongly linked in Google Search (shopping) as stated in the following:

⁷¹ Monti (n 48) 48.

⁷² Ibáñez Colomo (n 31) 201-219.

⁷³ C-241/91 P and C-242/91 P *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP)* (1995); *IMS Health* (n 69). See also, Case C-280/08 P *Deutsche Telekom AG v European Commission* (2010) I-09555, paras 70-71.

⁷⁴ *Post Danmark A/S v Konkurrenceradet* (n 58), para 38.

⁷⁵ European Commission, 'Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android' (Fact Sheet, Brussels, 15 April 2015) <https://ec.europa.eu/commission/presscorner/detail/en/IP_15_4780> accessed 14 March 2023.

[...] [T]he Conduct is likely to reduce the incentives of competing comparison-shopping services to innovate. Competing comparison shopping services will have an incentive to invest in developing innovative services, improving the relevance of their existing services and creating new types of services, only if they can reasonably expect that their services will be able to attract a sufficient volume of user traffic to compete with Google's comparison-shopping service. Moreover, even if competing comparison shopping services may try to compensate to some extent the decrease in traffic by relying more on paid sources of traffic, this will also reduce the revenue available to invest in developing innovative services, improving the relevance of their existing services, and creating new types of services.⁷⁶

The Commission enunciated that Google's shopping service has a potential to undermine the competitive process because it leads to a stalemate their rivals and consumers as these practices will result in higher fees for merchandisers, higher costs for consumers and fewer innovation incentives.⁷⁷ The probable and proximate cause of using the expression of less innovation reflects the firm position of the Commission that exclusionary practices restrict innovation because of reducing the number of competitors in the market. Analyses related to innovation process (on practices regardless of the suppress or contribute to innovation) becomes a deep-seated taboo, which remains a challenge for EU competition law, and it seems like it will continue to do so. It is more than likely that the difficulty in specifying a standard of proof is one of the main reasons of this challenge because it is always questionable which practices are detrimental to the innovation process. On the other hand, it also goes without saying that a practice enhances innovation will not be directly regarded as a pro-competitive action.⁷⁸

2.1 The current perspective of the EC on innovation

Regarding the EC's competition analyses, the progress of innovation is considered part of the assessment to establish a harm theory in merger cases,⁷⁹ whereas it is not investigated in cases related to Article 102 TFEU. However, there are some innovative considerations between the lines of antitrust-related cases. The EC's approach to innovation is examined below by determining its position in both antitrust and merger cases.

⁷⁶ *Google Search (Shopping)* (n 44), para 595.

⁷⁷ *ibid* para 593.

⁷⁸ Although all considerations are apt to utter impracticability of incorporating innovation process (capability), the issue was reframed in the Dow/DuPont merger procedure. However, it should be noted that the Commission's approach to antitrust and merger cases are different.

⁷⁹ Vincenzo Denicolò and Michele Polo, 'The Innovation Theory of Harm: An Appraisal' Bocconi Working Paper N. 103 (March 2018) <<https://repec.unibocconi.it/iefe/bcu/papers/iefewp103.pdf>> accessed 14 March 2023.

2.2 The EC's approach to innovation in Antitrust matters

The current understanding of EU competition law covers several competitive parameters that affect consumer decisions, such as price, quality, choice and innovation.⁸⁰ Even though the EC has developed criteria to evaluate price, quality and choice-related conflicts, it is unclear how the EC investigates innovation-related conflicts because EU competition law remains incapable of assessing dynamic features of innovation.⁸¹ Moreover, it is not clear how innovation might be improved or to what extent national level approaches will encourage businesses to innovate. For example, the French Competition Authority has decided that Nespresso (a coffee machine and coffee pod manufacturer) must share technical information with its competitors 18 weeks before introducing a new product.⁸² This determination can be interpreted as a way of liberalising innovations from Arrowian perspective, whereas it can also be regarded as disincentivisation for Nespresso making further innovations from a Schumpeterian view. Yet, there is precedent in EU competition law to observe a European approach in this regard, but no matter which approach the EC employs, its primary aim needs to balance incentives for innovation and investment.

Among innovation-related issues, there are predatory innovations that eliminate the competition while providing no consumer benefit.⁸³ These innovations can arise from modifications to technology uses or product technical designs, preventing technology compatibility and other existing operations provided by third parties.⁸⁴ Put simply, preventing competitor access to innovation poses an obstacle to sustainable competition.⁸⁵ Given this context, the EC found in the Microsoft case that hindering the competitiveness of its competitors was unlawful through providing essential facilities on Microsoft's own platforms. In other words, the EC prevented innovative initiatives of other companies from being suppressed.⁸⁶ Consequently, Microsoft has been found guilty of preventing users from accessing competing software (though it is worth noting that integrating its own sub-product does not constitute an anti-competitive character per se).⁸⁷

⁸⁰ C-209/10 *Post Danmark A/S v Konkurrencerådet* (n 58), para 22; Francisco Costa-Cabral and Orla Lynskey, 'Family Ties: The Intersection between data protection and competition in EU Law' (2017) 54(1) *Common Market Law Review* 17; Case C-413/14 P *Intel* (2017), para 134.

⁸¹ This issue was discussed in section 3. For further discussion, see, Ibáñez Colomo (n 31).

⁸² L'Autorité de la Concurrence (The French Competition Authority) 'Nespresso ruling of the French Competition Authority' [2014] n 14-D-09.

⁸³ Janusz Ordovery and Robert Willig, 'An Economic Definition of Predation: Pricing and Product Innovation' (1981) 91(1) *Yale Law Journal* 8-53; Thibault Schrepel, 'Predatory Innovation: The Definite Need for Legal Recognition' (2018) 21 *SMU Science and Technology Law Review* 22.

⁸⁴ Janusz Ordovery and Robert Willig, 'An Economic Definition of Predation: Pricing and Product Innovation' (1981) 91(1) *Yale Law Journal* 9.

⁸⁵ Commission Decision Case *Beh Gas* (2018) C(2018) 8806 final.

⁸⁶ Roberto Pardolesi and Andrea Renda, 'The European Commission's Case Against Microsoft: Kill Bill?' (2004) 27 *World Competition and Economics Review* 513.

⁸⁷ Case T-201/04 *Microsoft Corp* (2007), paras 101-336.

This approach was repeated in the Qualcomm case as follows: “Where a holder of the IP right is regarded as enjoying a dominant position, the requirement that the use of those IP rights be non-abusive cannot be regarded as insufficient reward in the light of the incentives for innovation”.⁸⁸ Another example in the *Google Shopping* case indicated “the conduct decreasing traffic from Google’s general results pages to competing comparison shopping services, in contrary increasing traffic from Google’s general search results pages to Google’s own comparison shopping service” and found this anti-competitive, as it was likely to reduce innovation incentives when competing in comparison-shopping services.⁸⁹ Furthermore, the EC mentioned the terms ‘reducing innovation’ and ‘detering innovation’ in the *Google Android* case.⁹⁰ In light of these, it can be claimed that suppression of innovation claims are somewhat covered by EU competition law, and open to investigation under Article 102 TFEU. The EC also verified the application of that article in innovation-intensive markets (e.g., fast-growing sectors, such as software) despite these markets being characterised by short innovation cycles, and therefore, temporary dominant positions.⁹¹

Overall, the EC took a view of ensuring that consumers could switch their services freely in case of price escalation or innovation discontinuance,⁹² considering competition and innovation to be beneficial as long as customers have an option to switch providers. Simply, the EC eliminates all anti-competitive obstacles to provide an impetus for innovating businesses. One of the most important goals of the EU is to provide an open market economy with free competition;⁹³ consequently an undistorted competition environment must be created to ensure free competition. Therefore, removing obstacles to the dynamic development of innovation is the most important action, ensuring all market players’ ability to innovate and guaranteeing free competition. Since innovation is of great importance to the consumer and market perspectives, Article 102 TFEU should be interpreted in a broader sense.⁹⁴ However, due to the uncertain nature of innovations (because of the unpredictable and dynamic nature of innovation), it remains unclear to what extent competition law interventions would be pro-consumer.⁹⁵ In light of all these, Ezrachi has developed the term ‘cautious intervention’ in relation to innovation in the

⁸⁸ Commission decision Case *Qualcomm* (predation) (2019) C(2019) 5361 final, para 265; Case C-457/10P *AstraZeneca* (2012), para 273.

⁸⁹ *Google Search (Shopping)* (n 44), paras 591, 595.

⁹⁰ In the decision, it was mentioned that it is possible to lower the quality or reduce the innovation since Google has absolute control over the development of Android versions. In addition to this, it was concluded that the tying of the Google Search app with the Play Store helps Google to deter innovation because it prevents other specific mobile web browsers with innovative features. See *Google Android* (n 45), paras 573, 723, 773, 858, 896, 969, 1139.

⁹¹ *Google Search (Shopping)* (n 44), para 267; *Qualcomm* (n 88), para 260; Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* (2013), para 69; *Google Android* (n 45).

⁹² *Cisco Systems, Inc* (n 91), para 52.

⁹³ See Articles 119, 120, 127, 170 and 173 TFEU.

⁹⁴ C-209/10 *Post Danmark A/S v Konkurrencerådet* (n 58) para 22.

⁹⁵ Josef Drexler, ‘Anti-competitive stumbling stones on the way to a cleaner world: protecting competition in innovation without a market’ (2012) 8(3) *Journal of Competition Law and Economics* 507; Schrepel (n 83) 19.

context of EU competition law.⁹⁶ That being said, it is observed in the current situation that detailed analyses on innovation have not been carried out and that concerns about innovation development remain between the lines without influencing judgements. Nevertheless, it is possible to indicate henceforward that innovation can be examined as an independent parameter of competition law. With this understanding, enforcement against the suppression of innovation would be a concomitant result.

2.3 Innovation considerations in merger analyses

From a broad perspective, identifying the EC's standpoint on innovation by examining the case of *Dow/DuPont* in relation to merger control would be beneficial. However, it should be noted that merger and antitrust analyses have completely different characteristics. The agreed upon merger of *Dow/DuPont*⁹⁷ successfully epitomised the role of innovation in merger analyses. The EC assessed the innovative strengths of Dow and DuPont by analysing all patents granted them from 2000 to 2015.⁹⁸ The investigation was launched under the concession that competition in the pesticide production market is based on innovation. Hence, the existence of innovation competition was accepted in advance as the competition reflected a dynamic patent race between five companies (previously known as big 5), namely BASF, Bayer, Syngenta, Dow and DuPont. It has been observed that farmers are inclined to purchase new products, including those that are less toxic but contend effectively with various types of pests. Therefore, the decrease in innovation is an undesired result since the rate of the competition will concordantly diminish. The main concern regarding the given merger was the likelihood of decreasing innovation since Dow and DuPont triggered each other to innovate while they were competing head-to-head. Other concerns were the decrease in the number of market players and the high market entry barriers to having similar research and development capacity if this merger would have happened.⁹⁹ According to the conditional acceptance of this merger, it has been found appropriate to transfer (alienate) the large part of pesticide business and related research and development organisations. In this premise, it was agreed that the merger would not make any changes regarding the incentives to

⁹⁶ Ariel Ezrachi, 'The Goals of EU Competition Law and the Digital Economy' (Oxford Legal Studies Research Paper No. 17/2018, 2018) 2-22 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3191766> accessed 14 March 2023.

⁹⁷ Commission Decision of 27.3.2017 declaring a concentration to be compatible with the internal market and the EEA Agreement (Case M.7932 - *Dow/DuPont*) (2017) C(2017) 1946 final.

⁹⁸ *ibid* para 2447.

⁹⁹ *ibid* paras 222, 453, 498, 1955-3297.

pursue parallel innovation efforts.¹⁰⁰ In brief, the EC considered restrictions in the level of R&D capabilities in the given circumstances.¹⁰¹

Dow/DuPont merger investigation riveted innovation on to other parameters of competition law, namely price, choice, and quality. Such a transition from traditional sources of competition law to more dynamic and contemporary parameters incisively fulfil the changing needs when considered that markets are not solely determined by static power anymore, but by disruptive innovations having dynamic characteristics. Therefore, innovation can be suitably accepted as a counterbalance to market power. Even if a detailed analysis of the Dow/DuPont merger was presented through showing likely effects on innovation competition, there was a lack of due diligence to show the causal link between the merger and further innovation activities. The EC had a reasonably abstract approach to conclude without establishing how future product innovations are restricted and without establishing a specific link to existing or future markets.¹⁰² The theory of harm in the Dow/DuPont can be based on the mostly referred concerns mentioned throughout the analysis, such as discontinuation, delay or redirection of research activities. One may argue that these concerns represent forward-looking apprehensions, which may enlighten the subsequent decisions, which will likely embody with future innovation (market) estimations. It would not be wrong to say that this decision is a milestone in terms of showing the importance given to innovation considerations. However, an endeavour to examine innovation seems quite insuperable as it is not conducive to be a subject of any standard of proof because of its vagueness (forecast uncertainty). Indeed, the very likely reason why the EC did not differentiate between research and development activities and innovation was to go through the hardship of formulating innovation. This is because, for example, overspending budget for R&D activities does not mean to achieve more innovation even if it supports to innovate.

It appears from the said investigations that several attempts have been conducted to find out the effects of the innovation process in competition law analysis. Even though the Dow/DuPont decision brought a novel dimension to the application of innovation in merger control analysis by considering research and development capabilities of merged parties, the dispute still continues with regard to innovation considerations in EU competition law.¹⁰³ The transition towards innovation considerations has already begun by Deutsche Börse, but Dow/DuPont gave supporting signs to proceed with more

¹⁰⁰ European Commission, 'Mergers: Commission clears merger between Dow and DuPont, subject to conditions' (Press Release, Brussels, 27 March 2017) <https://ec.europa.eu/commission/presscorner/detail/en/IP_17_772> accessed 14 March 2023.

¹⁰¹ Bundeskartellamt, 'Innovations - Challenges for competition law practice' (Series of papers on "Competition and Consumer Protection in the Digital Economy" November 2017) 2 <https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Schriftenreihe_Digitales_II.pdf?__blob=publicationFile&t=3> accessed 14 March 2023.

¹⁰² *ibid* 30.

¹⁰³ It should be noted that competition law (antitrust) and merger control depend on different analysis in terms of ex post and ex ante analysis. However, it is important to be aware of non-Article 102 TFEU considerations like merger control because the mindset behind decisions serve at same purposes.

innovation-focused analyses.¹⁰⁴ In furtherance to this, an investigation has just been initiated against BMW, Daimler and Volkswagen on the grounds that they debarred European consumers from existing emission cleaning technologies from 2006 to 2014 in light of Article 101/1(b) TFEU (whether there is a likely cartel agreement to limit or control production, markets or technical developments). These German car manufacturers are now under investigation to not to prevent environmental damage even though they have preventive technology as stated in the preliminary view of the Commission.¹⁰⁵ Therefore, this investigation fundamentally attests that the Commission examines thoroughly different dimensions such as existing underutilising technologies (a type of suppression of innovation) and considering environmental perspectives alongside with price, quality, and choice trilogy. All these recent happenings show that EU competition law employs more comprehensive approach in merger analyses by paying strict attention to the progression of innovation through removing all the impediments, which may harm to innovation, in both investigation and proceeding phases.

3 Theoretical analysis of impeding innovation in terms of competition and intellectual property laws

The aims of competition and IP laws are *prima facie* considered as intertwined because IP law bestows monopoly rights to inventors, which can result in more monopolised market structure. However, these laws complement each other, and they are both instrumental to promote innovation.¹⁰⁶ Therefore, they are required to be addressed regarding innovation suppression practices. For several reasons, some innovations are presented late or, even worse, not presented at all, which may imply the suppression of innovation, though not always. This scenario arises from patent holders' practices, in which they use their monopoly powers originating from their IP rights to halt the progress of innovation. The US antitrust law literature took an interest in the innovation suppression concept (it is also called technology suppression) to some extent, whereas EU competition law has not placed any focus on this concept so far. In this regard, this chapter strives to carry this significant discussion across the ocean as members of the EU are faced with the same difficulties in different names.

The suppression of innovation becomes apparent in different forms, but cases hinge upon patent rights since these rights lend themselves to abuse (misusing or no using) of the introduction of new technologies. Patent rights, standing alone, are lawful in the

¹⁰⁴ Ibáñez Colomo (n 31) 561-2.

¹⁰⁵ European Commission, 'Antitrust: Commission sends Statement of Objections to BMW, Daimler and VW for restricting competition on emission cleaning technology' (Press Release, Brussels, 5 April 2019) <https://ec.europa.eu/commission/presscorner/detail/en/IP_19_2008> accessed 14 March 2023.

¹⁰⁶ Gustavo Ghidini, *Intellectual Property and Competition Law: The Innovation Nexus* (Edward Elgar 2006) 99; Jonathan Turner, *Intellectual Property and EU Competition Law* (OUP 2010) 3; David Encaoua and Abraham Hollander, 'Competition Policy and Innovation' (2002) 18 *Oxford Review of Economic Policy* 63.

normative sense. However, legal assessment becomes complicated when patent holders conduce towards suppression of innovation, as in the case of non-use of patents, as there is no actual violation of competition law in the normative doctrine. Therefore, there is a need to designate a legal standard proof to prevent such suppression activities via competition law tools. Nevertheless, this kind of standard can be bending easily. For instance, an undertaking may be found to suppress technology if it does not sufficiently concentrate on research activities. Although these example scenarios have merit to an extent, it is challenging to lay the groundwork for making such provisions. Even though the practices cause technology suppression, it does not mean that they are anti-competitive. Hence, evaluation on a case-by-case basis is required to separate anti-competitive and unlawful conduct. Throughout this chapter and the following chapters, specific technology suppression cases will be argued.

3.1 Impeding innovation as an anti-competitive practice

The concept of innovation suppression was leastwise put into word in the US Antitrust law, whereas it is a genuinely new concept for the EU competition law.¹⁰⁷ The question that should be asked about the suppression of innovation is whether there is a real competition law violation by determining what purpose of the law is impinged in this framework. According to Peritz, competition law is a composition of regulating private economic activities for the sake of the development of the public interest.¹⁰⁸ As to EU competition law, it aims to provide consumer welfare, which is an ever-expanding concept in following the acceptance that consumer welfare covers the low price, high quality, and wider choices. However, as this study claims, current concerns like promoting innovation ought to be addressed in competition violation assessments because businesses are now getting competitive power upon their innovativeness. Therefore, it is necessary to take preventive measures to secure the progress and promotion of innovation in the context of EU competition law, against innovation suppression practices.

To set a framework for this concept, it would be beneficial to address Flynn's quadripartite analysis that evaluates the extent to which preventing, deterring or suppressing innovation are contrary to the EU competition law in light of considering private interests in addition to the public interest.¹⁰⁹ The market regulator, accordingly, ought to ensure the dispersion of supremacy, the elevation of merit competition, the pleasure of consumers and the protection of the competitive process. Therefore, the competition policy needs to ensure three basic forms of economic efficiency, namely

¹⁰⁷ Note that this concept is much more called as technology suppression in US Antitrust law rather than innovation suppression.

¹⁰⁸ Rudolph Peritz, 'A Counter-History of Antitrust Law' (1990) 39(2) Duke Law Journal 263.

¹⁰⁹ John Flynn, 'Antitrust Policy, Innovation Efficiencies, and the Suppression of Technology' (1998) 66 Antitrust Law 492.

allocative, productive and innovation efficiencies.¹¹⁰ In other words, the policymaker should secure the continuity of innovations and the dispersion of these innovations to consumers and rival corporate entities without interruption. Nevertheless, when it comes to practice, it is not easy to assess these efficiencies as they mostly rest upon estimations. Hence, it is evident that practical difficulties will be occurred with regard to make a counter-factual analysis and to show an actual effect and proof of purpose.¹¹¹ In parallel, the question of ‘what would have occurred but for suppressing technology instead’ can be rested upon factual reasons, this question will likely remain puzzled.

Even though there is no merit to discuss which efficiency is superior to others, Brodley is of the opinion that innovation efficiency is the most important one to ‘provide the greatest enhancement of social wealth’.¹¹² However, the difficulty to prove innovation efficiency should be noted. The importance of innovation efficiency becomes more obvious, where innovations toward more deregulated industries currently drive economic systems. It would not be wrong to claim that competition analyses have not based on two-dimensional static form anymore, but also other indicators like innovation. Therefore, innovation efficiency should not be ignored under all these conditions by considering the changing structure of economic development and consumer welfare. In this context, suppression of technology (controlling or deterring innovations) should be regarded as a direct violation of competition law.

3.2 Relevant patent theories on innovation suppression

IP rights give the owner exclusive rights, which may lead to deterioration of the competitive environment. Both IP and competition laws are directed towards the purpose of ‘the wellbeing of EU citizens, businesses and society as a whole’¹¹³ but they achieve this common goal in different ways. IP law encourages people to make innovations and encourages inventors to put on the market for enabling technological development.¹¹⁴ Competition law, on the other hand, aims to provide a competitive environment and thus

¹¹⁰ *ibid* 494.

¹¹¹ *ibid* 496.

¹¹² Whereas production efficiency addresses to ‘increase social wealth over the whole range of output’ and allocative efficiency addresses to ‘increase social wealth only at the margin.’ See Joseph Brodley, ‘The Economic Goals of Antitrust: Efficiency, Consumer Welfare and Technological Process’ (1987) 62 *New York University Law Review* 1020.

¹¹³ Radostina Parenti, ‘Competition Policy’ (Fact Sheets on the European Union, 2020) <<https://www.europarl.europa.eu/factsheets/en/sheet/82/competition-policy>> accessed 14 March 2023.

¹¹⁴ Nikolaos Zevgolis, ‘The Interaction between Intellectual Property Law and Competition Law in the EU: Necessity of Convergent Interpretation with the Principles Established by the Recent Case Law’ in Ashish Bharadwaj, Vishwas Devaiah and Indranath Gupta (eds), *Multi-dimensional Approaches Towards New Technology* (Springer 2018); Office for Harmonization in the Internal Market, ‘European Citizens and Intellectual Property: Perception, Awareness and Behaviour’ (Report, 2013) <https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IPContributionStudy/25-11-2013/european_public_opinion_study_web.pdf> accessed 14 March 2023.

encourage the production of cheaper, higher quality, and innovative products.¹¹⁵ Therefore, the suppression of innovation will bring adverse outcomes for both disciplines. The reason to include relevant patent theories in this section is to establish a basis of competition failures arising from the use of patent rights.

Amidst the Schumpeter-Arrow debate to set a legal ground for the IP rights, current expectations of competition law regarding the progress of technology are to encourage research activities through maximising incentives to innovate and maintain competitive markets where advanced technologies are easy to develop. However, it is quite hard to share this conventional opinion when technology suppression cases are considered. The likely way to contribute to the accepted opinion is to identify exceptional cases that impede the progress of innovation. Therefore, it is necessary to revisit some theories behind the grant of IP rights claimed by Kitch, Howells and Demsetz.

The Prospect Theory of patents proposed by Kitch mainly remarks on the social benefit of patents, which is the efficient coordination of technological development.¹¹⁶ Therefore, the prospect function of patents is indicative of the public side of granting patent rights. This theory also integrates intellectual property into property rights successfully by providing temporary monopoly rights. This addresses a limited monopoly right to increase innovations as a consumer surplus.¹¹⁷ From a different perspective, Howells argued that granting patents do not block technological developments, whereas practical difficulties in the administrative process cause the suppression of innovation.¹¹⁸ He exemplified the Selden patent, which is known as a classical instance of the submarine patent. Selden, at the same time, is the name of the lawyer, who adapted a distinctive strategy somehow to protract the process of patent issuance and patent publication. For example, Selden used a patent, which was used in the automobile industry, for nearly 16 years with this tactic. The US took necessary measures afterwards and currently, a patent application in the US will be automatically published after 18-months from the earliest priority date,¹¹⁹ where the EU also has the same timeframe.¹²⁰

From a different viewpoint, Demsetz stated that patent systems provide a natural monopoly regulation. In such a way that, the existence of more than one undertaking to compete for getting an exclusive franchise implies a natural barrier for monopolists. This

¹¹⁵ Ioannis Lianos, 'Some Reflections on the Question of the Goals of EU Competition Law' Centre for Law, Economics and Society Working Paper Series 3/2013 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2235875> accessed 14 March 2023.

¹¹⁶ Edmund Kitch, 'The Nature and Function of the Patent System' (1977) 20 *Journal of Law and Economics* 265.

¹¹⁷ John Duffy, 'Rethinking the Prospect of Patents' (2004) 71 *The University of Chicago Law Review* 439.

¹¹⁸ John Howells, 'Patents and Downstream Innovation Suppression - Facts or Fiction? - A Critique of the Use of Historical Sources in Support of the Thesis that Broad Patent Scope Enables the Suppression or Hindrance of Downstream Useful-Technology Development' (5th International Conference on Innovation and Management, Maastricht, 10-11 November 2008) 163-180 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.490.9346&rep=rep1&type=pdf>> accessed 14 March 2023.

¹¹⁹ *Leahy-Smith America Invents Act* (US) [2011] 125 Stat 284, § 103 (e)(3).

¹²⁰ Convention on the Grant of European Patents (of 5 October 1973 as revised by the Act revising Article 63 EPC of 17 December 1991 and the Act revising the EPC of 29 November 2000) Article 93 (1)(a).

consequently maximises social benefit.¹²¹ On the one hand, the prospect theory puts forward that the patent system effectively helps developing technology. Instead, it has an adverse effect by blocking or holding-up downstream innovations because elementary patents have general scopes as a consequence of first-mover advantage.¹²² Therefore, specific measures ought to be taken for the passivation of suppressing innovations without discouraging innovators.

4 Reasons justifying impeding technological innovation

Impeding (suppressing) technology is more often the result of the introduction of a new technology being deliberately timed and presented to attempt to control the progression of technology due to commercial concerns. Hence, it is very rare to encounter a case of technology being directly suppressed for the sole purpose of suppressing; most instances of suppression show up because of business decisions. In other words, if interpreted broadly, technology suppression is a consequence of any event which halts or slows innovation or decreases research efficiency. In a narrower sense, it is possible to define technology suppression as keeping existing technology out of the market. However, although there are many practices likely to result in the suppression of innovation, this does not mean that all those practices are unlawful or anti-competitive. It is thus necessary to specify the problematic aspects of those practices rather than condemning all of them.

Saunders and Levine defined the suppression of innovation as the event that a patent holder both files to those patents and refuses to licence them in an anti-competitive manner. This practice suppresses technology because it prevents market competition and consumers from development. For example, an exclusive licensing agreement requires a patent holder to grant a licence for a specific undertaking by excluding other third parties. Any third party which does not have such a licence is precluded from developing existing technology, which again results in suppressing innovation. Abuse of patents is another means of suppressing innovation when it comes to patent consolidation (controlling competing technologies to disrupt innovation), patent pools (exploiting monopoly rights by gathering cross-licenses), patent thickets (obtaining a vast number of patents and thus leaving inventors in a difficult situation) so on and so forth. Not all these variations of patent abuse are strictly illegal, but they can be regarded as abusive if they stifle innovation.¹²³ Sometimes the market itself interferes with the proliferation of innovation. As explained in the previous chapter, for example, the network effect can increase the

¹²¹ Harold Demsetz, 'Why regulate utilities?' (1968) 11 *Journal of Law and Economics* 55.

¹²² Robert Merges and Richard Nelson, 'On Limiting or Encouraging Rivalry in Technical Progress: The Effect of Patent Scope Decisions' (1994) 25 *Journal of Economic Behavior and Organisation* 1.

¹²³ Kurt Saunders and Linda Levine, 'Better, Faster, Cheaper - Later: What happens when technologies are suppressed?' (2004) 11 *Michigan Telecommunications and Technology Law Review* 23, 54.

number of technologies being used, but newer technologies may nevertheless be overshadowed by current technologies, as was the case with the Dvorak keyboard.¹²⁴

Some products may be presented as a bundle consisting of different tools with different functions, some of which may be produced by rival companies; this may force manufacturers to use certain specific technologies while prohibiting them from using others.¹²⁵ The process of standardisation is the effort to make products compatible while also providing an important market position for an undertaking having a specific technology, and consequently ensuring the profitability of and intellectual rights pertaining to a specific product. Dominant undertakings can set de facto standards to distort competition. However, it is also possible to use such standards to delay the introduction of innovations or avoid the use of a specific technology. This ultimately stifles innovation because companies are not compensated for their investments (sunk costs) unless their products conform to current standards.¹²⁶

In addition to Article 102 TFEU and the TFEU-related patent issues explained above, agreements made between competitors to avoid using a specific technology and to each other's research area can be evaluated according to the terms of Article 101 of the TFEU. It is very difficult to determine how unlawful these practices are under the theory of harm, even though they clearly and explicitly halt the progression of innovation. In this regard, it is useful to refer to US antitrust law with the decision on tobacco companies by the Washington Superior Court in 1996. The court fined related tobacco companies for violating US antitrust law by “suppress[ing] independent research on the issue of smoking and health” regarding research on developing safer cigarettes. This fine was imposed because the companies in question were found to have suppressed new innovations to make cigarettes safer with less harmful ingredients.¹²⁷ The primary concern of such companies was their fear of the disruptive effects safer cigarettes would likely have on the conventional cigarette market. Before this decision, in the 1950s, there was another case involving the effort to create safer cigarettes. Liggett & Myers Tobacco Company has subsequently initiated a project ('Project XA') to create a cigarette which would be less dangerous to smoke in the 1970s. Therefore, the link between cancer and smoking has already been demonstrated by the time the project began and was ostensibly the reason the project was created. However, following this project, Philip Morris, the biggest cigarette manufacturer in the market, menaced Liggett & Myers on the grounds circulating negative information on the health effects of cigarettes would breach the industry agreement by damaging cigarette sales. Liggett & Myers was the first company to admit that cigarettes could cause cancer. The rest of the manufacturers cooperated in an effort

¹²⁴ Paul David, 'Clio and Economics of QWERTY' (1985) 75 *The American Economic Review* 332.

¹²⁵ Flynn (n 109) 512-3.

¹²⁶ Saunders and Levine (n 123) 49.

¹²⁷ *State of Washington v American Tobacco Co.* (1996) No-96-2-15056-8.

to suppress scientific evidence showing the causal relation between smoking cigarettes and cancer pursuant to their limited research.¹²⁸

Overall, the above instances show how indirect and easily disguised efforts to suppress innovations can be. There are other practices that can be used to suppress technology including refusal to license, creating a patent pool or patent thickets, taking over rivals or bringing baseless suits for patent infringements. It is, therefore, necessary to set limits on practices which could be used to suppress innovation, which at present are normalised and even ignored. This issue is directly linked to the daily extension of the scope of patentable goods and processes. Patent protections are currently provided for everything from business methods to gene sequences; although it is thought expanding such protections even further will drive further innovation, its effects on the public interest are controversial in terms of the future impacts of technology suppression.¹²⁹ In other words, a new business is always at risk for patent infringement because a product or production method may always give rise to a conflict with the owner of a patent. Hence, the scope of a patent ought to be sharply limited in such a way that it serves the purpose of protection.

4.1 The lawfulness of innovation suppression practices

Saunders and Levine define technology suppression as the shelving of an invention, which is just as instrumental as its existing equivalents that other manufacturers will integrate if they are aware of this invention. Hence, the technology will be suppressed given the patent holder decides non-use or non-diffuse for controlling the advanced technology.¹³⁰ The lawfulness of suppression practices as anti-competitive tactics ought to be revisited as it directly affects the public interest. In addition to the safer cigarette case, there are other claims concerning the invention of the cancer cure and other diseases point out that the suppression of innovation is an actual and continuing phenomenon. Concerning the innovation suppression, it has to be regarded from two distinct sides, rather than trying to find common ground as Saunders and Levine proposed.¹³¹ The intention behind to shelve an innovation identifies this adversary sides. First, it should be always bear in mind that a bona fide may be behind the practice of suppressing innovations whenever the patented invention is not profitable to be marketed or also, the invention cannot be patented because of their very natures. These states of affairs do not directly indicate any interruption of technological merit. On the contrary, indeed, businesses may suppress innovation on purpose with particularly reductive

¹²⁸ Saunders and Levine (n 123) 28-30.

¹²⁹ *ibid* 35-7.

¹³⁰ *Ibid* 25.

¹³¹ *ibid* 25-6.

reasons, and only monopolies can put this strategy into practice as proved by economists.¹³²

Businesses are making profits by using their monopoly rights to compensate sunk costs and to fend off free riders, which watch for an opportunity of imitating the protected product. This is also the aim of granting patents. However, the patent system prompts concern in terms of increasing more suppression of innovation because monopolies have tendencies to maintain the status quo.¹³³ It is more than likely that dominant businesses resort to suppressing their patented technologies, which create market entry barriers. Therefore, the patented but suppressed technology provides the patent owner with an opportunity of being a monopoly in a certain amount of time. It should be noted that it is anti-competitive to abuse the monopoly position, not having the monopoly position. In this matter, the suppression of innovation practices should be considered as anti-competitive because the patent owner decides to suppress his innovation and not allow others to use the innovation. This blocks existing rivals from commercialising the technology in both upstream and downstream markets.¹³⁴ It consequently indicates a violation of Article 102 TFEU.

Albeit the strong theoretical ties between the suppression of innovation and Article 102 TFEU demonstrated so far, there are more complex issues regarding the enforcement of competition law. In practice, the prejudgement that the patent is private property rather than a publicly granted privilege ties courts up in knots.¹³⁵ In regard to competition law litigation on the suppression of innovation, it seems that the only way to handle this issue by the court is referring to the intention of businesses. Irrespective of motivations, the court presumably will not find any competition law violation. Therefore, as a remedial suggestion, the legal-economic reasoning ought to be presented if patent protection is not requested for a marketable invention. Therefore, related conduct may be deemed reasonable if the business proves ‘a technological necessity justification.’ Hence, it seems that competition law should include an emphasis on suppressing competing technologies. Although the assumption of competition law addresses that maintaining a competitive process maximises innovation.

4.2 What if technologies remain unpatented?

As explained, the usual story concerning the suppression of innovation will likely begin after the obtainment of a patent right. However, it is not a rare occasion to remain inventions unpatented if they contain confidential business information, so-called trade secrets. Provided that businesses having trade secrets can exploit their invention as long

¹³² Richard Gilbert and David Newberry, ‘Preemptive Patenting and the Persistence of Monopoly’ (1982) 72(3) *The American Economic Review* 517; Jean Tirole, *The Theory of Industrial Organization* (The MIT Press 1988) 393.

¹³³ Saunders and Levine (n 123) 44-5.

¹³⁴ *ibid* 42.

¹³⁵ *ibid* 41.

as they can keep it hidden absent any time limit. However, this may end up with happening of the risk (disclosure of the secret) that seriously jeopardises the secret owner. The tricky question is whether to obtain or not to obtain a patent is more rewarding because trade secret owner can make more profit without time constraint in case that secrets are kept. The unpatented formula of Coca-Cola becomes one of the most intriguing *cause célèbre* in this regard.¹³⁶ One can argue that it is possible to intervene in this secret based on innovation efficiency claims to develop healthier (and cheaper) forms of Coca-Cola, as it was the case with safer cigarettes. However, it would be an extreme example to coercively include this entirely different scenario into the suppression of innovation.

5 Conclusion

This paper provided a theoretical argument that practices impeding innovation have anti-competitive features and need to be treated by Article 102 TFEU in the context of EU competition law. For doing this, the current standpoint of the EC on innovation was specified by historical, theoretical, and practical perspectives. The analysis was started with illustrating fundamental theories of competition law developed by Chicago and Harvard schools. Although these two schools have had influences from time to time, the sui generis nature of EU competition law in line with the *ordo-liberalist* approach (on the protection and operability of the European common market as well as consumer welfare) was observed. Above all, it was demonstrated that the EC has gradually extended its interpretation in Article 102 TFEU to implement its political and economic policies towards making relations of competition and innovation more 'tangible'. In this context, the EC's more economic approach has brought itself in a more dynamic form, which helps to understand ever-changing market conditions. However, no initiative has been taken from either the EC or European courts to analyse competition in innovation, therefore R&D markets, even though they showed a tremendous effort when analysing innovative capabilities in merger cases.

There is a great deal of ambiguity surrounding the lawfulness of business practices suppressing innovation alongside the degree to which businesses contribute the technological development. This issue was examined throughout the study by analysing the EC's current approach to innovation. It was consequently illustrated that innovation considerations have not influenced judgements so far although the promotion of innovation was repetitively mentioned in both EU-level documents and case law. Instead, the progress and promotion of innovation were considered as offering wider choice for consumers. Then, it was critically argued the necessity to independently assess R&D markets, where competition in innovation occurs, as innovation has great importance on

¹³⁶ Yee Chin, 'Unilateral Technology Suppression: Appropriate Antitrust and Patent Law Remedies' (1998) 66 Antitrust Law Journal 451.

market power, specifically technology-driven markets. This importance was also underlined by showing the reasons why businesses attempt to suppress technologies.

Finally, this study showed the IP law's (specifically patents') important role for the disclosure and diffusion of innovations, which are also expected outcomes of EU competition law. Hence, the common and complementary grounds of these two legal fields were addressed to examine the issue of innovation suppression by visiting relevant theories. Flynn's quadripartite analysis was addressed to conceptualise the anti-competitive characteristics of suppression innovation practices. Therefore, it was concluded that competition policies should be designed to increase allocative, productive and innovation efficiencies (despite the difficulty to prove innovation efficiency with counter-factual analyses). In this context, Saunders and Levine suggested short and long terms deterrents about technology suppression. In the short term, contractual provisions may work, but in the long term, there is a need for radical changes in technology policies and existing laws (in addition to compulsory licencing, etc.).¹³⁷ However, they stated without hesitation that competition law enforcement should be directly applied when it comes to technology suppression, which is inherently anti-competitive as it harms consumers by preventing the disclosure of innovations.¹³⁸

¹³⁷ Saunders and Levine (n 123) 64-5.

¹³⁸ *ibid* 68.