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How Google and others upset competition analysis: disruptive innovation and European competition law¹

Inge Graef,² Sih Yuliana Wahyuningtyas³ & Peggy Valcke⁴

Abstract

Because of the reliance on market analysis, current competition law may not be sufficiently fit for taking account of disruptive innovation which leads to the introduction of new products or services overthrowing existing markets. In the US, innovation has been given a more prominent place in competition analysis by way of recognizing the existence of ‘innovation markets’ and ‘innovation competition’ in, respectively, the 1995 Antitrust Guidelines for the Licensing of Intellectual Property and the 2010 US Merger Guidelines. Although a similar notion of ‘competition in innovation’ has been introduced in the EU in policy documents in the area of Article 101 TFEU, in merger review and abuse of dominance cases such a concept has not been applied yet. By giving insight into the way in which the different pillars of EU competition law deal with disruptive innovation, this paper aims to contribute to the debate on how competition policy could be more conducive towards innovation in dynamic industries.

Keywords

Disruptive innovation; dynamic competition; restrictive agreements; merger review; abuse of dominance

1. Introduction

Price is traditionally the main parameter for competition. However, in dynamic sectors such as the online environment, competition is taking place on the basis of the level of innovation. Since users get free access to most online services including search engines and social

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networks, they choose their provider based on aspects other than price, such as quality and innovation. In a static competition setting, firms are under pressure to operate at lowest cost (productive efficiency) and to best utilize the limited resources (allocative efficiency), with the most efficient products being reflected in the lowest price (static efficiency). Dynamic competition starts from a different assumption. Here, firms compete to create products with the highest quality, which tends to result in the introduction of new products leading to dynamic efficiency. Whilst price is the distinctive indicator in static efficiency, dynamic efficiency can be indicated by different proxies in which innovation plays a prominent role, such as product innovation reflected in the introduction of new products and services; process innovation indicated by improvement of production technologies; an increase in choices for consumers, and an increase in the quality of products. Innovation can result not only in improvements of existing products (sustaining innovation), but also in new technologies that displace the earlier technology and create a new market (disruptive innovation). Current competition policy is equipped to deal with short term concerns and may therefore not be sufficiently fit for taking disruptive innovation into account. Furthermore, since sustaining innovation takes place in existing markets, it is easier to anticipate in competition analysis than disruptive innovation which occurs only in the long term and is by nature difficult to predict.

Taking into account disruptive innovation would require a new approach from analyzing competition in a market to analyzing competition for a future market or competition in innovation. The paper aims to identify what challenges disruptive innovation presents for European competition law. Although the paper will not argue that disruptive innovation should get preference over sustaining innovation, the starting point for the analysis is the premise that disruptive innovation deserves a more prominent place in the enforcement of European competition law. With regard to methodology, the paper starts by describing the concept of disruptive innovation that is equated with ‘dynamic competition’ for the purposes of this paper. Afterwards, it will be discussed to what extent the European Union (EU) is following the example of the United States (US) by developing a framework for taking into account innovation in competition analysis. In the remainder of the paper, selected policy documents as well as decisions of the European Commission and case law of the European Court of Justice in the ICT sector will be analyzed to see whether disruptive innovation plays a role in the regimes of, respectively, restrictive agreements (Article 101 of the Treaty on the Functioning of the European Union (TFEU)), mergers (EC Merger Regulation) and abuse of dominance (Article 102 TFEU).

2. Disruptive innovation

The concept of disruptive innovation has been introduced in the business literature by Bower and Christensen who used it to explain why leading companies often fail to stay at the top of

their industry when technologies or markets change.⁵ They make a distinction between two types of technological innovations: sustaining and disruptive innovation. Sustaining innovation presents some level of improvement of an existing product but does not affect established markets like disruptive innovation does. A disruptive technology has features that differ from the ones that mainstream customers value and often performs worse in at least one dimension that is particularly important for these customers. An example that Bower and Christensen mention is the introduction of the transistor radio that had inferior sound quality but offered new features such as small size, light weight and portability that eventually led to the establishment of a new market for small and portable radios. Products based on disruptive technologies have features that initially only a few customers value. Often, they are cheaper, simpler and more convenient to use. The aspects of the disruptive technology that customers do value improve at such a rapid rate that the new product permeates established markets.⁶ For instance, the reason why personal computers have replaced mainframe-computers is not because of their superior technical performance but because personal computers started to meet the needs of most customers. The same is happening with the rise of internet services that are gradually overtaking the market for personal computer hardware and software.⁷

The introduction of new technologies that displace existing markets is also commonly referred to as 'dynamic competition' or 'competition for the market' and contrasted with 'competition in the market' or 'static competition' which is the conventional type of competition that takes place in established markets on the basis of price and output. Dynamic competition typically results in a monopoly position that is likely to persist for some time, until a new monopolist comes up that overturns the position of the previous incumbent. It can be traced back to Schumpeter's concept of 'creative destruction' that he described as a process that *'incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one'*.⁸ Competition for the market can be seen as a form of horizontal competition which involves the development of competing products that are mutually substitutable. This type of competition therefore tends to lead to disruptive innovation and the dominance of subsequent successful firms. Instead, competition in the market is a form of vertical competition that stimulates sustaining innovation and leads to product improvements or complementary products.

⁵ The findings put forward in J.L. BOWER AND C.M. CHRISTENSEN, "Disruptive Technologies: Catching the Wave", *Harvard Business Review* 1995, vol. 73, no. 1 (January-February), (43) have been further developed by Christensen in C.M. Christensen, *The Innovator's Dilemma. When New Technologies Cause Great Firms to Fail*, Boston, Massachusetts, Harvard Business School Press, 1997.

⁶ J.L. BOWER AND C.M. CHRISTENSEN, "Disruptive Technologies: Catching the Wave", *Harvard Business Review* 1995, vol. 73, no. 1 (January-February), (43), p. 45.

⁷ C.M. CHRISTENSEN, *The Innovator's Dilemma. When New Technologies Cause Great Firms to Fail*, Boston, Massachusetts, Harvard Business School Press, 1997, p. 149-151.

⁸ J.A. SCHUMPETER, *Capitalism, Socialism and Democracy*, 1942 (Routledge 2003), p. 82-83.

3. Moving towards a framework for innovation in competition analysis

The US pioneered in giving innovation a more prominent place in competition analysis. While holding leadership positions at the Antitrust Division of the United States Department of Justice (DoJ), Gilbert and Sunshine⁹ initiated a debate about the role of innovation in merger analysis in the 1990s. In a scholarly article, they introduced the concept of ‘innovation markets’ which would enable competition authorities to measure the impact of a merger in downstream product markets as well as in upstream innovation markets. In their view, the latter approach is necessary to assess the effects of a proposed transaction on innovation in markets where the merging parties are not actual or even potential competitors prior to the merger.¹⁰ If competition authorities limit their analysis to current product markets, competition enforcement may be either too restrictive or too permissive. Firms outside the product market that put competitive pressure on the incumbent with regard to innovation would be disregarded if the competition authority only looks at existing markets. Alternatively, competition concerns may be overlooked in case undertakings are not active on the same product market while competing fiercely with respect to innovation.¹¹

In order to address these issues, Gilbert and Sunshine proposed to drop the focus on product markets and to assess the anticompetitive effects of a merger by way of the following five steps: (1) identify the overlapping research and development (R&D) activities of the merging firms; (2) identify alternative sources of R&D that are reasonable substitutes for the activities of the merging firms; (3) evaluate actual and potential competition from downstream products which would render a reduction in R&D unprofitable; (4) assess the increase in concentration in R&D that would occur as a result of the merger; and (5) assess whether the merger would lead to R&D efficiencies offsetting a potential reduction in R&D investments.¹² Although Gilbert and Sunshine described the innovation market methodology in the context of merger review, they made clear that it could also be applied to evaluate other arrangements such as R&D agreements.¹³ The innovation market concept was adopted in the latter field in the 1995 Antitrust Guidelines for the Licensing of Intellectual Property. The Guidelines specify that in addition to product markets and technology markets, innovation markets can be used as a framework for assessing the effect of a licensing agreement on competition in developing new or improved goods or processes. An innovation market was defined as consisting of ‘*the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research*

⁹ Both Richard J. Gilbert and Steven C. Sunshine were formerly Deputy Assistant Attorneys General in the Antitrust Division of the United States Department of Justice.

¹⁰ R.J. GILBERT AND S.C. SUNSHINE, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets", *Antitrust Law Journal* 1995, vol. 63, no. 2, (569), p. 570.

¹¹ B.R. KERN, "Innovation Markets, Future Markets, or Potential Competition: How Should Competition Authorities Account for Innovation Competition in Merger Reviews?", *World Competition* 2014, vol. 37, no. 2, (173), p. 174.

¹² R.J. GILBERT AND S.C. SUNSHINE, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets", *Antitrust Law Journal* 1995, vol. 63, no. 2, (569), p. 595-597.

¹³ R.J. GILBERT AND S.C. SUNSHINE, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets", *Antitrust Law Journal* 1995, vol. 63, no. 2, (569), p. 594.

and development efforts, technologies, and goods¹⁴ that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development. The Agencies will delineate an innovation market only when the capabilities to engage in the relevant research and development can be associated with specialized assets or characteristics of specific firms'.¹⁵ In the 2010 US Horizontal Merger Guidelines (US Merger Guidelines), the reliance on markets was dropped and instead the concept of 'innovation competition' was introduced. The relevant question is whether a merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger. According to the US Merger Guidelines, the curtailment of innovation can 'take the form of reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products'.¹⁶

A similar notion has been adopted in the EU under the name 'competition in innovation' in the 2011 Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements (EU Horizontal Guidelines). The European Commission acknowledges that competition in innovation in the context of R&D co-operation in some cases cannot be sufficiently assessed by analyzing actual or potential competition in existing product or technology markets.¹⁷ However, in industries in which the innovation process is not clearly structured so as to allow the identification of R&D poles, the Commission sees no other option than to rely on these existing markets.¹⁸ In industries in which the innovative efforts are structured in such a way that it is possible to identify competing R&D poles at an early stage, such as the pharmaceutical sector where new products have to go through regulatory approval procedures, the Commission suggests to analyze whether a sufficient number of R&D poles will remain after the agreement takes effect. The following approach is proposed

¹⁴ The Guidelines contain the following footnote: 'For example, the licensor of research and development may be constrained in its conduct not only by competing research and development efforts but also by other existing goods that would compete with the goods under development'.

¹⁵ United States Department of Justice and Federal Trade Commission, "Antitrust Guidelines for the Licensing of Intellectual Property", 6 April 1995, par. 3.2.3, available at <http://www.justice.gov/atr/public/guidelines/0558.htm#t323>. The introduction of the innovation market in the Intellectual Property Guidelines led to criticism from scholars, in particular G.A. HAY, "Innovations in Antitrust Enforcement", *Antitrust Law Journal* 1995, vol. 64, no. 1, (7); R.J. HOERNER, "Innovation Markets: New Wine in Old Bottles?", *Antitrust Law Journal* 1995, vol. 64, no. 1, (49); and R.T. RAPP, "The Misapplication of the Innovation Market Approach to Merger Analysis", *Antitrust Law Journal* 1995, vol. 64, no. 1, (19). For a description of the criticism that they expressed, see J. DREXL, "Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation Without a Market", *Journal of Competition Law and Economics* 2012, vol. 8, no. 3, (507), p. 517-518.

¹⁶ United States Department of Justice and Federal Trade Commission, 'Horizontal Merger Guidelines', 19 August 2010, par. 6.4, available at <http://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>.

¹⁷ Communication from the Commission - Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EU Horizontal Guidelines), O.J. 2011 C11/1, par. 119. In the previous version of the EU Horizontal Guidelines, reference was made to 'innovation markets' instead of 'competition in innovation'. However, the Commission did not define the term innovation market. See Commission Notice - Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements, O.J. 2001 C3/02, par. 60.

¹⁸ EU Horizontal Guidelines, par. 122.

by the Commission: *‘[t]he starting point of the analysis is the R&D of the parties. Then credible competing R&D poles have to be identified. In order to assess the credibility of competing poles, the following aspects have to be taken into account: the nature, scope and size of any other R&D efforts, their access to financial and human resources, know-how/patents, or other specialised assets as well as their timing and their capability to exploit possible results. An R&D pole is not a credible competitor if it cannot be regarded as a close substitute for the parties’ R&D effort from the viewpoint of, for instance, access to resources or timing’*.¹⁹ The framework enables competition authorities to take into account incentives for disruptive innovation, since it does not merely rely on competition in existing markets.²⁰ The aspects that are mentioned for identifying competing R&D poles in the context of the assessment of R&D co-operation agreements could also be used for market definition in the other branches of competition enforcement such as merger review and abuse of dominance. However, so far the concept of competition in innovation has not been applied outside the scope of Article 101 TFEU.

4. Disruptive innovation and restrictive agreements

With regard to the assessment of restrictive agreements, the EU issued so-called block exemption regulations (BERs) and guidelines to provide guidance on how to assess the effects of different types of agreements under Article 101 TFEU. The BERs, e.g. the BER on research and development agreements (R&D BER)²¹ and the recently entered into force BER concerning technology transfer (TTBER)²² explicitly recognize the relevance of considering innovation in the competition assessment. By introducing the term ‘competition in innovation’ in the EU Horizontal Guidelines, the EU seems to develop in the similar direction as the US in recognizing innovation as a parameter of competition. Similar to the step being taken in the 2010 US Merger Guidelines, the current EU Horizontal Guidelines also abandon the term ‘innovation market’ that was used in the previous EU Horizontal Guidelines.²³

¹⁹ EU Horizontal Guidelines, par. 120.

²⁰ See also J. DREXL, "Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation Without a Market", *Journal of Competition Law and Economics* 2012, vol. 8, no. 3, (507), p. 520-522.

²¹ Commission Regulation No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the Treaty on the functioning of the European Union to categories of research and development agreements (R&D BER), O.J. 2010 L335/36.

²² Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements (TTBER), O.J. 2014 L93/17. The new TTBER (and the accompanying Guidelines) which replaces the version from 2004 was adopted on 21 March 2014 and entered into force on 1 May 2014. See also, Press Release European Commission, "Antitrust: Commission adopts revised competition regime for technology transfer agreements", IP/14/299, 21 March 2014, available at http://europa.eu/rapid/press-release_IP-14-299_en.htm.

²³ See also J. DREXL, "Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation Without a Market", *Journal of Competition Law and Economics* 2012, vol. 8, no. 3, (507), p. 520-521; Commission Notice - Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements, O.J. 2001 C3/02, par. 60.

4.1. Disruptive innovation in the assessment of R&D agreements

The R&D BER is of significant relevance for the competition law analysis in cases concerning disruptive innovation. With regard to existing markets, the R&D BER distinguishes between ‘product markets’ and ‘technology markets’.²⁴ Further, the EU Horizontal Guidelines admit that competition beyond the existing market may take place when an R&D cooperation ‘*aims at developing a product which will create a completely new demand*’. As a result, market share calculation based on sales cannot be done and the effect of the agreement needs to be analyzed on competition in innovation,²⁵ not in the existing product or technology market.

In the next step, the analysis under the R&D BER is based on the identification of the parties to an R&D agreement whether they are competitors or non-competitors. While the term ‘competitors’ includes both potential and actual competitors, the term ‘non-competitors’ has its importance in disruptive innovation cases by comprising undertakings that compete in innovation. The distinction is noticeably important, because in the case of R&D agreements between non-competitors, no market share calculation is required for the exemption of Article 101 TFEU. For R&D agreements between competing parties, Article 4(2) R&D BER uses a combined market share threshold of 25% between parties to an R&D agreement or between the financing party and all the parties to the agreement, within which the exemption applies. For R&D agreements between non-competing parties, according to Article 4(1) R&D BER, the exemption applies irrespective of market share,²⁶ but timely limited during the duration of the R&D. The exemption shall be extended to 7 years after the products or technologies first enter the market, in the case where the results of the R&D are jointly exploited. It is expected that after a 7 years period, the calculation of market share based on sales values can be done, and accordingly, the market share threshold of 25% corresponding to R&D agreements between competitors under Article 4(2) R&D BER applies.²⁷

From this viewpoint, R&D BER applies a broad exemption for R&D agreements between non-competitors, in which R&D agreements that concern the development of new products or technology which may replace existing ones or instead, create a completely new demand (disruptive innovation). Such approach brings the benefit of providing incentives for undertakings to invest or take part in R&D cooperation. Nevertheless, the benefit may be withdrawn when the agreement in a particular case would restrict competition in innovation or eliminate effective competition in R&D on a particular market.²⁸ The exemption also does not apply in the case of hardcore restrictions, for instance, when the agreement has as its object to restrict independent R&D, cooperation with third parties in an unrelated field, or in a related field after the accomplishment of the R&D.²⁹

²⁴ Article 4(2) R&D BER.

²⁵ EU Horizontal Guidelines, par. 126.

²⁶ EU Horizontal Guidelines, par. 126.

²⁷ Article 4(3) R&D BER; EU Horizontal Guidelines, par. 126.

²⁸ EU Horizontal Guidelines, par. 126; Recital 21 R&D BER.

²⁹ Article 5(a) R&D BER.

4.2. Disruptive innovation in standardization

Disruptive innovation may also emerge in the form of a new standard. Taking this into account, it is necessary to pay attention to standard setting processes that involve standardization agreements. From the point of view of competition law, the process to develop a standard is equal to the process to create a market. Thus, until such standard is created or adopted, actually there is not yet a market for the technology being developed or under evaluation. There is indeed competition between companies who pursue to have their technology adopted in the standard. However, such competition is rather a competition in innovation or a competition *for* a future market rather than *in* the market.³⁰ Agreements that set out standards are also included in the EU Horizontal Guidelines that reflect how competition in innovation and *future* markets are taken into account in the analysis.³¹

In the case of *X/Open Group*, the Commission decision expressed the view that participation in a standard setting process should allow all competitors to take part in the process to choose and elaborate the standard, because excluding certain undertakings may increase the risk of bringing restrictive effects to competition. The Commission considered in the case that *'non-members as opposed to members cannot influence the results of the work of the group and do not get the know-how and technical understanding relating to these results which the members are likely to acquire. Moreover, non-members cannot implement the standard before it has been made publicly available whereas the members are in a position prior to implement the interfaces which the Group defines because of earlier knowledge of the final definitions and, possibly, of the direction in which the work is going. In an industry where lead time can be a factor of considerable importance, membership of the group may thus confer an appreciable competitive advantage on the members...'*³²

The EU Horizontal Guidelines distinguish between three different channels in how standard setting may bring restrictive effects to competition, namely *'reduction in price competition, foreclosure of innovative technologies and exclusion of, or discrimination against, certain companies by prevention of effective access to the standard'*.³³ The foreclosure of innovative technologies may take place when standards require detailed technical specifications for a product or service and thereby put limits to technical development and innovation. Standardization may result in 'lock-in' effects because of the sunk costs during the process of standard setting and after the implementation of the standard.³⁴ This creates high switching costs for the standard implementers, if later on, a new technology is created, which actually could be more efficient than the existing standard. Thereby, lock-in results in entry barriers for the new technology. Innovation may be further limited, when the standard-setting process unjustifiably excluded certain undertakings.³⁵

³⁰ J. DREXL, "Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation Without a Market", *Journal of Competition Law and Economics* 2012, vol. 8, no. 3, (507), p. 543.

³¹ EU Horizontal Guidelines, par. 257.

³² Case IV/31.458 - *X/Open Group*, 15 December 1986, par. 32.

³³ EU Horizontal Guidelines, par. 264.

³⁴ M. MARINIELLO, "European Antitrust Control and Standard Setting", *Bruegel Working Paper* 2013/1, p. 4.

³⁵ EU Horizontal Guidelines, par. 266; Case IV/31.458 - *X/Open Group*, 15 December 1986, par. 32.

The Guidelines recognize the share of roles and interests between intellectual property (IP) and competition law in promoting innovation, for instance by allowing a proper return of investment,³⁶ and consumer welfare, emphasizing the role of IP rights to promote dynamic competition by means of providing incentives for undertakings to develop better or new products and processes.³⁷ However, the Guidelines also perceive anti-competitive effects of standardization in cases where certain undertakings are prevented from obtaining access to the essential IP for implementing the standard. Therefore, it is necessary that agreements for a standard setting shall make certain of disclosures of potentially relevant IP to all participants and in the next step, ensure the provision of effective access to the standard.³⁸

4.3. Disruptive innovation and licensing agreements

The new TTBER may also find its relevance to competition law analysis in the case of disruptive innovation in its attempt to put emphasis on dynamic competition. In addition, the Commission is paying close attention to the impact of some provisions, e.g. exclusive grant back provisions, on incentives to innovate.³⁹

The new TTBER takes the effect of licensing agreements on competition in innovation into account in the removal of the exclusive grant back agreements from the exemption of the application of Article 101(1) TFEU.⁴⁰ Exclusive grant back agreements refer to those that contain ‘*an exclusive licence back to the licensor of the licensee's improvement*’.⁴¹ The TT Guidelines explain the reasoning behind such removal, namely that the stronger the position of the licensor in the market, the more likely it is that the exclusive grant back agreement will have restrictive effects. Non-exclusive grant back agreements, on the other hand, enjoy the coverage under the TTBER safe harbor. The TTBER also recognizes the potentially negative effect of cross licensing agreements on competition in innovation, when they are combined with the obligation for each party to inform the other party about the improvement of its own technology. Such license agreements may have negative impacts on competition in innovation because they may hinder the parties to gain a competitive lead over each other, unless the purpose of the license is to allow the parties to develop their own technologies and does not lead to the use of the same technological solution.⁴²

³⁶ European Commission, "Patents and Standards: A Modern Framework for IP-Base Standardization", Final Report, 25 March 2014, p. 27.

³⁷ The same view is also reflected in Communication from the Commission - Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to technology transfer agreements (TT Guidelines), O.J. 2014 C89/3, par. 7.

³⁸ EU Horizontal Guidelines, par. 268.

³⁹ L. PEEPERKORN, "Review of the Technology Transfer Rules – Update after the Public Consultation", Presentation at KU Leuven, 19 December 2013.

⁴⁰ Article 5(1)(a) TTBER.

⁴¹ TT Guidelines, par. 129.

⁴² TT Guidelines, par. 132.

A non-challenge clause in the settlement agreement is also removed from the block exemption in the new TTBER.⁴³ According to the TT Guidelines, restrictions to the freedom to challenge an IP right may restrict competition and therefore it is necessary to take a closer look to such a clause, for instance when the technology right is a necessary input for the production of the licensee. A non-challenge clause may also qualify as an infringement of Article 101(1) TFEU, for instance, when the respective IP right has been granted based on '*the provision of incorrect or misleading information*'.⁴⁴

However, although it makes sense that a licensor should not be forced to maintain an agreement with its commercial enemy, i.e. when a licensee challenged the validity of the licensed technology, removing a non-challenge clause from the exemption of the application of Article 101(1) TFEU may discourage companies to license their technologies and thereby also reduce possibilities for innovation that can be stimulated from the sharing of the existing technologies.

Despite competition in innovation being taken into account for the analysis of agreements as explained above, the safe harbor of the TTBER is still subject to market share threshold criteria: (1) for licensing agreements between competitors, the combined market share accounted by the parties does not exceed 20%,⁴⁵ and (2) for licensing agreements between non-competitors, the market share accounted by each of the parties does not exceed 30%.⁴⁶ However, being outside the safe harbor based on the market threshold does not mean that the agreement is automatically caught by Article 101(1) TFEU nor that it does not meet the requirements of Article 101(3) TFEU. Instead, an individual assessment is required.⁴⁷

The negative effects of restrictive license agreements are anticipated in the TT Guidelines with regard to the effect of the agreements to inter-technology competition, that is '*competition between undertakings that licence or produce on the basis of substitutable technologies*'.⁴⁸ Such restrictive license agreements may involve arrangements for future development of the licensed technology. This is the case, for instance, when a license agreement imposes reciprocal obligations to the parties to transfer their competing technologies as well as to provide each other with the future developments of their respective technologies, and in addition, prevents either of them to obtain a technological lead over the other. It is the view of the Guidelines that such agreement may restrict competition in innovation.⁴⁹

EU competition law in the regime of restrictive agreements (Article 101 TFEU) offers important insight for taking account of disruptive innovation in different areas under the EU

⁴³ Article 5(1)(b) TTBER.

⁴⁴ TT Guidelines, par. 243.

⁴⁵ Article 3(1) TTBER.

⁴⁶ Article 3(2) TTBER.

⁴⁷ TT Guidelines, par. 79.

⁴⁸ TT Guidelines, par 170, to be distinguished from intra-technology competition, that is '*competition between undertakings that produce on the basis of the same technology*' (TT Guidelines, par. 173).

⁴⁹ TT Guidelines, par. 170 and 241. See also D. ENCAOUA & A. HOLLANDER, "Competition Policy and Innovation", *Oxford Review of Economic Policy* 2002, vol. 18, no. 1, (63), p. 75.

Horizontal Guidelines, the R&D BER, the TT Guidelines, and the TTBER. The EU Horizontal Guidelines and the R&D BER are notably important, because the phase when undertakings engage in R&D activities is critical for the process of creating new products or technologies. Thus, it is crucial that already in this phase, competition law has been prepared with sufficient tools to assess agreements beyond the existing markets in the case of competition in innovation. In this regard, the part of the EU Horizontal Guidelines with respect to standardization demonstrates a forward-looking approach in order to identify in an early stage, standard setting processes that may restrict competition particularly that results in the foreclosure of innovative technologies. In the next phase, TT Guidelines and TTBER similarly take disruptive innovation into account in order to ensure that agreements to use licensed technologies will not hinder the emergence of new products or technologies.

5. Disruptive innovation and merger review

5.1. Adapting market definition to disruptive innovation

Under the EC Merger Regulation⁵⁰ the Commission assesses the compatibility of a notified concentration with the common market on the basis of its effects on the structure of competition in the European Union.⁵¹ The test for compatibility is whether a concentration would ‘*significantly impede effective competition in the common market or in a substantial part of it, in particular as a result of the creation or strengthening of a dominant position*’.⁵² In order to evaluate whether a particular undertaking possesses a dominant position, the relevant market has to be defined. The relevant market includes all products or services that compete with each other or can be seen as substitutes by consumers on the basis of their characteristics, prices and intended use.⁵³ Since disruptive innovation makes existing markets obsolete and leads to the rise of new markets, it does not fit with the traditional reliance of competition law on market analysis.⁵⁴ Incentives for disruptive innovation may be hard to accommodate, since this type of innovation takes place before a market for the new development exists. A starting point for developing a framework that is able to take account of disruptive innovation would be to define markets more loose and impose less strict market boundaries. The current approach towards market definition according to which a product either falls within or outside the relevant market may be too mechanical and lead to the

⁵⁰ Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (EC Merger Regulation), O.J. 2004 L24/1.

⁵¹ Recital 6 of the EC Merger Regulation.

⁵² Article 2(2) and (3) of the EC Merger Regulation.

⁵³ Commission Notice on the definition of relevant market for the purposes of Community competition law, O.J. 1997 C 372/5, par. 7.

⁵⁴ Although it has been put forward that market definition is not useful, it still forms an important step in the competition analysis. The narrower the relevant market is defined, the more likely it is that an undertaking will be found dominant. For criticism on market definition, see notably, L. KAPLOW, "Why Ever Define Markets?", *Harvard Law Review* December 2010, vol. 124, no. 2, (437) and L. KAPLOW, "Market Definition: Impossible and Counterproductive", *Antitrust Law Journal* 2013, vol. 79, no. 1, (361). For a reply to Kaplow, see G.J. WERDEN, "The Relevant Market: Possible and Productive", *Antitrust Law Journal* April 2014, (1).

situation that products which are not perfect substitutes but which still impose some degree of competitive pressure, are excluded from the assessment.⁵⁵

In the US, disruptive innovation is taken into account in merger review by way of the concept of innovation competition that is described above. An example of a merger case in which the notion has been applied is the acquisition of General Motor's Allison Transmission Division by ZF Friedrichshafen. In addition to the two product markets identified in the complaint (the market for automatic transmissions for transit buses and the market for automatic transmissions for heavy refuse route trucks), the DoJ also expressed concerns regarding a third market that was defined as the market for '*technological innovation in the design, development and production of heavy automatic transmissions*'. The definition of this market enabled the DoJ to assess the effect of the proposed transaction on the development of future technologies.⁵⁶ Although an equivalent concept of competition in innovation has been introduced in the EU in the area of restrictive agreements, it has not been relied upon in the context of EU merger review.

Following the approach introduced in the area of Article 101 TFEU in the EU Horizontal Guidelines, the European Commission could look at R&D investments to determine the relevant market. R&D expenditure can be seen as input to new products and technologies. Instead of relying on a pure product market definition, upstream markets for R&D investment could be defined.⁵⁷ However, the Commission argues in the EU Horizontal Guidelines that this method only works if it is possible to identify R&D efforts at an early stage. In the ICT sector, companies often do not disclose this type of information as a result of which it becomes hard to apply this approach. Nevertheless, even in case the precise R&D efforts are unobservable it could still be possible to identify the assets to which potential competitors need access in order to compete with the incumbent. The US 1995 Antitrust Guidelines for the Licensing of Intellectual Property already referred to such resources as 'specialized assets'.⁵⁸ The notion was also incorporated in the EU Horizontal Guidelines which mentions know-how and patents as examples.⁵⁹ The application of the notion of specialized assets would make the definition of the relevant market dependent on the capabilities and resources that are necessary for a firm to have in order to innovate. The proposed acquisition of Northrop Grumman by Lockheed Martin in 1998 in the US illustrates this. In the case, the DoJ defined a market for the '*development, production and sale of high performance fixed-wing military aircraft for the U.S. military*' while it could not observe on what particular innovations the companies were working. In this context, the DoJ stated: '*Northrop, Lockheed, and Boeing do all pursue new ideas and designs for future high performance fixed-*

⁵⁵ D.S. EVANS AND M. NOEL, "Defining Antitrust Markets When Firms Operate Two-Sided Platforms", *Columbia Business Law Review* 2005, vol. 2005, (101), p. 130-131.

⁵⁶ *United States v. General Motors Corp.*, Civ. No. 93-530 (D.Del. filed Nov. 16, 1993). For a more elaborate description of this case and other US cases that dealt with innovation competition, see B.R. KERN, "Innovation Markets, Future Markets, or Potential Competition: How Should Competition Authorities Account for Innovation Competition in Merger Reviews?", *World Competition* 2014, vol. 37, no. 2, (173), p. 184-190.

⁵⁷ See also M.L. KATZ AND H.A. SHELANSKI, "'Schumpeterian' Competition and Antitrust Policy in High-Tech Markets", *Competition* 2005, vol. 14, (47), p. 50.

⁵⁸ Antitrust Guidelines for the Licensing of Intellectual Property, par. 3.2.3.

⁵⁹ EU Horizontal Guidelines, par. 120.

wing military aircraft to meet specific combat needs, and these firms are the only companies that have the capabilities to compete for combined electronics system integration and military airframe upgrades'.⁶⁰

Even though the precise R&D efforts of undertakings cannot be recognized, the identification of specialized assets could thus form a starting point for defining a relevant market that is more conducive to disruptive innovation. As more hints become available on what will constitute the technology of the future, it will be easier to identify the required building blocks and thus the relevant market for innovation. As long as it is not clear which products or technologies will dominate in the future, a very wide relevant market should be defined. An example of such a broad relevant market for internet services would be a market for attention. This market definition is favourable to disruptive innovation, since it does not rely on the specific service that is offered to internet users. Instead, a market for attention implies that all businesses that attract consumers to their websites or mobile applications compete for the limited time that users spend online irrespective of the specific functionalities of the products and services that are offered.⁶¹ However, it remains to be seen whether competition authorities and courts are willing to start defining relevant markets in such a way. In the recent *Cisco* judgment,⁶² the General Court endorsed the definition of the relevant market '*internet consumer communications services*' proposed by the Commission in the *Microsoft/Skype* merger decision⁶³ which shows that both institutions still tend to define markets narrowly.

5.2. Adapting the assessment of dominance to disruptive innovation

Market shares have always played an important role in the assessment of the competitive strength of undertakings in competition enforcement. According to the Guidelines on the assessment of non-horizontal and horizontal mergers, '*market shares and concentration levels provide useful first indications of the market structure and of the competitive importance of both the merging parties and their competitors*'.⁶⁴ However, in dynamic markets such as the ICT sector, market shares may fluctuate over a short period of time. In the recent *Cisco* judgment, the General Court followed the statement of the Commission that in dynamic and quickly evolving markets, market shares are not an appropriate means to assess whether an undertaking has a dominant position. The Court argued that '*large market shares may turn out*

⁶⁰ *United States v. Lockheed Martin Corp.*, Civ. No. 98-00731 (D.D.C. filed Mar. 23, 1998). See further, B.R. KERN, "Innovation Markets, Future Markets, or Potential Competition: How Should Competition Authorities Account for Innovation Competition in Merger Reviews?", *World Competition* 2014, vol. 37, no. 2, (173), p. 185-186.

⁶¹ D.S. EVANS, "Attention Rivalry Among Online Platforms", *Journal of Competition Law and Economics* 2013, vol. 9, no. 2, (313).

⁶² Case T-79/12, *Cisco Systems Inc. and Messagenet SpA v. Commission*, judgment of 11 December 2013, not yet reported.

⁶³ Case No COMP/M.6281 – *Microsoft/Skype*, 7 October 2011.

⁶⁴ Guidelines on the assessment of non-horizontal mergers under the Council Regulation on control of concentrations between undertakings, O.J. 2008 C 265/6, par. 24 and Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, O.J. 2004 C31/5, par. 14.

to be ephemeral' in the consumer communications sector because of its fast-growing nature and the existence of short innovation cycles.⁶⁵ This reasoning could also be applied to other online services such as search engines and social networks that both form part of a dynamic sector. Nevertheless, in earlier merger decisions involving internet services, in particular the acquisition of Yahoo's search business by Microsoft and the acquisition of DoubleClick by Google, the Commission still used market shares to measure the competitive strength of undertakings in the markets for internet search and online advertising.⁶⁶

One could argue that market shares are still a good proxy for assessing market power in established dynamic markets in which market shares have been relatively stable for a longer period of time.⁶⁷ This was not the case for the consumer communications market in *Microsoft/Skype* that was nascent and anticipated to grow immensely with the number of users of instant messaging expected to triple from 2010 to 2016 and the number of video calls expected to increase from 3.2 billion in 2011 to 29.6 billion in 2015.⁶⁸ Both the Commission and the General Court in the case confined themselves to the statement that the value of market shares is limited for measuring the competitive strength of undertakings to the consumer communications market and did not consider the validity of this statement to other dynamic markets as well.

Instead of relying on market shares, competition authorities and courts could look at the strength of potential competition in order to assess whether a particular undertaking is able to behave independently from its competitors, customers and consumers. Unlike in traditional industries where competition takes place in the market on the basis of price and output, in new economy industries competition tends to come from subsequent competitors that compete for the market and overturn the existing market structure. Although an undertaking may have a high market share, it can nevertheless be under significant competitive pressure if new firms are able to take over its leading position. To assess the competitive strength of an undertaking, attention could be paid to its R&D investments.⁶⁹ If several undertakings in the market invest heavily in R&D, competition may be substantial despite the existence of high market shares. In addition, the recent entry of new market participants can be an indication that the market is sufficiently competitive. If the precise R&D efforts of a firm cannot be identified, regard could be had to the extent to which it has access to specialized assets. For instance, the concentration of relevant know-how at only one undertaking could be an indication for dominance.

⁶⁵ Case T-79/12, *Cisco Systems Inc. and Messagenet SpA v. Commission*, judgment of 11 December 2013, not yet reported, par. 69.

⁶⁶ Case No COMP/M.5727 – *Microsoft/Yahoo! Search Business*, 18 February 2010, par. 112-130 and Case No COMP/M.4731 – *Google/DoubleClick*, 11 March 2008, par. 96-118.

⁶⁷ In *Akzo*, the Court of Justice referred to a three year period as basis for a stable market share. See Case C-62/86, *Akzo Chemie BV v. Commission of the European Communities*, [1991] ECR I-03359, para 59.

⁶⁸ Case No COMP/M.6281 – *Microsoft/Skype*, par. 70-72.

⁶⁹ See M.L. KATZ AND H.A. SHELANSKI, "'Schumpeterian' Competition and Antitrust Policy in High-Tech Markets", *Competition* 2005, vol. 14, (47), p. 47; J.G. SIDAK AND D.J. TEECE, "Dynamic Competition in Antitrust Law", *Journal of Competition Law and Economics* 2009, vol. 5, no. 4, (581), p. 614-616.

5.3. Adapting the assessment of negative effects to competition in disruptive innovation

Although relevant markets and dominant positions under EU merger review are still assessed on the basis of existing products or services and market shares, there are other ways in which disruptive innovation can be taken into account. For the merger assessment, Article 2(3) EC Merger Regulation applies a test based on whether or not the proposed merger will significantly impede effective competition (SIEC test), particularly by the creation or strengthening of a dominant position.⁷⁰ Despite the reliance of the EC Merger Regulation on the market-based approach, the SIEC test does allow the Commission to assess if a merger will lessen the incentives to innovate in the future without having to specify the market where the innovation will take place.

Even if certain anti-competitive effects are expected, the merger may still be allowed if it would result in efficiencies that can offset the anticompetitive effects. However, it is still unclear how negative effects on competition in innovation should be defined. The Horizontal Merger Guidelines also contain requirements that are difficult to apply with respect to dynamic efficiency, which is highly relevant for cases concerning disruptive innovation. Two problems are discussed below.

One of the difficulties for taking account of disruptive innovation in the application of EC Merger Guidelines is that the Guidelines require efficiency claims to be ‘verifiable’, ‘precise, and ‘convincing’. Thus, the efficiencies should be quantified.⁷¹ Due to the nature of disruptive innovation, where dynamic efficiency is more prominent than static efficiency, it is problematic to quantify⁷² and furthermore, to justify an efficiency claim in disruptive innovation cases.

The Guidelines still provide an alternative for efficiency analysis in cases where a quantification is not possible. When a precise quantitative analysis cannot be done because the necessary data is not available – which is likely with regard to disruptive innovation –, the Guidelines require that ‘*it must be possible to foresee a clearly identifiable positive impact on consumers, not a marginal one*’. However, this requirement is still problematic to meet.

The second difficulty that needs to be pointed out with respect to the assessment of negative effects of a merger to competition is that it is less clear whether the assessment under the EC Merger Regulation focuses primarily on the market where the anticompetitive effects are

⁷⁰ L.H. RÖLLER & M. DE LA MANO, "The Impact of the New Substantive Test in European Merger Control", *European Competition Journal* 2006, vol. 2, no. 1, (9), p. 11.

⁷¹ Guidelines on the assessment of horizontal mergers, par. 86; Commission Regulation 1269/2013 amending Regulation (EC) No 802/2004 implementing Council Regulation (EC) No 139 2004 on the control of concentrations between undertakings, O.J. 2013 L336/1, Annex I, Section 9.3 of Form CO.

⁷² For further analysis on the difficulties to quantify dynamic efficiency, see R. FACKELMANN, "Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject or a Promising Chance for Innovation?", University of Oxford, Centre for Competition Law and Policy Working Paper No. L-09/06, 2006, p. 24-28.

expected, or it takes into account also all other markets where positive effects occur. In other words, it is not clear whether a merger assessment allows cross-market analysis.⁷³

The provision concerning the appraisal of concentrations in Article 2(1) (a) of the EC Merger Guidelines refers to '*the structure of all the markets concerned*' that could be interpreted as including markets that benefit from the merger. While an interpretation of '*all the markets concerned*' on case by case basis is possible, a more problematic issue is the reference of the effect of a merger to '*the structure*' of the markets. In disruptive innovation cases, it is hard to expect that dynamic efficiency resulting from a merger will change either directly or indirectly the structure of a market. It becomes more complicated when a merger involves undertakings that operate a complex business model such as two-sided platforms.⁷⁴ The problem rests in the question on how far the two-sided nature of a platform shall be taken into account in the assessment of the effects of merger to competition. Another question to be dealt with is the effects on which side of the platform shall be taken into account for that purpose: whether all sides should be considered, or only one side that has an interface with the business of the merger partner, or the most related side – which is again difficult to define, since all sides of the platform are related especially with the work of network effects.

The recent *Google/DoubleClick* merger illustrates the limits of current merger analysis in dealing with innovation. Google operates an internet search engine providing online advertising space on its own websites and its network. DoubleClick runs an advertising business for advertising serving, management, and reporting technology worldwide, and offers services as an intermediary platform (advertising exchange). The fact that both firms did not operate in the same market⁷⁵ was a determinative factor in the Commission's decision to approve the merger.⁷⁶ However, the European Commission did not consider that the merger would remove the border between search advertising (Google) and display advertising (DoubleClick) and would contribute to Google's dominance in the new market.⁷⁷ If two undertakings with significant market power have complementary innovative products, it is likely that the merger may increase the ability of both merger parties to control further innovation, including the future direction of innovation, and to merge the products into the same market.⁷⁸

⁷³ R. FACKELMANN, "Dynamic Efficiency Considerations in EC Merger Control: An Intractable Subject or a Promising Chance for Innovation?", University of Oxford, Centre for Competition Law and Policy Working Paper No. L-09/06, 2006, p. 77.

⁷⁴ D. EVANS & M. NOEL, "Defining Markets that involve Multi-Sided Platforms Businesses: An Empirical Framework With an Application Google's purchase of DoubleClick", 4 AEI Brookings Joint Center for Regulatory Studies, Working Paper 07-18 (2007), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1089073.

⁷⁵ F. ETRO, "Leadership in Multi-Sided Markets and Dominance in Online Advertising", *Recent Advances in the Analysis of Competition Policy and Regulation* 2012, (214), p. 216.

⁷⁶ Case COMP/M.4731 - *Google/DoubleClick*, par. 81 and 367.

⁷⁷ F. ETRO, "Leadership in Multi-Sided Markets and Dominance in Online Advertising", *Recent Advances in the Analysis of Competition Policy and Regulation* 2012, (214), p. 230-231.

⁷⁸ K.L. DEVINE, "Preserving Competition in Multi-Sided Innovative Markets: How Do You Solve a Problem Like Google?", *North Carolina Journal of Law and Technology* 2008, vol. 10, no. 1, (59), p. 115.

6. Disruptive innovation and abuse of dominance

6.1. Market definition and dominance under Article 102 TFEU

The remarks made with regard to the definition of the relevant market and the assessment of dominance under merger control also apply to abuse of dominance. Before the abusive behaviour of an undertaking can be assessed, a dominant position on the relevant market has to be identified. However, while merger review involves a forward-looking analysis, the assessment of the conduct of firms under Article 102 TFEU always has to take place *ex post*. It appears therefore more complex to take account of disruptive innovation in abuse of dominance cases, since the analysis under Article 102 TFEU is by its nature backward-looking. Recent cases in the ICT sector show that the European Commission remains focused on preserving sustaining innovation within existing markets, while disruptive innovation seems to have played an important role in solving the competition concerns. In the 2004 Microsoft case,⁷⁹ the European Commission intervened in the market for PC operating systems. Although the Commission tried to preserve sustaining innovation in this market, it seems the competition concerns were rather solved by disruptive innovation coming from Google and others who brought the internet to the forefront diminishing the significance of Microsoft's dominant position in the market for PC operating systems. In the ongoing *Google* investigation⁸⁰ the Commission still appears to concentrate on preserving sustaining innovation in the market for search engines,⁸¹ while disruptive innovation coming from other internet platforms, such as social networks, and mobile applications may reduce the relevance of Google's position in this market.

6.2. Balancing the two types of competition and innovation in the analysis of the abusive nature of a firm's conduct

When assessing the potential abusive behaviour of undertakings, competition authorities often have to make a choice between encouraging sustaining or disruptive innovation. This can be best illustrated by way of a refusal to supply case. The 2004 *Microsoft* case partially involved

⁷⁹ Case COMP/C-3/37.792 - *Microsoft*, 24 March 2004; and Case T-201/04 *Microsoft v. Commission* [2007] ECR II-3601. In the *Microsoft* case, two types of abusive behaviour were identified by the Commission and subsequently endorsed by the General Court: the refusal to license interoperability information that prevented competitors from developing competing workgroup server operating systems for the Windows operating system and the tying of Windows Media Player to Windows.

⁸⁰ In November 2010, the European Commission opened an investigation against Google after it had received complaints from competitors about Google's search activities. See Press Release European Commission, "Antitrust: Commission probes allegations of antitrust violations by Google", IP/10/1624, 30 November 2010, available at http://europa.eu/rapid/press-release_IP-10-1624_en.htm.

⁸¹ In a Press release, the Commission stated: 'For its general web search service (so-called "horizontal" search), Google has a market share of over 90% in the European Economic Area (EEA)' which suggests that the Commission aims to preserve competition in the search market. See Press Release European Commission, "Antitrust: Commission seeks feedback on commitments offered by Google to address competition concerns", IP/13/371, 25 April 2013, available at http://europa.eu/rapid/press-release_IP-13-371_en.htm.

the refusal of Microsoft to give its competitors access to the part of its technology that would enable them to develop competing workgroup server operating systems to be run on the dominant Windows PC operating system. By forcing Microsoft to license the necessary interoperability information, the Commission chose to favour competition in the market over competition for the market. Indeed, by entitling competitors in the market for workgroup server operating systems access to Microsoft's technology, the Commission created room for follow-on innovation to flourish in this downstream market. If the Commission alternatively had declined to intervene, incentives to invest in innovation would not be directed at creating interoperable or complementary products for Windows but instead at developing a new technology attacking the upstream market for PC operating systems. By keeping the market for workgroup server operating systems open, the Commission thus decided to give priority to sustaining innovation in existing markets over disruptive innovation in new products or services having the potential to make current market structures obsolete. Nevertheless, the Commission nor the General Court explained why sustaining innovation should prevail over disruptive innovation in this case.⁸²

Incentives to invest in disruptive innovation may be negatively affected due to a too interventionist policy of competition enforcement. The prospect of a dominant position may be necessary for incentivizing investment in new types of disruptive innovation. The imposition of far-reaching competition remedies could curb those incentives. At the same time, despite the fact that periods of subsequent dominance may be necessary for innovators to recoup their costs, it is important for the price level and product variety that competition authorities intervene when necessary to ensure a certain degree of competition in the market. This will stimulate the incumbent to continue to innovate in order to keep its leading position. Therefore, a careful balance has to be found between competition for and in the market depending on the particular characteristics of the market and the stage of development of the market. Although competition for the market does not exclude the existence of competition in the market and vice versa, it seems that one can either have strong competition for the market followed by little in it, or less strong competition for the market combined with more competition in the market.⁸³

The preference for one model of competition over the other is a policy choice. Both competition for and in the market contribute to the innovation process, albeit in a different way.⁸⁴ Because of the strength of network effects, switching costs and entry barriers that often tip the market to a single dominant player, ICT markets are typically characterized by competition for the market.⁸⁵ In this situation and particularly in periods in between races of competition for the market the incumbent should be under sufficient competitive pressure,

⁸² See P. LAROCHE, "The European Microsoft Case at the Crossroads of Competition Policy and Innovation", *Antitrust Law Journal*, vol. 75, no. 3, (601), p. 610-611.

⁸³ P.A. GEROSKI, "Competition in Markets and Competition for Markets", *Journal of Industry, Competition and Trade* 2003, vol. 3, no. 3, (151), p. 164-165.

⁸⁴ See also P. LAROCHE, "The European Microsoft Case at the Crossroads of Competition Policy and Innovation", *Antitrust Law Journal*, vol. 75, no. 3, (601), p. 610-611.

⁸⁵ D.S. EVANS AND R. SCHMALENSEE, "Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries" in A.B. JAFFE, J. LERNER EN S. STERN (eds.), *Innovation Policy and the Economy*, Volume 2, MIT Press, 2002, (1), p. 1-2.

including competition in the market, to prevent it from prolonging its dominant position and delaying the entry of subsequent competitors contrary to consumer demands. Opponents of competition enforcement in dynamic industries claim that competition authorities should not interfere in new economy markets because of the temporary character of market power. They argue that the self-correcting nature of the market will bring a new wave of creative destruction that keeps the market sufficiently competitive. However, if the incumbent enters into exclusionary strategies that postpone or even prevent the next wave of creative destruction from ever occurring, competition authorities should intervene in order to keep the market open for sustaining innovators. While temporary market power itself may not be harmful, practices that enable the incumbent to abuse its position and to create a durable form of market power should be avoided.⁸⁶ Therefore, new economy markets should not be immune from competition law intervention. Since disruptive innovation is by its nature impossible to predict, it may be sensible of competition authorities and courts to continue to guarantee competition in the market and protect consumers against abuse of dominance as long as competition for the market does not arise. Nevertheless, the trade-off between the two types of competition and innovation could be made more transparent in decisions of competition authorities and case law of courts. This would create more legal certainty in this area of law.

7. Conclusion

Following the initiative launched in the US to devote more attention to innovation in competition analysis in the 1995 Antitrust Guidelines for the Licensing of Intellectual Property and the US Merger Guidelines, the EU has also started to give innovation more prominence in the different regimes of EU competition law. This is especially apparent in the area of restrictive agreements (Article 101 TFEU). The EU Horizontal Guidelines, notably with regard to standardization, as well as the R&D BER, TT Guidelines, and the TTBER provide a more explicit recognition of competition in innovation.

With regard to merger and abuse of dominance cases, taking account of disruptive innovation would require a new approach towards defining relevant markets and assessing dominant positions. The approach put forward under Article 101 TFEU could form a starting point for a framework for market definition that is more conducive to disruptive innovation. In particular, R&D investments could play an important role in defining a market for innovation. If the R&D efforts are not sufficiently observable at an early stage, one could look at the resources or capabilities (referred to as ‘specialized assets’ in the EU Horizontal Guidelines) to which access is needed in order to innovate. With regard to dominance, the concentration of R&D investments or relevant know-how at a particular undertaking could form an indication that it is able to behave independently from its competitors, customers and consumers.

⁸⁶ S.W. WALLER, "Antitrust and Social Networking", *North Carolina Law Review* 2012, vol. 90, no. 5, (1771), p. 1802-1803.

Although the existence of sustaining innovation does not exclude the possibility for disruptive technologies to emerge, providing incentives for one type of innovation tends to decrease the incentives for undertakings to invest in the other form of innovation. This trade-off is particularly relevant in refusal to supply cases under Article 102 TFEU. In this context, a preference for disruptive innovation would require a different policy choice of competition authorities and courts. Even if the focus stays with stimulating sustaining innovation, disruptive innovation could be given a more prominent place in the competition analysis in order to better recognize the role that this type of innovation plays in dynamic industries.