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**Antitrust Issues in Technology Transfer:
A Comparative Legal Analysis of Patent
Licenses in the EU and the U.S.**

Anna Maria Baumgartner

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Abstract

In our modern and rapidly evolving society, technological progress is omnipresent. New inventions are frequently protected by intellectual property rights (IPRs) to secure for the inventor the exclusive use of its work. In the last two decades, reliance upon licensing strategies as a source of revenue for IPR holders has dramatically increased. Another advantage is that the licensee gains access to a technology that it could otherwise not use. It can employ these new technologies to improve its manufacturing operations or increase the functionalities of its products. Licensing agreements thus lead to the dissemination of technology, thereby fostering the development of new or better products. However, where an undertaking intends to gain access to another firm's technologies on a contractual basis, there is always a chance of forbidden agreements and understandings between the parties that may have negative impacts on the affected markets. This paper analyzes the potential antitrust issues in technology transfers by way of patent licensing agreements in two major jurisdictions – the EU and the U.S. Its main focus is the antitrust assessment under the core antitrust prohibitions of Article 101 TFEU in the EU and Section 1 of the Sherman Antitrust Act in the U.S. Both legal systems have moved towards convergence since a new EU Technology Transfer Block Exemption Regulation was introduced in 2004. The aim of this analysis is to elaborate on the existing similarities and remaining differences between the EU and the U.S.

To my parents.
Thank you for your support and encouragement.

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Part I: Introduction

Technological innovation and transfers of the resulting intellectual property rights are indispensable to the economies of the European Union and the United States. In our modern and rapidly evolving society, technological progress is omnipresent. New products flood the market and existing goods are further developed to improve and maximize their use. These new inventions are frequently protected by intellectual property rights (IPRs) in order to secure the inventor the exclusive use of its work.

The concept of technology transfer implies that the technology in question must flow from one undertaking to another, usually in the form of licensing, whereby the licensor grants the licensee the right to use its technology against payment of royalties.¹ A license can also be described as an agreement by the IP holder not to sue the licensee for what would otherwise amount to an infringement of its intellectual property rights.² A contract qualifies as a patent license if it includes a licensor who professes ownership or control of the subject matter to be licensed (e.g., a patented invention) and a licensee to whom the license is granted.³ Other essential contract provisions include royalty obligations, which can stipulate a lump sum payment or periodic royalties, and clauses concerning the duration of the license.⁴ Licenses also typically include a statement about their exclusive or

¹ Commission Notice, Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements [2004] OJ C 101/2, para 48 (“Technology Transfer Guidelines”). All references regarding EU legislation, complementing materials and EU case law are cited in accordance with OSCOLA (Oxford Standard for the Citation of Legal Authorities), available at http://www.law.ox.ac.uk/published/OSCOLA_4th_edn.pdf. All other references are cited pursuant to the U.S. Bluebook, available at <http://www.law.cornell.edu/citation/>.

² David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 409 (2003).

³ Wolfgang Fikentscher & Hans Peter Kunz-Hallstein, *International Transfer of Technology: A Perspective on the Roles of Antitrust, Competition Law, and Trade*, 9 Del. L. Rev. 37, 39 (2006).

⁴ *Id.*

non-exclusive nature, the territory for which the license is granted or a specific field of use in which the invention can be employed by the licensee.⁵

Currently, technology transfer is a key incentive to innovate, enabling those who undertake major investments in research and development to optimize financial gain from their goods and services. Another economic rationale is that the licensee gains access to a technology that it otherwise could not use.⁶ It can employ these new technologies to improve its manufacturing operations or to increase the functionalities of its products.⁷ The licensor, on the other hand, receives revenue from its patents that can be used to develop new technologies.⁸ Licensing agreements thus lead to the dissemination of technology, thereby fostering the development of new or improved products. Moreover, they are widely considered as procompetitive because they typically benefit both licensors and licensees.⁹

In the last two decades, reliance upon licensing strategies as a source of revenue for IPR holders has dramatically increased.¹⁰ Innovators grant licensees the right to use their proprietary technology to manufacture products for sale in downstream markets in return for appropriate remuneration.¹¹ Licensing strategies are not, however, only pursued by organizations without manufacturing capabilities (e.g., university research centers); patent holders active on downstream product markets also grant IP licenses for their technologies to get funds for their prior investment in research and development.¹² Where an undertaking intends to gain access to another firm's technologies on a contractual basis,

⁵ *Id.*

⁶ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 409 (2003).

⁷ Damien Geradin, *Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe*, 76 Antitrust L.J. 329, 329 (2009).

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*, Alexander I. Poltorak & Paul J. Lerner, *Essentials of Licensing Intellectual Property 2* (2003).

¹¹ Damien Geradin, *Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe*, 76 Antitrust L.J. 329, 329 (2009).

¹² *Id.*

there is always a chance of forbidden agreements and understandings between the parties that may have negative impacts on the affected market. This risk is usually higher if competitors are involved since competition usually leads to cost efficiency, low prices and innovation.¹³ Moreover, competitive markets show a higher level of consumer welfare in both the short- and long-run.¹⁴ But licensing agreements may raise antitrust issues not only if they are concluded between competitors but also if agreed among non-competitors, and may involve enforcement agencies and judicial bodies in Europe and the United States. Their antitrust treatment has therefore gained in significance over the past decades.

This doctoral thesis analyzes potential antitrust issues in technology transfer in patent licensing agreements in two major jurisdictions – the EU and the U.S. Its main focus is the antitrust assessment under the core antitrust prohibitions of Article 101 TFEU¹⁵ in the EU and Section 1 Sherman Antitrust Act in the U.S.¹⁶ Both legal systems have moved towards convergence since a new EU Technology Transfer Block Exemption Regulation was introduced in 2004.¹⁷ Notably, the importance of economic considerations in antitrust scrutiny has been recognized on both sides of the Atlantic. The starting point of the scientific analysis of EU and U.S. antitrust law was the EU Technology Transfer Block Exemption Regulation and its inherent understanding of technology transfer agreements. The aim was to elaborate similarities and differences in the antitrust assessment of an important and common type of technology transfer agreement – patent licenses – and to show these using various groups of restrictive clauses.

¹³ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 2-001 (3d ed. 2010).

¹⁴ *Id.*

¹⁵ Consolidated Version of the Treaty on the Functioning of the European Union [2008] OJ C115/47, art 101 (“TFEU”).

¹⁶ 15 U.S.C. § 1 (1890).

¹⁷ Commission Regulation (EC) No 772/2004 of 27 April 2004 on the application of Article 81(3) of the Treaty to categories of technology transfer agreements [2004] OJ L123/11 (“Commission Regulation (EC) No 772/2004”).

The first step is an analysis of the interface between intellectual property and antitrust law in the EU and the U.S. under chapter I; as an initial step, the central antitrust provisions will be outlined. Chapter II compares the legal and institutional framework of antitrust law applicable to patent licenses. After demonstrating the market definition process in Chapter III, Chapter IV characterizes the different types of patent license agreements that can be distinguished depending on the competitive relationship of the parties. Chapter V compares in detail the general approach towards patent licenses under Article 101 TFEU and Section 1 Sherman Act respectively. As the clear focus of this scientific research is the antitrust assessment of licensing practices under the general antitrust prohibition under Article 101 TFEU and Section 1 Sherman Act, the general principles elaborated will be applied to ten different restrictions commonly found in patent license agreements in chapter VI, including, for example, sales, output and price restrictions. Chapter VII compares Article 102 TFEU and Section 2 Sherman Act and then explains the application of these two provisions at the occasion of two different types of abusive licensing practices, namely exclusive licensing and tying. Finally, Chapter VIII deals with antitrust issues related to licensing in the context of patent pools. The main part, consisting of a comparative legal analysis, is followed by a conclusion.

Part II: A comparative antitrust analysis of patent licenses in the EU and the U.S.

I. Antitrust law vs. intellectual property rights: contradictory or complementary fields of law?

This chapter deals with the general considerations that appear at the interface between antitrust law and IP rights in the EU and the U.S. The first step is a short analysis of antitrust law governed by EU primary law on the one hand and U.S. statutory law on the other hand. The next step illuminates the interplay between two distinct bodies of law: the rules on antitrust and on intellectual property rights.

1. An outline of the relevant antitrust provisions

1.1. EU antitrust law

Article 101 and Article 102 of the Treaty on the Functioning of the European Union¹⁸ (“TFEU”) are the core provisions of European antitrust law. The Treaty on European Union¹⁹ and the Treaty on the Functioning of the European Union²⁰ constitute primary law – a term that encompasses the basic rules of the highest order governing European Union Law. So they are directly applicable and enforceable in all the Member States of the European Union, thereby significantly influencing modern economic life.

A. Article 101 TFEU

Article 101(1) TFEU contains the general antitrust ban and prohibits “all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the

¹⁸ TFEU, *supra* note 15, art 101.

¹⁹ Consolidated Version of the Treaty on European Union [2008] OJ C83/15 (“TEU”).

²⁰ TFEU, *supra* note 15.

prevention, restriction or distortion of competition within the internal market.”²¹ Article 101(1) TFEU also lists typical anticompetitive agreements, for instance, those that (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; or (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.²²

In this context, the term “undertaking” describes any entity carrying out economic activity, whether an individual inventor or a company.²³ It also includes public bodies, such as research institutes,²⁴ and wider economic units (e.g., a mother company and its subsidiaries, if the latter is not able to independently determine its commercial policy).²⁵ The condition that an agreement must “affect trade between the Member States” raises the question of whether the arrangement is capable of constituting a threat, direct or indirect, actual or potential, to the freedom of trade between Member States in a way that may harm the attainment of the objectives of a single market.²⁶ This usually involves an economic analysis as to whether it has the object or effect of restricting competition.²⁷

²¹ TFEU, *supra* note 15, art 101 para 1.

²² *Id.*

²³ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.47 (2010).

²⁴ *Id.*

²⁵ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 77 (2007).

²⁶ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.48 (2010); Joined Cases 56 and 58/64 *Consten and Grundig v Commission* [1966] ECR 299, 341.

²⁷ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.11 (2006).

Article 101(2) TFEU declares any agreement or decision prohibited under this Article as automatically void.²⁸ Thus, Article 101 TFEU bars agreements that adversely affect trade between Member States through the restriction of competition. At the same time, it implements the free market policy of the EU, which aims at preventing alliances that may preclude the entrance or viability of other market participants.²⁹

According to Article 101(3) TFEU, Article 101(1) TFEU can be declared inapplicable to agreements between undertakings which (a) contribute to improving the production or distribution of products or to promoting technical or economic progress, (b) while allowing consumers a fair share of the resulting benefits, and (c) which do not impose restrictions which are not indispensable to the attainment of these objectives, and (d) do not afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products concerned.³⁰ It thus provides the conditions for an exemption of the general antitrust prohibition of Article 101(1) TFEU.

B. Article 102 TFEU

Article 102 TFEU prohibits the abuse of a dominant position within the internal market or a substantial part of it by one or more undertakings and declares it as incompatible with the internal market in so far as it may affect trade between Member States.³¹ Article 102 TFEU also contains a list of typical anticompetitive practices: “(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a

²⁸ TFEU, *supra* note 15, art 101 para 2.

²⁹ Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 Brooklyn J. Int'l L. 797, 810 (2004).

³⁰ TFEU, *supra* note 15, art 101 para 3.

³¹ TFEU, *supra* note 15, art 102.

competitive disadvantage; (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.”³² This list, however, is non-exhaustive.³³ The same notion of “undertakings” applies in the context of Article 102 TFEU as explained above with regard to Article 101 TFEU.³⁴ An important aspect is that market dominance is not per se forbidden according to EU law, but an undertaking enjoying such a dominant position should remain acutely aware of the effects of its practices on the rest of the market as they can constitute an abuse and thereby result in an antitrust violation.³⁵

Both Article 101 and 102 TFEU target agreements and practices capable of affecting trade between Member States even if one or more of the parties is located outside the European Union.³⁶ This principle has been acknowledged by the European Court of Justice (“ECJ”) on several occasions.³⁷

1.2. U.S. antitrust law

In the United States, a similar set of antitrust rules was established long ago by statutory law and further enhanced by case law. The Sherman Antitrust Act (“Sherman Act”), passed in 1890, is the cornerstone of U.S. antitrust law; its two core provisions are Section 1 and Section 2.³⁸ However, common law has played an equally crucial role in the

³² *Id.*

³³ Duncan Curley, *Intellectual Property Licenses and Technology Transfer* 19 (2004).

³⁴ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.107 (2010).

³⁵ Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 *Brooklyn J. Int’l L.* 797, 810 (2004).

³⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 9 (2008).

³⁷ Case 6/72 *Continental Can v Commission* [1973] ECR 215, para 16; Case 28/77 *Tepea v Commission* [1978] ECR 1391, para 48.

³⁸ Roger D. Blair. & David L. Kaserman, *Antitrust Economics* 50 (2d ed. 2009).

development of federal antitrust laws.³⁹ The antitrust statutes are relatively short and have been interpreted over decades by case law.⁴⁰ This was also necessary because it was impossible to foresee all considerations related to modern antitrust law at the time of the enactment of the Sherman Act.

A. Section 1 Sherman Act

Section 1 Sherman Act provides, “Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, if any other person, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.”⁴¹

Notably, Section 1 Sherman Act has a very broad wording.⁴² All commercial contracts restrain trade in some way because they require the parties to act as agreed and keep them from acting contrary to their agreement.⁴³ If read literally, Section 1 would capture essentially all types of contracting activity, so *Standard Oil Co. v. United States*⁴⁴ held that only those restraints of trade that unreasonably restrict competition can lead to an antitrust violation.⁴⁵

³⁹ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 3 (2010).

⁴⁰ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 616 (2d ed. 2007); Roger D. Blair & David L. Kaserman, *Antitrust Economics* 53 (2d ed. 2009).

⁴¹ 15 U.S.C. § 1 (1890).

⁴² Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 35 (2010).

⁴³ *Id.*

⁴⁴ *Standard Oil Co. v. United States*, 221 U.S. 1, 58 (1911).

⁴⁵ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 254 (2d ed. 2009).

Section 1 Sherman Act reaches only collective conduct in the form of a contract, combination, or conspiracy and captures both horizontal bilateral conduct (among competitors) and vertical bilateral conduct (among entities at different levels of the distribution chain, e.g., a licensor and licensee).⁴⁶ Thus, there must be an agreement between two or more separate parties⁴⁷ because Section 1 does not – in contrast to Section 2 – cover unilateral conduct.⁴⁸ Moreover, since the Sherman Act is federal legislation, its reach is limited to activities that affect interstate (as opposed to wholly intrastate) commerce.⁴⁹ But defenses based on a failure to demonstrate an effect on interstate commerce have rarely been successful.⁵⁰ U.S. antitrust laws are extraterritorial in their application, which means that they also govern conduct outside the U.S. that has an effect on competition in the U.S.⁵¹

In this context one must note for the sake of completeness that the Sherman Act was supplemented by another source of statutory law, the Clayton Act of 1914, which delineates specific prohibited actions.⁵² Section 3 Clayton Act, for example, prohibits exclusive dealing agreements that foreclose competitors and has also been put forward in tying cases.⁵³ It may be put forward in the context of the sale of goods, wares, merchandise, machinery, supplies, or other commodities, but it does not apply to intangible property, which means that it is not applicable to such restraints in patent licenses.⁵⁴

⁴⁶ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 399 (2003).

⁴⁷ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 37 (2010); Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 7 (2007).

⁴⁸ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 616 (2d ed. 2007).

⁴⁹ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 59 (2010).

⁵⁰ *Id.* at 60.

⁵¹ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 403(2003).

⁵² Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 61 (2d ed. 2007).

⁵³ 15 U.S.C. § 14 (1914).

⁵⁴ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 16 (2010); American Bar Association, *Intellectual Property and Antitrust Handbook* 192-193 (2007).

Section 7 Clayton Act regulates merger analysis and generally governs stock and asset acquisitions.⁵⁵ Exclusive licenses may also be evaluated under this provision.⁵⁶ However, the clear focus of this work is the general antitrust prohibition under Section 1 Sherman Act and its European counterpart Article 101 TFEU.

B. Section 2 Sherman Act

Section 2 Sherman Act condemns any monopolization, attempted monopolization, or conspiracy “to monopolize any part of the trade or commerce among the several States or with foreign nations.”⁵⁷ This requires two elements: first, the possession of monopoly power in a relevant market and second, the willful acquisition or maintenance of that power – which must be distinguished from growth or development of monopoly power as a consequence of a superior product, business acumen, or historical accident.⁵⁸ Thus, a monopoly position alone is insufficient to trigger antitrust liability when it is acquired through ordinary competition, superior products, or sheer effort.⁵⁹ Conversely, a monopoly position raises antitrust issues when attained through unfair or anticompetitive means.⁶⁰

1.3. EU and U.S. law compared

Summing up, EU and U.S. antitrust laws have similar core provisions. They both contain a general antitrust prohibition, in Article 101 TFEU and Section 1 Sherman Act. Moreover, both take a critical view of undertakings with a dominant market position as their conduct

⁵⁵ 15 U.S.C. § 18 (1914).

⁵⁶ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 402 (2003).

⁵⁷ 15 U.S.C. § 2 (1890).

⁵⁸ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 257 (2d ed. 2009); *United States v. Grinnell Corp.*, 384 U.S. 563, 570-571 (1966).

⁵⁹ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 617 (2d ed. 2007).

⁶⁰ *Id.*

could lead to a violation of antitrust law under Article 102 TFEU and Section 2 Sherman Act. Still, important differences can be identified. Article 101 TFEU is far more extensive than Section 1 Sherman Act and contains an exemption clause with four distinct conditions in its paragraph 3, whereas Section 1 Sherman Act is relatively short and does not provide any exemption possibilities. Case law has played an important role in both jurisdictions and has helped to develop the general concepts applicable to the central antitrust provisions. Court decisions have been particularly crucial in the elaboration of U.S. antitrust law because Section 1 Sherman Act lacks precise wording. Similarly, the European Court of Justice and the Court of First Instance have contributed much to the development of antitrust principles in EU law.

Section 2 Sherman Act also condemns attempts or conspiracies to monopolize, whereas Article 102 TFEU does not forbid the attempted abuse of a dominant position. But a common characteristic in both jurisdictions is that a dominant or monopoly position is not unlawful per se since a conduct element is required.⁶¹ Article 102 TFEU, however, lists different categories of likely abuses of a dominant position, while Section 2 Sherman Act relies on precedent to capture anticompetitive conduct.⁶² Furthermore, both sets of antitrust law also capture extraterritorial conduct in other countries that is likely to affect trade in the EU or U.S. respectively.

⁶¹ Rita Coco, *Antitrust Liability for Refusal to License Intellectual Property: A Comparative Analysis and the International Setting*, 12 Marq. Intell. Prop. L. Rev. 1, 5 (2008).

⁶² *Id.*

2. The intersection between antitrust law and intellectual property rights

2.1. Antitrust law and intellectual property rights in the EU

A primary reason for the creation of a European internal market, unimpeded by national boundaries, is the economic advantages that are expected to flow from its completion.⁶³ These include anticipated higher living standards and a continuous and balanced expansion of economic activity.⁶⁴ The economic rationale behind a free market economy is that competitive markets will allocate resources most efficiently and provide consumers with a greater variety of products at the lowest possible price.⁶⁵ A fundamental economic principle is that competition stimulates technological development and innovation, leading to a wider choice of products and services, lower prices, better quality, and higher productivity.⁶⁶ Antitrust law therefore aims at protecting competition by prohibiting practices that influence the market in a negative way and thus harm consumers.⁶⁷ This protection of the functioning of competitive markets at the same time demonstrates that the promotion of consumer welfare has become the guiding principle of antitrust law.⁶⁸

On the other hand, intellectual property rights offer their owners exclusive rights as a reward for their research and development efforts.⁶⁹ They are usually granted for a limited time during which the owner has an enforceable barricade against any other producers

⁶³ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 1-001 (3d ed. 2010).

⁶⁴ *Id.*

⁶⁵ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 397-398 (2003); Josef Drexler, *Research Handbook on Intellectual Property and Competition Law* 3 (2008).

⁶⁶ Philip Lowe, *A Symposium on Antitrust and the Global Economic Crisis: Competition Policy and the Economic Crisis*, 5 Competition Pol'y Int'l 3, 5 (2009).

⁶⁷ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 398 (2003).

⁶⁸ *Id.*

⁶⁹ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 37 (2007).

within the limits of its right.⁷⁰ Patents are the prime example of intellectual property rights. They confer the right to exclude others from producing, using, or selling products embodying the patented technology in exchange for greater incentives for invention and disclosure of patented technologies.⁷¹ Consequently, through the disclosure of a created work, other members of society are encouraged to learn and build on the ideas of others.⁷² IPRs serve as an incentive to innovate because of their reward to invention, creativity,⁷³ and ultimately the efforts of labor by granting the inventor the right to exclude others from reaping the benefits of its work in exchange for providing the public access to the invention.⁷⁴ Without such incentives, investment in research and development would decline.⁷⁵ Nobody would continue expending resources because returns on investment would be minimal.⁷⁶ In the pharmaceutical industry, for example, large expenditures on research and development would be inconceivable unless undertakings could be certain of exclusive rights protecting them from competitors long enough to recoup their investments and realize a profit.⁷⁷

In the EU, IPRs are granted by the Member States and protected by Article 345 TFEU, which clearly states that the treaties are without prejudice to the national systems of

⁷⁰ Dina Kallay, *The Law and Economics of Antitrust and Intellectual Property – An Austrian Approach* 22 (2004).

⁷¹ Richard J. Gilbert, *Ties that Bind: Policies to Promote (Good) Patent Pools*, 77 *Antitrust L.J.* 1, 2 (2010); Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 12 (2007).

⁷² Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 *Brooklyn J. Int'l L.* 797, 799 (2004).

⁷³ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 12 (2007).

⁷⁴ Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 *Brooklyn J. Int'l L.* 797, 798-799 (2004).

⁷⁵ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 12 (2007).

⁷⁶ Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 *Brooklyn J. Int'l L.* 797, 799 (2004).

⁷⁷ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 12 (2007).

property ownership.⁷⁸ However, the exercise of intellectual property rights may be caught by Article 101 or 102 TFEU.⁷⁹ Although IPR legislation in the EU is predominantly national, they must be exercised in a manner which is compatible with EU antitrust law.⁸⁰ At first sight, intellectual property rights, by conferring legal monopolies, and antitrust laws, by banning them, seem to conflict. Antitrust laws scrutinize activities that restrict competition because of the reduction of its positive effects, consisting in the form of lower prices, higher output, and often more innovation.⁸¹ Monopolists typically lack the constraints provided by competitive markets and are able to reduce output, raise prices, or limit innovation.⁸² Moreover, it is undeniable that antitrust law and intellectual property rights have evolved as two separate fields of law, each with its own legislative goals and methods of achieving them.⁸³ A closer look reveals, however, that there is a considerable overlap between them as both aim to promote innovation and economic growth.⁸⁴ The incentive to innovate leads to new competitors on existing markets and occasionally to the creation of new products that open up entirely new markets. So IPRs can actually enhance the forces of competition.⁸⁵ Intellectual property rights also restrict some forms of competition (in production and distribution) to enable and enhance other forms of it (competition in innovation and quality).⁸⁶ IP owners will often choose to license their work as a result of the tremendous expense attributed to manufacturing, marketing, and

⁷⁸ TFEU, *supra* note 15, art 345.

⁷⁹ Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 65 (2010).

⁸⁰ *Id.*; Meg Buckley, *Licensing Intellectual Property: Competition and Definition of Abuse of a Dominant Position in the United States and European Union*, 29 *Brooklyn J. Int'l L.* 797, 808 (2004).

⁸¹ Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 72 (2009).

⁸² *Id.*

⁸³ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 1 (2007).

⁸⁴ *Id.*

⁸⁵ *Id.* at 6.

⁸⁶ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.02 (2010).

distributing a product on the market.⁸⁷ This will particularly be the case where the innovator does not possess the means to independently produce and promote the patented invention.⁸⁸

In the past, a certain hostility of antitrust law towards licensing agreements could be recognized in the EU linked to the likely negative effects of typical restraints contained in these contracts that might be aimed at limiting competition.⁸⁹ This attitude has changed, however, and technology transfer agreements are now generally considered as competition enhancing, as the Commission clearly acknowledges.⁹⁰ This principle is reflected in EU case law. In its *Consten and Grundig* ruling,⁹¹ the ECJ held that the fact that intellectual property laws grant exclusive rights of exploitation does not imply that IP rights are immune from competition law intervention.⁹² Still, according to ECJ case law, licensing intellectual property rights as such does not restrict competition, but can come within the scope of Article 101(1) TFEU whenever it is the subject, the means, or the consequence of a commercial practice that has as its object or effect the prevention, restriction, or distortion of competition in the internal market.⁹³

Based on this, the conclusion can be drawn that intellectual property rights are neither immune from antitrust law nor is there an inherent conflict between intellectual property rights and the competition rules, because both aim at promoting consumer welfare and an efficient allocation of resources.⁹⁴

⁸⁷ Meg Buckley, *Licensing Intellectual Property: Competition and Definitions of Abuse of a Dominant Position in the United States and the European Union*, 29 Brooklyn J. Int'l L. 797, 799 (2004).

⁸⁸ *Id.*

⁸⁹ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 Law & Pol'y Int'l Bus. 801, 818 (2003).

⁹⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, preamble para 5.

⁹¹ Joined Cases 56 and 58/64 *Consten and Grundig v Commission* [1966] ECR 299.

⁹² *Id.*

⁹³ Case 262/81 *Coditel v Ciné-Vog Films (Coditel II)* [1982] ECR 3381, para 14.

⁹⁴ Technology Transfer Guidelines, *supra* note 1, para 7.

2.2. Antitrust law and intellectual property rights in the U.S.

In the U.S., a free market economy is considered the most efficient and fairest form of economic organization.⁹⁵ Accordingly, U.S. antitrust law aims at protecting free competition by limiting collusive or predatory conduct and monopolistic abuses that free markets often breed.⁹⁶ On the contrary, intellectual property is the collective expression for a group of intangible property rights that give their owners a legal stake in the outcome of their creativity.⁹⁷ Patents confer rights to exclude others from making, using, or selling the invention claimed by the patent.⁹⁸ To gain patent protection, an invention (which may be a product, process, machine, or composition of matter) must be novel, nonobvious, and useful.⁹⁹ U.S. patent law is exclusively governed by federal law,¹⁰⁰ codified as amended in the Patent Act of 1952.¹⁰¹

For many years, antitrust law and intellectual property law were generally seen as being in conflict because the latter created monopolies through exclusive proprietary rights to spur innovation, while antitrust laws sought to eliminate them.¹⁰² Over the last decades, however, antitrust enforcement agencies and courts have recognized that antitrust and IP law share the same basic goals.¹⁰³ The court held in *Atari Games Corp v. Nintendo of America, Inc.*¹⁰⁴ that antitrust and patent laws are considered as serving similar interests by

⁹⁵ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 3 (2010).

⁹⁶ *Id.* at 2.

⁹⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 17 (2007).

⁹⁸ 35 U.S.C. § 154 (1988).

⁹⁹ U.S. Dep't of Justice & F.T.C., *Antitrust Guidelines for the Licensing of Intellectual Property*, available at <http://www.justice.gov/atr/public/guidelines/0558.htm>, Didd, reprinted in 4 Trade Reg. Rep. (CCH) 13,132 (1995) ("IP Guidelines"), § 1.0.

¹⁰⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 19 (2007).

¹⁰¹ 35 U.S.C. §§ 1-373 (1988).

¹⁰² *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1203 (2d Cir. 1981); Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 252 (2d ed. 2009).

¹⁰³ U.S. Dep't of Justice & Fed. Trade Comm'n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 1 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

¹⁰⁴ *Atari Games Corp. v. Nintendo of Am.*, 897 F.2d 1572 (Fed. Cir. 1990).

describing them as two complementary bodies of law, both aiming at encouraging innovation, industry, and competition.¹⁰⁵ This view is reflected in the Antitrust Guidelines for the Licensing of Intellectual Property (“IP Guidelines”), where the U.S. antitrust enforcement agencies laid down that intellectual property law and antitrust law share the common purpose of promoting innovation and enhancing consumer welfare.¹⁰⁶ “Intellectual property laws provide incentives for innovation and its dissemination and commercialization by establishing enforceable property rights for the creators of new and useful products, more efficient processes, and original works of expression.”¹⁰⁷ The court held in *Loctite Corp. v. Ultraseal Ltd.* that “the patent system...serves a very positive function in our system of competition, i.e., the encouragement of investment-based risk...By so doing, it encourages innovation and its fruits: new jobs and new industries, new consumer goods and trade benefits.”¹⁰⁸ Without intellectual property rights, others could exploit the efforts of innovators and investors, which would reduce the commercial value of innovation and eliminate incentives to invest, ultimately to the detriment of consumers.¹⁰⁹ On the other hand, antitrust law equally promotes innovation and consumer welfare by prohibiting actions that may harm competition,¹¹⁰ thereby ensuring that innovative technologies, products, and services are bought, sold, traded, and licensed in a competitive environment.¹¹¹

The U.S. antitrust enforcement agencies do not presume that IP rights confer market power upon its owner,¹¹² which was confirmed by the Supreme Court in *Illinois Tool Works v.*

¹⁰⁵ *Id.* at 1576.

¹⁰⁶ IP Guidelines, *supra* note 99, § 1.0.

¹⁰⁷ IP Guidelines, *supra* note 99, § 1.0.

¹⁰⁸ *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 876-877 (Fed. Cir. 1985).

¹⁰⁹ IP Guidelines, *supra* note 99, § 1.0.

¹¹⁰ IP Guidelines, *supra* note 99, § 1.0.

¹¹¹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 252 (2d ed. 2009).

¹¹² IP Guidelines, *supra* note 99, § 2.2.

*Independent Ink*¹¹³ in the context of a tying case.¹¹⁴ Moreover, any market power that is, in fact, related to the possession of IP rights does not by itself violate antitrust law.¹¹⁵ Patent owners are nevertheless not categorically exempted from standard antitrust scrutiny.¹¹⁶ As the court held in *Atari Games Corp v. Nintendo of America, Inc.*,¹¹⁷ a patent does not convey to its owner the right to use it to extend its power in the marketplace improperly.¹¹⁸

Excursion: The patent misuse doctrine

The patent misuse doctrine has played an important role in U.S. intellectual property law¹¹⁹ as it emerged from IP law. It is often dealt with in cases concerning practices that constitute potential antitrust law violations as such behavior usually contravenes also the patent misuse doctrine. It has developed in parallel with antitrust law by the courts and aims at limiting a patentee's use of its patent rights separate from antitrust law.¹²⁰ It forbids behavior by the patent owner that aims at extending its power beyond the boundaries of the lawful rights under the patent.¹²¹ Such an unlawful extension of the scope of the patent grant may occur with regard to other products or to the physical or temporal scope of the patent, or the imposition of anticompetitive terms in licenses or other agreements.¹²² The policy of the patent misuse doctrine is "to prevent a patentee from using the patent to obtain market benefit beyond that which inheres in the statutory patent right."¹²³

¹¹³ *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006).

¹¹⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 147 (2007).

¹¹⁵ IP Guidelines, *supra* note 99, § 2.2 & n. 11 (citing *United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966) and *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 430 (2d Cir. 1945)).

¹¹⁶ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 5-6 (2007).

¹¹⁷ *Atari Games Corp. v. Nintendo of Am.*, 897 F.2d 1572 (Fed. Cir. 1990).

¹¹⁸ *Id.* at 1576.

¹¹⁹ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 4 (2007).

¹²⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 78 (2007).

¹²¹ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 4 (2007).

¹²² *Id.*

¹²³ *Mallinckrodt, Inc. v. Mediapart, Inc.*, 976 F.2d 700, 704 (Fed. Cir. 1992); *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1341 (Fed. Cir. 2004).

Consequently “the key inquiry is whether, by imposing conditions that derive their force from the patent, the patentee has impermissibly broadened the scope of the patent grant with anticompetitive effect.”¹²⁴ However, the decisive difference in contrast to antitrust law is that a misuse claim does not require the same showings of standing, antitrust injury, and possibly even anticompetitive effect as would be required in an antitrust case.¹²⁵

It is not an affirmative claim that gives rise to monetary damages but can serve as a defense to a patent infringement claim or in a breach of contract case.¹²⁶ There is still a substantial overlap between the patent misuse doctrine and the antitrust laws, but it must be underlined that the two areas are not coextensive.¹²⁷ If an IP holder breaches antitrust law in the exercise of its patent monopoly, there is a good chance that the behavior is also a patent misuse.¹²⁸ On the other hand, it is controversial whether patent misuse can exist in the case of behavior that does not amount to an antitrust violation.¹²⁹ So the scope of the misuse doctrine remains unclear.¹³⁰ This short explanation should serve for a better understanding as the patent misuse doctrine is sometimes alluded to in the context of forbidden practices.

¹²⁴ *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1341 (Fed. Cir. 2004); *C.R. Bard, Inc. v. M3 Sys.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998); *Va. Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 868 (Fed. Cir. 1997); *Mallinckrodt, Inc. v. Mediapart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992); *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001 (Fed. Cir. 1986).

¹²⁵ *Id.*; *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 140-141 (1969).

¹²⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 78 (2007).

¹²⁷ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 55 (2007).

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ *Id.* at 4.

2.3. Conformity of both legal systems

Today, intellectual property laws and antitrust laws are, in the EU and the U.S., viewed as complementary because they share the same goal.¹³¹ Both also increase competition in the marketplace.¹³² According to the prevailing view today, antitrust law, by protecting competition, and intellectual property law, by rewarding innovation, each lead to the creation of new products.¹³³ Furthermore, intellectual property rights and competition policies complement each other because they promote technical progress to the ultimate benefit of consumers.¹³⁴ Licensing has procompetitive effects as the licensee gains access to a technology that is advantageous if it is in the position to improve or expand the invention and thus bring new products and choices to consumers.¹³⁵ Furthermore, licensing enables the owner of the technology to benefit financially from investing that creates incentives to develop new technologies.¹³⁶ However, licensing arrangements can be misused to disguise various anticompetitive activities or may pose – through restrictive clauses – a threat of foreclosure of competition in a market where a less restrictive alternative is available.¹³⁷ Despite the awareness that IP law and antitrust law have a common purpose, considerable tension remains between the two.¹³⁸ It must be analyzed whether antitrust laws are violated through the inappropriate creation or maintenance of barriers to entry, or through the encouragement of collusive behavior.¹³⁹

¹³¹ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 396-397 (2003).

¹³² Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 252 (2d ed. 2009).

¹³³ Haris Apostolopoulos, *Refusal-to-Deal Cases of IP Rights at the Aftermarket in the US and EU Law: Converging of Both Law Systems through Speaking in the Same Language of Law and Economics*, 7 JICL 144, 145 (2007).

¹³⁴ *Id.*

¹³⁵ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 434 (2003).

¹³⁶ *Id.*

¹³⁷ *Id.* at 435.

¹³⁸ François Lévêque & Howard Shelanski, *Antitrust, Patents and Copyright* 85 (2005).

¹³⁹ *Id.*

Earlier, the conflict between the exercise of IPRs and competition policy tended to be reinforced by judicial and administrative doctrines initially in the U.S. and later in the EU, but since the 1970s, a new antitrust legal framework has emerged on both sides of the Atlantic with a greater appreciation of the economic benefits of IPRs and a move away from any automatic association of real market power with exclusive IP rights.¹⁴⁰

II. The legal and institutional framework of antitrust law applicable to patent licenses in the EU and the U.S.

This chapter sheds light on the EU and U.S. regulatory approaches of antitrust law applicable to patent licensing agreements. It then points out differences in the antitrust regulation systems.

1. General introduction

1.1. EU framework

The Treaty on European Union¹⁴¹ and the Treaty on the Functioning of the European Union¹⁴² constitute primary European legislation, as opposed to secondary legislation, which is enacted on the basis of the Treaties and encompasses regulations, directives, decisions, recommendations, and opinions issued by EU institutions. The decisions of the ECJ and the Court of First Instance (“CFI”) both serve as sources of primary European law as well. In fact, basic principles of European law were established by the ECJ. The EU can neither be characterized as a federal state nor as an intergovernmental organization; its

¹⁴⁰ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 7 (2007).

¹⁴¹ TEU, *supra* note 19.

¹⁴² TFEU, *supra* note 15; The European Community and the three pillar system of the EU disappeared as a result of the Lisbon Treaty. There is now just one body of law – the European Union.

character is much more “supranational”.¹⁴³ The ECJ held in *Van Gend en Loos*¹⁴⁴ that the EU (then EEC) constitutes a new legal order for the benefit of which Member States have consented to a restriction of their sovereign rights.¹⁴⁵ It thus established that EU law not only imposes obligations on Member States but also rights for individuals.¹⁴⁶ This principle is referred to as the direct effect (or immediate applicability) that enables individuals to immediately invoke a European provision before a national or European court.¹⁴⁷ However, it is not necessary for the Member State to adopt the European act concerned into its internal legal system.¹⁴⁸ Subsequently, in *Costa/ENEL*,¹⁴⁹ the ECJ held that in case of a conflict between national and EU law, the latter prevails (principle of precedence or supremacy of EU law).¹⁵⁰ Accordingly, the antitrust provisions of the Treaty are directly applicable in all Member States. This is also true for to the exemption clause of Article 101(3) TFEU, which is directly applicable, no prior decision to that effect being required since the introduction of Regulation 1/2003.¹⁵¹

The European Commission is the executive of the EU¹⁵² and one of its central institutions.¹⁵³ Its primary roles are to propose and enact legislation and to act as “guardian of the treaties”.¹⁵⁴ Therefore, the Commission is empowered to apply the antitrust rules and enjoys a number of investigative powers, for example, inspection of business and non-

¹⁴³ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 8 (2009).

¹⁴⁴ Case 26/62 *Van Gend en Loos v Commission* [1963] ECR 1.

¹⁴⁵ *Id.*; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 8 (2009).

¹⁴⁶ Case 26/62 *Van Gend en Loos v Commission* [1963] ECR 1.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ Case 6/64 *Costa v ENEL* [1964] ECR 585.

¹⁵⁰ *Id.*; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 8 (2009).

¹⁵¹ Carl Baudenbacher, *Current Developments in European and International Competition Law – 16th St. Gallen International Competition Law Forum ICF 2009* 244 (2009); Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2003] OJ L1/1 [Regulation 1/2003], art 1.

¹⁵² TEU, *supra* note 19, art 17 para 1.

¹⁵³ *Id.* art 13 para 1.

¹⁵⁴ *Id.* art 17 para 1 and 2.

business premises, written requests for information, and the imposition of substantive fines for violations.¹⁵⁵ The same is true for all national competition authorities, which can apply the provisions of the Treaty to ensure that competition is not distorted or restricted.¹⁵⁶

Article 101(3) TFEU stipulates the conditions that render the general antitrust prohibition of Article 101(1) TFEU inapplicable. These requirements for exemption can be applied either to individual agreements or to categories of agreements by way of a block exemption regulation.¹⁵⁷ Council Regulation No 19/65/EEC of 2 March 1965 on application of Article 85(3)¹⁵⁸ of the Treaty to certain categories of agreements and concerted practices¹⁵⁹ empowers the Commission to declare, by regulation and in accordance with Article 101(3) TFEU, Article 101(1) TFEU inapplicable to certain categories of agreements and corresponding concerted practices to which only two undertakings are a party.¹⁶⁰ Having regard to this regulation, the Commission adopted Regulation (EC) No 772/2004 of 27 April 2004 on the application of Article 81(3) of the Treaty to categories of technology transfer agreements.¹⁶¹ The TTBER, based on Article 81(3) TEC (now Article 101(3) TFEU) and thus primary EU legislation, is further complemented by a detailed Commission Notice called “Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements” (“Technology Transfer Guidelines”).¹⁶² This explains the relatively short regulation and illustrates the Commission’s evaluation of technology transfer agreements. The purpose of the Technology Transfer Guidelines is not only to provide help with regard to the application of the TTBER, but also in relation to the

¹⁵⁵ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 9 (2009).

¹⁵⁶ *Id.*; Regulation 1/2003, *supra* note 151, art 3 para 1.

¹⁵⁷ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 10 (2009).

¹⁵⁸ Now Article 101(3) TFEU.

¹⁵⁹ Council Regulation No 19/65/EEC on application of Article 85 (3) of the Treaty to certain categories of agreements and concerted practices [1965] OJ P36/533 [Regulation No 19/65/EEC].

¹⁶⁰ Council Regulation No 19/65/EEC, *supra* note 159, art 1.

¹⁶¹ Commission Regulation (EC) No 772/2004, *supra* note 17.

¹⁶² Technology Transfer Guidelines, *supra* note 1.

general antitrust analysis under Article 101 TFEU of technology transfer agreements falling outside the scope of the TTBER.¹⁶³ Although they are not legally binding and are without prejudice to the interpretation of Article 101 TFEU and the TTBER that may be given by the ECJ and the CFI,¹⁶⁴ they serve as a basis in the overall assessment because the Commission is unlikely to change its own principles in a prospective antitrust case. Thus, a de facto binding effect exists and it is hard to imagine the Commission or courts randomly departing from the Technology Transfer Guidelines. They also contain (where appropriate and possible) references to European case law and therefore also reflect opinions of the European courts. The ECJ also stressed that the Commission has responsibility for the orientation of EU competition policy and should be followed because the courts may be reluctant to disturb the Commission's considered policy.¹⁶⁵ The same is true for national courts and competition authorities, which have a duty to cooperate with the Commission so as to apply EU competition law consistently.¹⁶⁶

The essential question at this point is: What exactly is the Technology Transfer Block Exemption Regulation? Based on Article 101(3) TFEU, the block exemption regulation renders Article 101(1) TFEU automatically inapplicable to categories of technology transfer agreements that fulfill the conditions laid down in the regulation.¹⁶⁷ All other agreements require an individual assessment under Article 101 TFEU. The TTBER and the Technology Transfer Guidelines are, however, without prejudice to the application of

¹⁶³ *Id.* para 2.

¹⁶⁴ *Id.* para 4.

¹⁶⁵ C-344/98 *Masterfoods v HB Ice Cream* [2000] ECR I-11369, para 46; C-234/89 *Delimitis v Henninger Bräu* [1991] ECR I-935, para 44; Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 2.64 (2010).

¹⁶⁶ TEU, *supra* note 19, art 4 para 3; Regulation 1/2003, *supra* note 151, preamble paras 15 and 21, art 11 para 1 and art 16; Case 99/79 *Lancôme v Etos* [1980] ECR 2511, para 11; Case 14/68 *Wilhelm v Bundeskartellamt* [1969] ECR 1, para 4; Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 2.64 (2010).

¹⁶⁷ Commission Regulation (EC) No 772/2004, *supra* note 17, art 2. A detailed analysis of the Bock Exemption will follow below.

Article 102 TFEU, so actions of a dominant undertaking are subject to a separate review under this latter provision.¹⁶⁸ A detailed analysis of the TTBER follows in Section 2.

1.2. U.S. framework

In the U.S., two executive bodies play an important role in the antitrust assessment of patent license agreements.¹⁶⁹ The Department of Justice (“DOJ”) and the Federal Trade Commission (“FTC”; together “Agencies”), are especially relevant for antitrust law.¹⁷⁰ The DOJ, the federal executive department responsible for law enforcement and the administration of justice, investigates and prosecutes violations of antitrust law.¹⁷¹ Antitrust enforcement within the DOJ is handled by the Antitrust Division, a specialized group of lawyers.¹⁷² The FTC, an administrative commission created by Congress and charged with consumer protection, also has antitrust regulatory and law enforcement authority.¹⁷³ While the FTC does not have the power to bring criminal prosecutions, it may, unlike the DOJ, issue and enforce regulations and conduct administrative trials.¹⁷⁴ Consequently, the Agencies are responsible for antitrust law enforcement in the U.S. The Sherman Act is both a civil and criminal statute.¹⁷⁵ The DOJ regularly enforces it criminally against severely anticompetitive behavior, such as price fixing, by seeking fines

¹⁶⁸ Technology Transfer Guidelines, *supra* note 1, para 2; Joined Cases C-395 and C-396/96 P, *Compagnie Maritime Belge v Commission* [2000] ECR I-1365.

¹⁶⁹ Douglas F. Broder, *A Guide to US Antitrust Law* § Int-004 (2005).

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 402 (2003).

or even jail terms.¹⁷⁶ In civil actions, the Agencies may claim injunctive relief or damages.¹⁷⁷

The Agencies jointly issued the Antitrust Guidelines for the Licensing of Intellectual Property (“IP Guidelines”) on April 6, 1995.¹⁷⁸ They help to clarify their antitrust enforcement position on the licensing of intellectual property protected by patent, copyright, trade secrets, and know-how.¹⁷⁹ However, the IP Guidelines are not binding law and the relevant case law must be examined as well. In a common law system like the U.S., court decisions are a source of law, referred to as “case law”.¹⁸⁰ Thus, court decisions not only resolve present controversies but are considered precedents that have future legal effect.¹⁸¹ This effect derives from the principle of “stare decisis” – the notion that future cases should be decided in accordance with past cases.¹⁸² In addition to statutory law, which contains an antitrust ban as well as a prohibition of monopolization, the IP Guidelines reflect the Agencies’ enforcement approach, but the applicable antitrust law has been formed by the courts over decades.¹⁸³

Apart from case law specifying the appropriate antitrust principles in the context of IP licensing, the Agencies provide guidance after specific requests from the business community by means of the DOJ’s Business Review Letter and the FTC’s Staff Advisory Opinion Letters.¹⁸⁴ In the course of such a procedure, the Agencies explain how they

¹⁷⁶ *Id.*; Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 2-3 (2010).

¹⁷⁷ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 402 (2003).

¹⁷⁸ IP Guidelines, *supra* note 99.

¹⁷⁹ *Id.* para § 1.0.

¹⁸⁰ William Burnham, *Introduction to the Law and Legal System of the United States* 39 (4th ed. 2006).

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 6 (2008).

¹⁸⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 475 (2007).

would evaluate and react to particular types of business conduct, based on the information disclosed by the parties.¹⁸⁵

The Federal Circuit Appellate Jurisdiction is also of particular importance in relation to patent licensing agreements.¹⁸⁶ The United States Court of Appeals for the Federal Circuit was created in 1982, intended to put a single circuit court in charge of patent disputes.¹⁸⁷ It has exclusive jurisdiction over appeals from district court judgments over civil actions arising under any Act of Congress relating to patents.¹⁸⁸ This is also interesting from an antitrust law perspective because antitrust violations are often asserted in patent infringement litigation as a counterclaim by the alleged patent infringer.

Private law enforcement plays a crucial role in the antitrust system of the U.S. A licensee will often allege an antitrust violation to avoid compliance with other provisions in the patent license agreement or assert it as a defense in breach of contract and infringement actions brought by the licensor.¹⁸⁹ Therefore, much relevant case law comes from cases involving private parties.

1.3. A comparison of both systems

The legal systems of the EU and the U.S. differ significantly because there is no comparable legal act in the U.S. that deals with patent licenses as intensively as does the Technology Transfer Block Exemption Regulation in the EU. The Sherman Act dates back to 1890, and its antitrust prohibition is rather short, meaning there was a necessity to develop the law through court decisions. The most notable difference, however, consists in

¹⁸⁵ *Id.*

¹⁸⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 5-6 (2008).

¹⁸⁷ *Id.*

¹⁸⁸ *Id.* at 6.

¹⁸⁹ Robert W. Gomulkiewicz et al., *Licensing Intellectual Property: Law and Application* 175 (2008).

the fact that the TTBER provides undertakings with a guaranteed safe harbor, whereas in the U.S. no such exemption originating from a clear legal basis exists. The TTBER is secondary EU legislation and therefore directly applicable in all Member States. With regard to agreements that come within its scope, there is no doubt concerning their legality. As explained above, both legal systems contain comparable antitrust provisions, which have been further enhanced by case law. In addition, we find on both sides of the Atlantic guidelines issued by the main executive bodies responsible for antitrust law enforcement explaining their assessment of licensing agreements: the Commission's Technology Transfer Guidelines and the Agencies' IP Guidelines.

A remarkable difference, though, is the nature of antitrust claims in the U.S. and in the EU.¹⁹⁰ They are normally private in the U.S. and likely involve the infringement of IP rights,¹⁹¹ whereas they are generally public in the EU, both at European and national level.¹⁹² The U.S. Agencies undertake only major antitrust litigation, making public antitrust enforcement just a small part of the entire system.¹⁹³ Private law enforcement therefore plays a much bigger role in the U.S. The European Commission, national antitrust Agencies, the courts, and the ECJ and CFI have so far been the main watchdogs of European antitrust law, leading to a centralization of its enforcement.¹⁹⁴ Moreover, the antitrust rules of the TFEU do not invest the Commission with the power of criminal law enforcement, as criminal law is a competence of each Member State. Furthermore, in the U.S., antitrust claims that involve patents may end up, depending on the circumstances, before the Court of Appeals for the Federal Circuit, specifically empowered with appellate

¹⁹⁰ Rita Coco, *Antitrust Liability for Refusal to License Intellectual Property: A Comparative Analysis and the International Setting*, 12 Marq. Intell. Prop. L. Rev. 1, 8 (2008).

¹⁹¹ The violation of antitrust law is frequently asserted as a counterclaim in patent infringement litigation or breach of contract cases, f.e. where the licensee failed to pay royalties.

¹⁹² Rita Coco, *Antitrust Liability for Refusal to License Intellectual Property: A Comparative Analysis and the International Setting*, 12 Marq. Intell. Prop. L. Rev. 1, 8 (2008).

¹⁹³ *Id.*

¹⁹⁴ *Id.* at 8-9.

jurisdiction on patent litigation, whereas no such special forum is implemented in the EU.¹⁹⁵ Parties in the U.S. may seek guidance from the enforcement Agencies in the form of business review letters laying out their prospective antitrust assessment based on the information submitted by the parties; no comparable procedure exists in the EU. The old notification system was abolished in order to relieve the Commission. However, together with it, legal certainty that parties could rely on where the Commission had approved the technology transfer agreement under the old system disappeared. Lastly, another contributing factor to the differences between the systems is linked to the distinct nature of the two legal bodies at issue. The United States is a federal state with U.S. law as the national law of a single country; the EU is a supranational organization with supranational law, governed by its guiding principle of the achievement of a single market. This short conclusion serves only as a starting point. This thesis will further examine in detail the differences and similarities in the analysis of antitrust licensing issues.

2. The EU Technology Transfer Block Exemption Regulation

The TTBER block exempts categories of technology transfer agreements that fulfill the conditions laid down in the regulation, provided that they do not contain a practice enumerated in the list of hardcore restrictions.¹⁹⁶ In 2004 it constituted a revision of the “old” technology transfer block exemption regulation (EC) No 240/96¹⁹⁷ and introduced substantial changes. It will expire on April 30, 2014.¹⁹⁸ At the moment the consultation process of a revised Technology Transfer Block Exemption Regulation is underway. However, it is questionable whether the content of this replacing block exemption

¹⁹⁵ *Id.* at 9.

¹⁹⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 2 and 4.

¹⁹⁷ Commission Regulation (EC) No 240/96 of 31 January 1996 on the application of Article 85(3) of the Treaty to certain categories of technology transfer agreements [1996] OJ L31/2.

¹⁹⁸ Commission Regulation (EC) No 772/2004, *supra* note 17, art 11.

regulation will deviate much from the legal situation currently in place. This is because in 2004 the TTBER in fact introduced a completely new and reformed system of antitrust analysis with regard to technology transfer agreements. The reason for the ten year duration of the TTBER is the proscription that block exemption regulations can be in force for only a limited time.¹⁹⁹ In this respect, the Commission has a practice of issuing block exemption regulations for a period of ten years. It did so, for example, also in the case of the block exemption regulation concerning vertical agreements.

2.1. The scope of the Technology Transfer Block Exemption Regulation

According to the TTBER, the term “technology transfer agreement” includes patent licensing agreements; know-how licensing agreements; software copyright licensing agreements; or mixed patent, know-how or software copyright licensing agreements. This includes any such agreements containing provisions relating to the sale and purchase of products or to the licensing of other intellectual property rights or the assignment of intellectual property rights, if they do not constitute the primary object of the agreement and are directly related to the production of the contract products.²⁰⁰ In this context “agreement” means either an agreement, a decision of an association of undertakings, or a concerted practice.²⁰¹

Moreover, certain assignments of patents, know-how, software copyright, or a combination thereof are also deemed to be technology transfer agreements under the regulation when a part of the risk associated with the exploitation of the technology remains with the assignor.²⁰² This is particularly the case where the sum payable in consideration of the

¹⁹⁹ Council Regulation No 19/65/EEC, *supra* note 159, art 2 para 1.

²⁰⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(b).

²⁰¹ *Id.* art 1 para 1(a).

²⁰² *Id.* art 1 para 1(b).

assignment depends on the turnover obtained by the assignee in respect of products manufactured with the assigned technology, the quantity of such products produced, or the number of operations carried out employing the technology at issue.²⁰³ Furthermore, the term “patents” encompasses patents, patent applications, utility models, applications for registration of utility models, designs, topographies of semiconductor products, supplementary protection certificates for medicinal products, or other products for which such supplementary protection certificates may be obtained, as well as plant breeder’s certificates.²⁰⁴

“Know-how” means a package of non-patented practical information, resulting from experience and testing, which is secret, implying that it is not generally known or easily accessible.²⁰⁵ In addition, it must be substantial (meaning significant and useful for the production of the contract products) and identified.²⁰⁶ In this respect, a description in a sufficiently comprehensive manner is required in order to verify that the know-how fulfills the criteria of secrecy and substantiality.²⁰⁷ The TTBER applies for as long as the intellectual property right concerned has not expired, lapsed, or been declared invalid, or as long as the know-how remains secret.²⁰⁸

The block exemption laid down in the TTBER applies only to technology transfer agreements between two undertakings.²⁰⁹ The term “undertaking” also includes connected undertakings.²¹⁰ The latter refers to undertakings in which a party to the agreement, directly or indirectly, has the power to exercise more than half the voting rights, or has the power to appoint more than half of the members of the supervisory board, board of

²⁰³ *Id.* art 1 para 1(b).

²⁰⁴ *Id.* art 1 para 1(h).

²⁰⁵ *Id.* art 1 para 1(i).

²⁰⁶ *Id.* art 1 para 1(i).

²⁰⁷ *Id.* art 1 para 1(i).

²⁰⁸ *Id.* art 2.

²⁰⁹ *Id.* art 2.

²¹⁰ *Id.* art 1 para 2.

management, or bodies legally representing the undertaking, or has the right to manage the undertaking's affairs, even where the power is jointly held with a third party.²¹¹ It also encompasses the opposite, namely undertakings which directly or indirectly have the above rights or powers over a party to the agreement.²¹² Although, it could be argued that this definition should be interpreted as applying only to the extent that these undertakings constitute a single economic unit with regard to the subject-matter of the agreement.²¹³

Technology transfer agreements concluded between more than two undertakings are not covered by the TTBER²¹⁴ and need to be examined individually with regard to their reconcilability with Article 101 TFEU. However, the TTBER remains applicable irrespective of the fact that a two-party agreement stipulates conditions for more than one level of trade.²¹⁵ For instance, if the license agreement concerns not only the production but also the distribution stage, stipulating the obligations that the licensee must or may impose on resellers of the products produced under the license.²¹⁶ The Commission acknowledges that licensing agreements concluded between more than two undertakings often give rise to the same issues as those between only two parties. In these cases it will apply by analogy the principles set out in the TTBER.²¹⁷

According to Article 2 TTBER, a license agreement must concern the production of contract products in order to be block exempted, in the sense that the license must permit the licensee to exploit the licensed technology for the production of goods or services.²¹⁸

²¹¹ *Id.* art 1 para 2(a).

²¹² *Id.* art 1 para 2(b).

²¹³ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 2.20 (2010).

²¹⁴ Technology Transfer Guidelines, *supra* note 1, para 38.

²¹⁵ *Id.* para 39.

²¹⁶ *Id.* para 39.

²¹⁷ *Id.* para 40.

²¹⁸ *Id.* para 41.

This is the case where the licensed technology is either used in the production process, or where it is incorporated into the product itself.²¹⁹

Furthermore, for an agreement to come within the scope of the safe harbor regulation, certain market-share thresholds may not be exceeded.²²⁰ Where the undertakings concerned are competitors, the block exemption regulation applies only if the combined market share of both parties does not exceed 20% on the affected relevant technology and product markets.²²¹ In the case of non-competitors, it is applicable only if the individual market share of each of the parties amounts to 30% or less on the affected relevant technology and product markets.²²² A detailed market definition and guidance on the calculation of market-share thresholds follows in Chapter III. The inclusion of market-share thresholds was chosen due to the Commission's economic-based approach that conditions the exemption of an agreement on the assessment of its impact on the relevant market.²²³ If the market share requirements are initially fulfilled, but subsequently rise above the levels of 20% or 30% respectively, the block exemption continues to apply for two consecutive calendar years following the year in which the threshold was first exceeded.²²⁴ The market-share thresholds apply to both technology markets and markets for products incorporating the licensed technology.²²⁵ If the applicable market-share threshold is exceeded on an affected relevant market, the block exemption is inapplicable only with regard to that relevant market.²²⁶ Consequently, if a patent license concerns two separate product markets or two separate geographic markets, the block exemption could

²¹⁹ *Id.* para 41.

²²⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 3.

²²¹ *Id.*

²²² *Id.*

²²³ Gosta Schindler, *Wagging the Dog? Reconsidering Antitrust-based Regulation of IP-Licensing*, 12 Marq. Intell. Propr. L. Rev. 49, 57 (2008).

²²⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, art 8 para 2.

²²⁵ Technology Transfer Guidelines, *supra* note 1, para 69.

²²⁶ *Id.*

theoretically apply to one of the markets and not the other.²²⁷ Thus, the market shares in relation to each separate geographic market must be considered.²²⁸ However, it was criticized whether this is a correct interpretation.²²⁹ A suggested approach is to determine whether the requirements of the TTBER are satisfied, which leads to the application of the regulation and, accordingly, if this is not the case, the TTBER should not apply to the agreement at all, and those restrictions caught by Article 101(1) TFEU are void unless the agreement as a whole merits individual exemption.²³⁰ As the Commission provided clearly the contrary, I cannot subscribe to this opinion.

2.2. Hardcore restrictions

According to EU law, a technology transfer agreement must not contain any of the hardcore restrictions enumerated in Article 4 TTBER as this automatically renders the block exemption regulation and its safe harbor inapplicable to the entire agreement.²³¹ These provisions therefore cannot be severed from the rest of the contract for the purpose of the application of the TTBER.²³² Two lists of hardcore restrictions are provided in the block exemption regulation, depending on the parties' categorization into agreements between competitors²³³ or non-competitors.²³⁴ Of course, the list with regard to competitors is more extensive, whereas the list referring to non-competitors enumerates fewer practices as hardcore restrictions. Typical hardcore restrictions include price

²²⁷ *Id.*

²²⁸ Technology Transfer Guidelines, *supra* note 1, paras 20 and 73 example 2.

²²⁹ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 2.39 (2010).

²³⁰ *Id.*; Case 10/86 *VAG France v Etablissement Magne* [1986] ECR 4071, para 14.

²³¹ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4; Technology Transfer Guidelines, *supra* note 1, para 75.

²³² Technology Transfer Guidelines, *supra* note 1, para 75.

²³³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1.

²³⁴ *Id.* art 4 para 2.

fixing,²³⁵ output restrictions,²³⁶ as well as the allocation of markets and customers²³⁷ with some exceptions, whereas more of the latter are established with regard to agreements between non-competitors. Moreover, restrictions on research and development on any of the parties and on the licensee's ability to exploit its own technology come within the scope of the hardcore list if the agreement is concluded between competitors.²³⁸

2.3. Excluded restrictions

Article 5 TTBER contains a list of excluded practices. These clauses are not block exempted, either, but do not affect the whole agreement. The inclusion of an excluded restriction only prevents the application of the TTBER with regard to that particular provision. According to the Technology Transfer Guidelines, the rule of severability applies to these clauses.²³⁹ On the contrary, some authors assert that the answer to the question of whether these clauses can be severed from the rest of the agreement will depend on the law applicable to the licensing agreement. This is consistent with earlier ECJ case law where it was confirmed that it is a matter of the law applicable to the contract whether a restrictive clause is severable from an agreement in order to avoid the effect of Article 101(2) TFEU.²⁴⁰ Another point of view is that the Commission has effectively introduced severability for these clauses, which is undermined by the clear wording of the TTBER. I agree with the latter approach, and so far the courts have not ruled to the contrary. The list of excluded restrictions includes grantback obligations of severable

²³⁵ *Id.* art 4 paras 1(a) and 2(a).

²³⁶ *Id.* art 4 para 1(b).

²³⁷ *Id.* art 4 paras 1(c) and 2(b).

²³⁸ *Id.* art 4 para 1(d).

²³⁹ Technology Transfer Guidelines, *supra* note 1, para 107.

²⁴⁰ Case 319/82 *Société de vente de ciments et bétons de l'Est v Kerpen & Kerpen* [1983] ECR 4173, para 2.

improvements and non-challenge clauses with regard to the validity of the licensed IP.²⁴¹ Furthermore, restrictions on research and development on any of the parties and on the licensee's ability to exploit its own technology come within the scope of the list, if the agreement is concluded between non-competitors.²⁴²

2.4. The effect of the Technology Transfer Block Exemption Regulation

The block exemption of categories of technology transfer agreements is based on the presumption that such agreements – to the extent that they are caught by Article 101(1) TFEU – fulfill the four conditions laid down in Article 101(3) TFEU.²⁴³ This means that they give rise to economic efficiencies and its restrictions are indispensable to the attainment of these efficiencies.²⁴⁴ Furthermore, consumers within the affected markets will receive a fair share of the efficiency gains and the agreements do not afford the undertakings concerned the possibility of eliminating competition in respect of a substantial part of the products in question.²⁴⁵ The market-share thresholds, the hardcore list, and the excluded restrictions set out in the TTBER aim at ensuring that only restrictive agreements that can reasonably be presumed to fulfill the four conditions of Article 101(3) TFEU are block exempted.²⁴⁶

Many licensing agreements do not even come within the scope of Article 101(1) TFEU.²⁴⁷ This is the case either because they do not restrict competition at all or because the restriction is not appreciable.²⁴⁸ Whenever the TTBER is applicable to a specific agreement, there is no need to determine whether the latter is caught by Article 101(1)

²⁴¹ Commission Regulation (EC) No 772/2004, *supra* note 17, art 5 paras 1(a) – (c).

²⁴² *Id.* art 5 para 2.

²⁴³ Technology Transfer Guidelines, *supra* note 1, para 35.

²⁴⁴ TFEU, *supra* note 15, art 101 para 3.

²⁴⁵ *Id.*

²⁴⁶ Technology Transfer Guidelines, *supra* note 1, para 35.

²⁴⁷ Technology Transfer Guidelines, *supra* note 1, para 36.

²⁴⁸ *Id.*

TFEU.²⁴⁹ The first step in antitrust analysis with regard to patent licensing agreements should therefore always entail an assessment of the applicability of the TTBER because the Commission provided clear and extensive rules by way of block exemption regulation that constitute directly applicable EU law. The safe harbor in the TTBER automatically exempts the affected agreements from antitrust scrutiny.²⁵⁰ Hence, block exempted agreements are legally valid and enforceable.²⁵¹ They can be prohibited only prospectively and only upon withdrawal of the block exemption by the Commission or a Member State competition authority.²⁵² On the contrary, they cannot be prohibited under Article 101 TFEU by national courts in the context of private litigation.²⁵³ A very important factor that needs to be underlined is that it cannot be presumed that above these market-share thresholds, technology transfer agreements fall within the scope of Article 101(1) TFEU and, thus, they cannot be automatically qualified as forbidden contracts.²⁵⁴ Indeed, their assessment requires an evaluation of all individual circumstances, as will be shown.

2.5. The applicability of the Technology Transfer Block Exemption Regulation to other types of agreements

A. Non-assertion and settlement agreements

If the conditions enumerated above are fulfilled, the TTBER also applies to licensing clauses in non-assertion and settlement agreements whereby the licensor permits the

²⁴⁹ *Id.*

²⁵⁰ Technology Transfer Guidelines, *supra* note 1, para 34.

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, preamble para 12; Technology Transfer Guidelines, *supra* note 1, para 37.

licensee to produce within the scope of its technology.²⁵⁵ The Commission acknowledges that licensing may serve as a means of settling disputes.²⁵⁶ Therefore, licensing including cross licensing in the context of settlement agreements and non-assertion agreements is not as such restrictive of competition.²⁵⁷ The parties should, however, be cautious because the individual terms and conditions of such agreements may be caught by Article 101(1) TFEU.²⁵⁸ Consequently, licensing in the context of settlement agreements will be assessed like any other technology transfer agreements.²⁵⁹

B. Subcontracting agreements

The TTBER also covers subcontracting whereby the licensor licenses technology to the licensee who undertakes to produce certain products on the basis thereof exclusively for the licensor.²⁶⁰ Such subcontracts can also include clauses with regard to the licensor's supply of equipment which can be used in the production of the goods and services at issue.²⁶¹ However, it is important that the supplied technology and not the supplied equipment must constitute the primary object of the agreement.²⁶² Due account should be taken of the Commission's Notice concerning the assessment of certain subcontracting agreements in relation to Article 101(1) of the Treaty.²⁶³ According to this notice, which remains applicable, subcontracting agreements in which the subcontractor undertakes to produce certain products exclusively for the contractor generally fall outside Article 101(1)

²⁵⁵ Technology Transfer Guidelines, *supra* note 1, para 43.

²⁵⁶ *Id.* para. 204.

²⁵⁷ *Id.* para. 204.

²⁵⁸ *Id.* para. 204.

²⁵⁹ *Id.* para. 204.

²⁶⁰ *Id.* para 44.

²⁶¹ *Id.* para 44.

²⁶² *Id.* para 44.

²⁶³ Commission Notice of 18 December 1978 concerning its assessment of certain subcontracting agreements in relation to Article 85 (1) of the EEC Treaty [1979] OJ C1/2.

TFEU.²⁶⁴ However, potential restrictions imposed on the subcontractor, such as the obligation not to conduct or exploit his own research and development, may nevertheless be caught by Article 101 TFEU.²⁶⁵

C. Research and development agreements

The TTBER also applies to agreements whereby the licensee must carry out development work before obtaining a product or a process that is ready for commercial exploitation.²⁶⁶

However, the precondition is the identification of a contract product and the agreement must aim at producing it.²⁶⁷ For instance, the TTBER and the Technology Transfer Guidelines would not apply to the licensing of a technological research tool used only for further research activity and lacking the purpose of the production of a contract product.²⁶⁸

The framework of the TTBER and the Technology Transfer Guidelines is based on the premise that there is a direct link between the licensed technology and an identified contract product.²⁶⁹ Consequently, in cases where no such link exists, the main object of the agreement is research and development as opposed to bringing a particular product to the market.²⁷⁰ In these cases the Commission does not consider the analytical framework of the TTBER and the Technology Transfer Guidelines as an appropriate means.²⁷¹ This principle applies equally to research and development sub-contracting whereby the licensee undertakes to carry out research and development in the field of the licensed technology and to hand back the improved technology package to the licensor for the same

²⁶⁴ *Id.* para 3.

²⁶⁵ *Id.*

²⁶⁶ Technology Transfer Guidelines, *supra* note 1, para 45.

²⁶⁷ *Id.*

²⁶⁸ *Id.*

²⁶⁹ *Id.*

²⁷⁰ *Id.*

²⁷¹ *Id.*

reasons.²⁷² Account should be taken of regulation 2659/2000 on research and development agreements,²⁷³ which covers agreements whereby two or more undertakings commit to jointly carry out research and development and to jointly exploit the results.²⁷⁴ This regulation covers licensing between the parties and by the parties to a joint entity in the context of a research and development agreement.²⁷⁵ In such contracts, the parties may also determine the conditions for licensing the outcome of their mutual work to third parties.²⁷⁶ However, since third party licensees are not party to the research and development agreement, the individual license agreement concluded with third parties comes within the scope of the TTBER.²⁷⁷

D. Sublicensing agreements

The TTBER does not apply to agreements that have sublicensing as their primary object.²⁷⁸ In a sublicense, the licensee, having been authorized to do so by the licensor, grants licenses to third parties (sub-licensees) for the exploitation of the technology.²⁷⁹ If sublicensing is the primary object, then the licensing agreement does not have the purpose of permitting the production of contract products, whereas this latter condition is usually fulfilled in the agreements between the licensees and sub-licensees.²⁸⁰ They are therefore

²⁷² *Id.*

²⁷³ Commission Regulation (EC) No 2659/2000 of 29 November 2000 on the application of Article 81(3) of the Treaty to categories of research and development agreements [2000] OJ L304/7, meanwhile replaced by Commission Regulation (EU) 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 certain categories of research and development agreements [2010] OJ L335/36.

²⁷⁴ Technology Transfer Guidelines, *supra* note 1, para 60.

²⁷⁵ *Id.*

²⁷⁶ *Id.*

²⁷⁷ *Id.*

²⁷⁸ *Id.* para 42.

²⁷⁹ *Id.* para 48.

²⁸⁰ *Id.* para 48.

covered by the TTBER, provided that all the requirements for its application are fulfilled.²⁸¹

E. Purchase agreements

Agreements containing provisions relating to the purchase and sale of products are covered by the TTBER only to the extent that these provisions do not constitute the primary object of the contract and are directly related to the application of the licensed technology.²⁸² An example would be products in the form of equipment or process input which is specifically tailored to efficiently exploit the licensed technology.²⁸³

F. Trademark and copyright licensing agreements

The TTBER only covers trademark and copyright licensing to the extent that they are directly related to the exploitation of the licensed technology and do not constitute the primary object of the agreement.²⁸⁴ This condition ensures that agreements covering other types of intellectual property rights are only block exempted when they enable the licensee to better exploit the licensed technology.²⁸⁵ The licensor can, for example, authorize the licensee to use its trademark on the products incorporating the licensed technology which allows consumers to make an immediate link between the product and the characteristics imputed to it by the licensed technology.²⁸⁶

²⁸¹ *Id.* para 48.

²⁸² *Id.* para 48.

²⁸³ *Id.* para 48.

²⁸⁴ *Id.* para 50.

²⁸⁵ *Id.* para 50.

²⁸⁶ *Id.* para 51.

G. Joint venture agreements

The Block Exemption Regulation 2658/2000 on specialisation agreements covers licensing in the context of a production joint venture.²⁸⁷ However, where the joint venture engages in licensing of the technology to third parties, the activity is not linked to production by the joint venture and is therefore not covered by the block exemption regulation on specialisation agreements.²⁸⁸ Such licensing agreements, which bring together the parties' technologies, constitute technology pools,²⁸⁹ to which the framework laid down in the Technology Transfer Guidelines applies, but not the TTBER itself.

H. Vertical agreements

Commission Regulation (EC) No 2790/1999²⁹⁰ on vertical agreements covers agreements formed between two or more undertakings each operating, for the purposes of the agreement, at different levels of the production or distribution chain, and deals with the conditions under which the parties may purchase, sell, or resell certain goods or services.²⁹¹ It thus covers supply and distribution agreements.²⁹² Considering that the TTBER only covers agreements between two parties and that a licensee selling products incorporating the licensed technology is a supplier for the purposes of the Block Exemption Regulation

²⁸⁷ Commission Regulation (EC) No 2658/2000 of 29 November 2000 on the application of Article 81(3) of the Treaty to categories of specialisation agreements [2000] OJ L304/3, meanwhile replaced by Commission Regulation (EU) of 14 December 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of specialisation agreements [2010] OJ L335/43.

²⁸⁸ Technology Transfer Guidelines, *supra* note 1, para 58.

²⁸⁹ *Id.*

²⁹⁰ Commission Regulation (EC) No 2790/1999 of 22 December 1999 on the application of Article 81(3) of the Treaty to categories of vertical agreements and concerted practices [1999] OJ L336/21 ("Block Exemption Regulation on Vertical Agreements"), meanwhile replaced by Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices [2010] OJ L102/1 ("New Block Exemption Regulation on Vertical Agreements").

²⁹¹ Technology Transfer Guidelines, *supra* note 1, para 61.

²⁹² *Id.*

on Vertical Agreements, these two block exemption regulations are closely related.²⁹³ The following must be distinguished: The agreement between licensor and licensee is subject to the TTBER whereas agreements concluded between a licensee and buyers are subject to the Block Exemption Regulation on Vertical Agreements and its accompanying Guidelines on Vertical Restraints.²⁹⁴ The TTBER also block exempts agreements between the licensor and the licensee imposing sales restrictions.²⁹⁵ According to the New Block Exemption Regulation on Vertical Agreements, the latter does not apply to vertical agreements the subject matter of which falls within the scope of any other block exemption regulation, unless otherwise provided for in such a regulation.²⁹⁶ The Block Exemption Regulation on Vertical Restraints does not, therefore, cover vertical agreements captured by the TTBER.²⁹⁷

2.6. Withdrawal in individual cases and non-application of the Technology Transfer Block Exemption Regulation

For the sake of completeness, one should point out that according to Article 6 TTBER the Commission can withdraw the benefit of the TTBER under Article 29(1) of Regulation (EC) No 1/2003²⁹⁸ where it finds in a particular case that a technology transfer agreement nevertheless has effects which are incompatible with Article 101(3) TFEU.²⁹⁹ This may in particular be relevant regarding agreements which restrict access of third parties' technologies to the market, for instance, by the cumulative effect of parallel networks of

²⁹³ *Id.* para 62.

²⁹⁴ *Id.* para 62; Commission Notice, Guidelines on Vertical Restraints [2000] C291/1 (“Guidelines on Vertical Restraints”), meanwhile replaced by European Commission, Guidelines on Vertical Restraints [2010] C130/1 (“New Guidelines on Vertical Restraints”).

²⁹⁵ Technology Transfer Guidelines, *supra* note 1, para 63.

²⁹⁶ New Block Exemption Regulation on Vertical Agreements, *supra* note 290, art 2 para 5.

²⁹⁷ New Guidelines on Vertical Restraints, *supra* note 294, para 46.

²⁹⁸ Regulation 1/2003, *supra* note 151.

²⁹⁹ Commission Regulation (EC) No 772/2004, *supra* note 17, art 6 para 1.

similar restrictive agreements prohibiting licensees from using third parties' technologies.³⁰⁰ Moreover, the Commission can withdraw the block exemption for agreements that restrict the access of potential licensees to the market, for example by the cumulative effect of parallel networks of similar restrictive agreements prohibiting licensors from licensing to other licensees or where the parties do not exploit the licensed technology without an objectively valid reason.³⁰¹

Furthermore, the competition authority of a Member State may withdraw the benefit of the TTBER according to Regulation (EC) No 1/2003,³⁰² where, in a particular case, a technology transfer agreement has effects which are incompatible with Article 101(3) TFEU in the territory of a Member State, or in a part thereof, which has all the characteristics of a distinct geographic market, in respect of that territory, under the same circumstances as those governing the withdrawal by the Commission.³⁰³ In addition, Article 7 of the TTBER provides the possibility for the Commission to declare by regulation under Article 1a of Regulation No 19/65/EEC³⁰⁴ that, where parallel networks of similar technology transfer agreements cover more than 50% of a relevant market, the TTBER is not to apply to technology transfer agreements containing specific restraints relating to the market concerned.³⁰⁵ However, such a regulation may not become applicable earlier than six months following its adoption.³⁰⁶ Neither the competition authorities of the Member States nor the Commission have made use of these possibilities.

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² Council Regulation (EC) No 1/2003, *supra* note 151, art 29 para 2.

³⁰³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 6 para 2.

³⁰⁴ Regulation No 19/65/EEC, *supra* note 159, art 1a.

³⁰⁵ Commission Regulation (EC) No 772/2004, *supra* note 17, art 7.

³⁰⁶ *Id.*

3. The U.S. Antitrust Guidelines for the Licensing of Intellectual Property

The federal antitrust enforcement Agencies specifically enumerate in their IP Guidelines the economic efficiency-oriented standard that they view as appropriate.³⁰⁷ They facilitate sound antitrust counseling and give businesses a framework to apply when considering possible intellectual property licensing programs.³⁰⁸ Some argue that, so far, the IP Guidelines are the most comprehensive source on appropriate antitrust principles to be applied when analyzing the legality of IP licensing.³⁰⁹ They are, therefore, frequently cited as authority.³¹⁰ One should keep in mind, though, that they are 17 years old and that in a few situations the case law has developed in another direction; for example, in the case of resale price maintenance – which will be examined in detail below.

Case law has played an important role in the formation of the principles of antitrust law, so its consideration is crucial to any antitrust analysis. In general, the IP Guidelines provide a similar scope, compared to the TTBER, with a few differences. They apply to the licensing of intellectual property protected by patent and copyright or consisting in trade secrets and know-how.³¹¹ Remember that the EU TTBER only covers “technical” copyright, namely software copyright. Trade secret and know-how capture in the EU and the U.S. information whose economic value depends on the fact that it is not generally known. Its protection is thus conditioned upon efforts to maintain secrecy and it has no fixed term.³¹² Examples include formulas, manufacturing processes, product specifications and drawings, marketing plans, customer lists, and other research and development information.³¹³

³⁰⁷ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol’y Int’l Bus.* 801, 804 (2003).

³⁰⁸ *Id.*

³⁰⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 475 (2007).

³¹⁰ *Id.*

³¹¹ IP Guidelines, *supra* note 99, § 1.0.

³¹² *Id.*

³¹³ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 *IDEA* 395, 411 (2003).

In the U.S., the expression technology transfer agreement is usually not employed. Such types of contracts are more commonly referred to individually as licensing agreements or assignments. Unlike the EU's TTBER, the Guidelines apply only (as its title indicates) to the licensing of IP, whereas the TTBER also applies to certain categories of assignments, namely those where a significant risk remains with the assignor.³¹⁴ The Commission and the U.S. Agencies have both chosen not to cover trademarks. However, the U.S. Guidelines state that the Agencies apply the same general antitrust principles to trademark licensing.³¹⁵

The IP Guidelines contain further detailed explanations for the application of antitrust standards to specific categories of intellectual property licensing restrictions. Among the non-exhaustive list of restraints likely to receive antitrust scrutiny are, for example, horizontal restraints, resale price maintenance, tying arrangements, exclusive dealing, cross-licensing and pooling arrangements.³¹⁶ Pursuant to the IP Guidelines, an antitrust safety zone is established, too.³¹⁷ However, it is not regulated as extensively as in the EU. The Agencies recognize that licensing arrangements often promote innovation and enhance competition; therefore, a safety zone is useful to provide some degree of certainty and thus to encourage such activity.³¹⁸ Accordingly, absent extraordinary circumstances, the Agencies will not challenge a restraint in an intellectual property licensing arrangement if the restraint is not facially anticompetitive and the licensor and its licensees collectively account for no more than 20% of each relevant market significantly affected by the restraint.³¹⁹ In general, the Agencies will determine whether this condition is fulfilled only

³¹⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(b).

³¹⁵ IP Guidelines, *supra* note 99, § 1.0 note 1.

³¹⁶ *Id.* § 5.

³¹⁷ *Id.* § 4.3.

³¹⁸ *Id.* § 4.3.

³¹⁹ *Id.* § 4.3.

by reference to goods markets.³²⁰ An exception is provided, however, if the analysis of goods markets alone would inadequately address the effects of the licensing arrangement on competition among technologies or in research and development.³²¹ If an assessment of the latter factor is required as well, and if market share data are unavailable or do not accurately represent the competitive significance, another means is employed:³²² With regard to technology markets, the Agencies will not, absent extraordinary circumstances, challenge a restraint in a licensing agreement that may affect competition if the restraint is not facially anticompetitive and if there are four or more independently controlled technologies in addition to the technologies controlled by the parties to the licensing arrangement that may be substitutable for the licensed technology at a comparable cost to the user.³²³ The same applies to license agreements that may affect competition in an innovation market, where the restraint is not facially anticompetitive and four or more independently controlled entities in addition to the parties to the licensing arrangement possess the required specialized assets or characteristics and the incentive to engage in research and development that is a close substitute for the research and development activities of the parties to the licensing agreement.³²⁴ The U.S. Agencies' IP Guidelines do not mention any restriction of the application of the "safety zone" in case more than one party is involved.³²⁵ The Agencies emphasize that licensing agreements are not merely anticompetitive because they do not come within the scope of the safety zone.³²⁶ Indeed, it is likely that the great majority of licensing agreements falling outside the safety zone are

³²⁰ *Id.* § 4.3.

³²¹ *Id.* § 4.3.

³²² *Id.* § 4.3.

³²³ *Id.* § 4.3.

³²⁴ *Id.* § 4.3.

³²⁵ *Id.* § 4.3.

³²⁶ *Id.* § 4.3.

lawful and procompetitive.³²⁷ They will therefore be analyzed in accordance with the considerations outlined in the IP Guidelines.³²⁸ Furthermore, the status of a licensing arrangement with respect to the safety zone may change over time because a determination by the Agencies that a restraint in a licensing arrangement qualifies for inclusion in the safety zone is based on the factual circumstances prevailing at the time of the conduct at issue.³²⁹ It is not applicable, however, to those transfers of intellectual property rights to which a merger analysis is applied, as for example, exclusive licenses.³³⁰

4. A comparison of the EU and the U.S. framework

The TTBER provides a very extensive and clearly limited safe harbor. A parallel can be drawn to U.S. law, which also provides an antitrust safety zone, albeit general and not regulated as detailed as in the EU. A crucial difference between EU and U.S. law is that the TTBER is an act with legal authority directly applicable to and effective in all Member States of the EU. The safety zone in the U.S. serves only as a guide and only the Agencies have kept to it; therefore, it is not enacted expressly in the form of a legal act. It can only be considered a reliable factor in the Agencies' enforcement practice: just a small part in the entire antitrust law enforcement system. On the other hand, the IP Guidelines do not constitute such a source of law and even though the antitrust enforcement Agencies will follow it when deciding upon the prosecution of an antitrust violation, this safety zone will not play a role in an antitrust case between private parties, whereas such private law enforcement forms, as explained, a major part of antitrust litigation. Indeed, safety zones are not recognized explicitly by case law and should thus not be entirely relied upon when

³²⁷ *Id.* § 4.3; Sara M. Biggers et al., *Intellectual Property and Antitrust: A Comparison of Evolution in the European Union and United States*, 22 Hamline J. Pub. L. & Pol'y 209, 257 (1999).

³²⁸ IP Guidelines, *supra* note 99, § 4.3.

³²⁹ *Id.*

³³⁰ *Id.*

facing private antitrust challenges to licensing regimes.³³¹ However, from a practical point of view, the case law rarely (if ever) would hold that a party with a 20% market share has market power.³³² Consequently, it is very likely that a licensing provision (if not facially anticompetitive) implemented by parties without such market power would not be found by a court to violate antitrust law.³³³

The legal situations on both sides of the Atlantic resemble each other in so far as the TTBER and the Technology Transfer Guidelines as well as the IP Guidelines acknowledge that agreements not fulfilling the conditions of the safe harbor or the antitrust safety zone will not be presumed to automatically conflict with antitrust law; individual assessment is required. Both approaches are consistent with regard to licensing agreements concluded between competitors, as they similarly set the combined market-share threshold at 20% of the relevant market. However, EU law makes a clear distinction when the agreement involves parties not in a competitive relationship and eases the market share requirement to an individual threshold per party of 30%. As far as non-competitors are involved, the safe harbor in EU law provides a broader scope than the antitrust safety zone in the U.S. Moreover, whereas in the EU the safe harbor must be assessed with regard to all markets affected by the licensing agreement, including product and technology markets, the U.S. Agencies usually analyze the antitrust safety zone only with regard to goods markets. In accordance with the EU hardcore restrictions that prevent the application of the TTBER and its safe harbor, the U.S. Agencies recognize that the nature and necessary effect of some restraints are so plainly anticompetitive that they qualify as unlawful per se without a further inquiry of their likely effect on competition. The U.S. IP Guidelines contain forbidden practices which cause harm and which are very unlikely to be considered as

³³¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 491 (2007).

³³² *Id.*

³³³ *Id.*

reconcilable with antitrust law. In this respect, the practices of naked price-fixing, output restraints, and market division among horizontal competitors are enumerated as examples in the IP Guidelines.³³⁴ The antitrust safety zone does not apply in cases which involve such facially anticompetitive practices.³³⁵ This approach is similar to the one prevailing in the EU where the inclusion of a hardcore restriction automatically excludes the application of the safe harbor of the TTBER. A further similarity is the fact that both sets of rules identify typical conduct particularly harmful to competition. However the TTBER contains in Article 4 an extensive list of all these practices, whereas the IP Guidelines just allude to some typical restraints. Again, since the IP Guidelines are theoretically not a source of law, underlying case law has delineated per se forbidden behavior in the U.S. Another important difference is the excluded restrictions in Article 5 TTBER. They enumerate the clauses that cannot profit from the block exemption and must be severed from the rest of the agreement, for which (if all requirements are fulfilled) the block exemption remains applicable. No comparable legal instrument exists in the U.S.

III. Market definition and the assignment of market-share thresholds

In the EU and the U.S. market definition is a crucial step in the overall antitrust analysis of licensing agreements. As antitrust laws aim at protecting fair and competitive market conditions, a necessary first step is to define the relevant markets before the effect of specific conduct on competition can be assessed.³³⁶ The determination of parties benefitting of market power is an important factor in the assessment of licensing agreements in the EU and in the U.S. as it is a necessary condition to a finding of most

³³⁴ IP Guidelines, *supra* note 99, § 3.4.

³³⁵ *Id.* § 4.3.

³³⁶ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 4-002 (3d ed. 2010); Roger D. Blair & David L. Kaserman, *Antitrust Economics* 95 (2d ed. 2009).

kinds of anticompetitive conduct.³³⁷ Market analysis has been described as a screen to focus antitrust law on practices that are likely to have anticompetitive effects.³³⁸ Since direct evidence is rarely available, courts generally rely on circumstantial evidence of market power, whereas the primary method is an inference derived from a market participant's share of the market.³³⁹ However, this does not suggest that high market shares warrant a presumption of competitive harm.³⁴⁰ A full and complete assessment of competition within the defined relevant market, taking also into account other factors, such as the number and size of competitors or entry barriers, that may influence competition, must take place instead.³⁴¹

Market delineation is also essential as heavy weight is placed on whether the parties involved interact in a competitive relationship. The definition of the relevant markets is, therefore, the logical first step before one can understand whether undertakings are competitors. In the EU, the calculation of market-share thresholds, however, is not only of relevance in the context of the TTBER. Indeed, in practice just a small portion of all licensing agreements will be captured by its safe harbor. We can draw the conclusion that market definition and the determination of the position of market participants is crucial to any antitrust assessment of patent licensing agreements across the Atlantic.

In Europe, the Commission's general approach for the definition of the relevant market is laid down separately in its notice on the definition of the relevant market for the purposes of Community competition law ("Market Definition Notice"),³⁴² but the Technology Transfer Guidelines complement market definition aspects particularly related to

³³⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 38 (2007).

³³⁸ *Id.*

³³⁹ *Id.* at 39.

³⁴⁰ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 4-003 (3d ed. 2010).

³⁴¹ *Id.* at § 4-003.

³⁴² Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] OJ C372/5 ("Market Definition Notice").

technology licensing.³⁴³ In the U.S., the IP Guidelines also contain explanations on the Agencies' market definition in a prospective antitrust case, whereas they explicitly refer to their Horizontal Merger Guidelines³⁴⁴ for the purpose of product market delineation.³⁴⁵

The challenge of the market definition process lies in the fact that whenever intellectual property rights are involved, markets at different levels of the production chain need to be assessed.³⁴⁶ This chapter will illustrate that in both legal systems an examination of product markets, technology markets, and sometimes even innovation markets may be required for a complete and sound antitrust analysis. Technology is an input, which is integrated either into a product or a production process.³⁴⁷ Therefore, technology licensing can affect competition in input (technology) and output (product) markets.³⁴⁸

1. Product markets

1.1. The product market in the EU

A. The definition of the product market in the EU

Under EU law, the relevant product market refers to relevant goods and service markets in both their geographic and product dimension.³⁴⁹ The effects of an undertaking's conduct must not only be measured on product markets for final products but also on markets for intermediate products.³⁵⁰

³⁴³ Technology Transfer Guidelines, *supra* note 1, paras 19ff.

³⁴⁴ U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines (1992) ("1992 Horizontal Merger Guidelines"), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,104.

³⁴⁵ IP Guidelines, *supra* note 99, § 3.2.1.

³⁴⁶ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.01 (2006).

³⁴⁷ Technology Transfer Guidelines, *supra* note 1, para 20.

³⁴⁸ *Id.*

³⁴⁹ *Id.*

³⁵⁰ Technology Transfer Guidelines, *supra* note 1, para 21.

a. Demand substitutability

Pursuant to the Technology Transfer Guidelines, the relevant product market includes products which are regarded by the buyers as interchangeable with or substitutes for the contract products incorporating the licensed technology, due to the products' characteristics, price, and intended use.³⁵¹ The first step in the definition process is therefore demand side substitutability.³⁵² Customers will view products as being in competition if they are functionally interchangeable.³⁵³ However, the crux is that it is unlikely that markets involve competition between perfect substitutes.³⁵⁴ Products are often differentiated, meaning that they perform the same basic function but with differences in features or quality.³⁵⁵ Special issues arise where products constitute partial substitutes, thus if they are only substitutable with regard to some customers or some functions.³⁵⁶ In all these cases the essential question is whether the products are sufficiently substitutable to provide a significant constraint on the ability of the undertaking under investigation to exercise market power.³⁵⁷ Consequently, the key to a successful assessment is the analysis of customer needs, which can, of course, vary between different groups of customers.³⁵⁸

The central economic notion for defining markets by the demand-side substitutability method is cross-elasticity of demand, which deals with the relationship between the price of one product and the sales of a second product.³⁵⁹ High cross-elasticity of demand occurs if an increase in the price of the first product leads to a significant increase in sales of a

³⁵¹ *Id.*

³⁵² Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.07 (2006).

³⁵³ *Id.*

³⁵⁴ *Id.* at § 6.08.

³⁵⁵ *Id.* at § 6.08.

³⁵⁶ *Id.* at § 6.08.

³⁵⁷ *Id.* at § 6.08.

³⁵⁸ *Id.* at § 6.09.

³⁵⁹ *Id.* at § 6.13.

second product.³⁶⁰ This usually indicates that the second product belongs to the same market as the first.³⁶¹ The principle of demand side substitutability is laid down in detail in the Commission's Market Definition Notice.³⁶² The method employed to prove cross-elasticity of demand is the SSNIP test, which originated in the U.S. 1992 Horizontal Merger Guidelines.³⁶³ It involves the postulation of a small nontransitory increase in prices (5% - 10%) and the likely reaction of customers.³⁶⁴ If the parties' customers switch to readily available substitutes or to suppliers located elsewhere and if this substitution were enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas would be included in the relevant market.³⁶⁵

b. Supply-side substitutability

Once current substitute products and producers have been identified, it is necessary to consider whether possible market power of the scrutinized undertaking could be constrained by the reaction of other undertakings not currently producing substitute products.³⁶⁶ Thus, another consideration in the market definition process is supply-side substitutability.³⁶⁷ If an undertaking could switch existing production to introduce substitute products quickly and at a relatively low cost, then that production capability exercises a potential constraint on the ability of the firm under investigation to raise prices above a competitive level and must be considered in the market delineation process.³⁶⁸

³⁶⁰ *Id.* at § 6.13.

³⁶¹ *Id.* at § 6.13.

³⁶² Market Definition Notice, *supra* note 342, paras 15-19.

³⁶³ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.15 (2006).

³⁶⁴ Market Definition Notice, *supra* note 342, para 17.

³⁶⁵ *Id.*

³⁶⁶ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.18 (2006).

³⁶⁷ Market Definition Notice, *supra* note 342, paras 20-24.

³⁶⁸ *Id.* para 20.

However, where entry only takes place following a time delay or after significant investments, the entrant's production does not form a part of the market³⁶⁹ because such unpredictable potential competition is not considered when defining markets.³⁷⁰ The Commission explains the exclusion of potential competition from the market definition process with the fact that the conditions under which potential competition will actually represent an effective competitive constraint depend on the analysis of specific factors and circumstances related to the conditions of entry.³⁷¹ If required, this analysis is therefore only carried out at a subsequent stage – in general, once the position of the companies involved in the relevant market has already been ascertained.³⁷²

c. Geographic dimension

The relevant product market has a product and a geographic dimension.³⁷³ It refers to the area in which the conditions of competition are sufficiently homogenous and which can be distinguished from neighboring areas in which the conditions of competition are appreciably different.³⁷⁴ Only sufficient homogeneity is required, so competitive conditions must not be the same across a geographic market: differences in price, regulatory constraint, or consumer preferences can occur within the same geographic market.³⁷⁵ The real focus lies on the determination of whether the undertaking in question has competitive advantages within a definable geographic area that it does not possess to

³⁶⁹ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.19 (2006).

³⁷⁰ Market Definition Notice, *supra* note 342, para 24.

³⁷¹ *Id.*

³⁷² *Id.*

³⁷³ *Id.* para 2; Technology Transfer Guidelines, *supra* note 1, para 20.

³⁷⁴ Market Definition Notice, *supra* note 342, para 8; Case 27/76 *United Brands v Commission* [1978] ECR 207, para 44; Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755, para 91; Case T-504/93 *Tiercé Ladbroke v Commission* [1997] ECR II-923, para 102.

³⁷⁵ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.21 (2006).

the same extent in other areas.³⁷⁶ Where the same competitors face the same constraints, the geographic market may be EU-wide or even worldwide, despite differences with regard to customers, suppliers, and regulation.³⁷⁷ Even though intellectual property rights are granted under national law, the national territory where a specific intellectual property right is valid does not necessarily constitute the relevant geographic market because geographic markets for technology will rarely be limited to national territories.³⁷⁸ This is linked to the fact that the national character of IPRs does not change the characteristics of the markets for products incorporating the technology protected by those rights.³⁷⁹ The existence of IPRs affects the geographic scope of the downstream product market only in scenarios where the IPRs issued in different jurisdictions conflict with each other.³⁸⁰

B. The calculation of market shares in the EU

In the case of product markets, in the EU, the licensee's market share is to be calculated on the basis of the licensee's sales of products incorporating the licensor's technology and competing products, i.e., the total sales of the licensee on the product market in question.³⁸¹

Where the licensor is also a supplier of products on the relevant market, the licensor's sales on the product market in question must also be considered³⁸² and consequently, his market share on the product market must also be assessed. In the calculation of market shares for product markets, however, sales made by other licensees are not taken into account when

³⁷⁶ *Id.*

³⁷⁷ *Id.*

³⁷⁸ *Id.* at § 6.64.

³⁷⁹ *Id.* at § 6.64.

³⁸⁰ *Id.* at § 6.64.

³⁸¹ Technology Transfer Guidelines, *supra* note 1, para 71.

³⁸² *Id.*

calculating the licensee's and/or licensor's market share,³⁸³ irrespective of the fact that their products are based on the same technology.

Market shares should be calculated on the basis of market sales value data, where such data are available,³⁸⁴ because they frequently provide a more accurate indication of the strength of a technology than volume data.³⁸⁵ However, if value-based data are not available, estimates based on other reliable market information may be used instead, including market sales volume data.³⁸⁶ Moreover, the market share should be calculated on the basis of data relating to the preceding calendar year.³⁸⁷ We should remember that the market share of a party also includes that of connected undertakings.³⁸⁸

1.2. The product market in the U.S.

A. The definition of the product market in the U.S.

According to the IP Guidelines, the competitive effects of licensing agreements can often be adequately assessed within the relevant markets for the goods affected by the contract at issue. Hence, in such instances, the Agencies consider it only necessary to define goods markets.³⁸⁹ Pursuant to the U.S. approach, which is similar to that of the EU, a relevant market consists of two elements: a product and a geographic space.³⁹⁰ This means that geographic and product boundaries must be drawn to separate buyers and sellers that

³⁸³ *Id.*

³⁸⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, art 8 para 1.

³⁸⁵ Technology Transfer Guidelines, *supra* note 1, para 72.

³⁸⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 8 para 1; Technology Transfer Guidelines, *supra* note 1, para 72.

³⁸⁷ Commission Regulation (EC) No 772/2004, *supra* note 17, art 8 para 1.

³⁸⁸ *Id.* art 1 para 2.

³⁸⁹ IP Guidelines, *supra* note 99, § 3.2.

³⁹⁰ *FTC v. Tenet Health Care*, 186 F.3d 1045, 1052 (8th Cir. 1999); American Bar Association, *Intellectual Property and Antitrust Handbook* 39 (2007); Roger D. Blair, & David L. Kaserman, *Antitrust Economics* 95 (2d ed. 2009).

influence the price from those that do not.³⁹¹ According to the IP Guidelines, a number of different goods markets may be necessary for an adequate assessment of the effects of a licensing arrangement.³⁹² Restrictions in licenses may have competitive effects in markets for final or intermediate goods which are produced with the intellectual property, or it may have effects upstream, in markets for goods that are used as inputs, along with the intellectual property, to the production of other goods.³⁹³ According to their 1995 IP Guidelines, the Agencies will perform the delineation of relevant goods markets affected by a licensing agreement and the measurement of market shares in the intellectual property area in accordance with section 1 of the 1992 Horizontal Merger Guidelines.³⁹⁴ In 2010 the Agencies issued revised Horizontal Merger Guidelines which have not changed with regard to the market definition process, but explain the Agencies' approach in more detail.³⁹⁵ In the U.S., the same method of demand substitutability is used because, as mentioned, this approach originated in the 1992 Horizontal Merger Guidelines leading to the convergence of product market delineation in the EU and the U.S. Accordingly, a product market consists of all products that consumers would view as substitutes for one another, given some reasonable variation in price.³⁹⁶ Where an increase in the price of one product causes an increase in demand for another product, both of them would be included in the product market.³⁹⁷ In economic terms, the outer boundaries of a product market are determined by the interchangeability of use or the cross-elasticity of demand between the product and its substitutes.³⁹⁸ The method employed in this context is the SSNIP test

³⁹¹ Roger D. Blair & David L. Kaserman, *Antitrust Economics* 95 (2d ed. 2009).

³⁹² IP Guidelines, *supra* note 99, § 3.2.1.

³⁹³ *Id.*

³⁹⁴ *Id.*; 1992 Horizontal Merger Guidelines, *supra* note 344, § 1.

³⁹⁵ U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines (2010) [2010 Horizontal Merger Guidelines], available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf>.

³⁹⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 39 (2007).

³⁹⁷ *Id.*

³⁹⁸ *Id.* at 39-40; *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

explained above.³⁹⁹ A geographic market is defined using a similar substitution test: the area in which consumers can practically turn for alternative sources of the product and in which the antitrust defendant faces competition.⁴⁰⁰ A properly defined market equally includes potential suppliers (sometimes called “feasible entrants”) who could readily enter the market and offer consumers a suitable alternative to the defendant’s goods in response to a price increase.⁴⁰¹ Once these relevant markets have been defined, market shares can be assigned to the various sources of competition in the market and used as an indication of the relative strength of market players.

B. The calculation of market shares in the U.S.

The Agencies normally calculate market shares for all firms that currently manufacture products in the relevant market, subject to the availability of data.⁴⁰² Moreover, they also calculate market shares for other market participants if this can be done to reliably reflect their competitive significance.⁴⁰³ In the course of the assessment, account should be taken of the fact that market concentration and market share data are normally based on historical evidence.⁴⁰⁴ Therefore, it can be concluded from recent or ongoing changes in market conditions that the current market share of a particular firm either understates or overstates the undertaking’s future competitive significance.⁴⁰⁵ Thus, the Agencies take into account

³⁹⁹ 1992 Horizontal Merger Guidelines, *supra* note 344, § 1.11; 2010 Horizontal Merger Guidelines, *supra* note 395, § 4.1.

⁴⁰⁰ 1992 Horizontal Merger Guidelines, *supra* note 344, § 1.12; *FTC v. Tenet Health Care*, 186 F.3d 1045, 1052 (8th Cir. 1999); 2010 Horizontal Merger Guidelines, *supra* note 395, § 4.1.1; American Bar Association, *Intellectual Property and Antitrust Handbook* 39-40 (2007).

⁴⁰¹ 1992 Horizontal Merger Guidelines, *supra* note 344, § 1.32; *FTC v. Tenet Health Care*, 186 F.3d 1045, 1052 (8th Cir. 1999); 2010 Horizontal Merger Guidelines, *supra* note 395, § 5.1; American Bar Association, *Intellectual Property and Antitrust Handbook* 40 (2007).

⁴⁰² 2010 Horizontal Merger Guidelines, *supra* note 395, § 5.2.

⁴⁰³ *Id.*

⁴⁰⁴ *Id.*

⁴⁰⁵ *Id.*

reasonably predictable effects of recent or ongoing changes in market conditions when calculating and interpreting market share data.⁴⁰⁶

Market shares are measured based on the best available indicator of an undertaking's future competitive significance in the relevant market.⁴⁰⁷ Annual data are typically used, but where individual transactions are large and infrequent, annual data may be unrepresentative and the Agencies may therefore calculate market shares over a longer period of time.⁴⁰⁸ In most cases, the Agencies measure each firm's market share based on its actual or projected revenues in the relevant market; revenues in the relevant market tend to be the best measure of attractiveness to customers because they reflect the real-world ability of firms to surmount all of the obstacles necessary to offer products on terms and conditions that are attractive to customers.⁴⁰⁹ In cases where one unit of a low-priced product can substitute for one unit of a higher-priced product, unit sales may measure competitive significance better than revenues.⁴¹⁰ For example, a new, much cheaper product may have great competitive significance if it substantially eliminates the revenues earned by older, higher-priced products, even if it earns relatively less revenue.⁴¹¹ In addition, in cases where customers sign long-term contracts, face switching costs, or tend to re-evaluate their suppliers only occasionally, revenues earned from recently acquired customers can better reflect the competitive significance of suppliers than do total revenues.⁴¹² Moreover, in markets for homogeneous products, a firm's competitive significance may derive principally from its ability and incentive to rapidly expand production in the relevant market in response to a price increase or output reduction by

⁴⁰⁶ *Id.*

⁴⁰⁷ *Id.*

⁴⁰⁸ *Id.*

⁴⁰⁹ *Id.*

⁴¹⁰ *Id.*

⁴¹¹ *Id.*

⁴¹² *Id.*

other market participants.⁴¹³ As a result, the higher the level of such capacity, the stronger the market position.⁴¹⁴ In such markets, capacities or reserves may better reflect the future competitive significance of suppliers than revenues, and the Agencies may calculate market shares taking those measures into account.⁴¹⁵ Market participants that are not current producers may then be assigned positive market shares, but only if a measure of their competitive significance properly comparable to that of current producers is available.⁴¹⁶ When market shares are measured based on firms' readily available capacities, the Agencies do not consider capacity that is committed or so profitably employed outside the relevant market (or so expensive) that it would not likely be used to respond to a SSNIP in the relevant market.⁴¹⁷ This principle is shown in the following example. The geographic market is defined around customers in the United States.⁴¹⁸ Firm X produces the relevant product outside the United States, and most of its sales are made to customers outside the United States.⁴¹⁹ In most contexts, Firm X's market share will be based on its sales to U.S. customers, not its total sales or total capacity.⁴²⁰ However, if the relevant product is homogeneous, and if Firm X would significantly expand sales to U.S. customers rapidly and without incurring significant sunken costs in response to a SSNIP, the Agencies may base Firm X's market share on its readily available capacity to serve U.S. customers.⁴²¹

⁴¹³ *Id.*

⁴¹⁴ *Id.*

⁴¹⁵ *Id.*

⁴¹⁶ *Id.*

⁴¹⁷ *Id.*

⁴¹⁸ *Id.* example 18.

⁴¹⁹ *Id.* example 18.

⁴²⁰ *Id.* example 18.

⁴²¹ *Id.* example 18.

2. Technology markets

2.1. The technology market in the EU

A. The definition of the technology market in the EU

According to EU law, the technology market comprises the licensed technology and its substitutes, for example, other technologies which are regarded by the licensees as interchangeable with or substitutable for the licensed technology, due to the technologies' characteristics, royalties, and intended use.⁴²² The same principles as in the case of product markets apply with regard to the definition of technology markets.⁴²³ The first approach is to identify those technologies to which licensees could switch in response to a small but permanent increase in relative prices, whereas royalties constitute the price in case of a licensing agreement.⁴²⁴ An alternative method is to consider this aspect with regard to the market for products incorporating the licensed technology.⁴²⁵ Technology markets will usually be EU-wide or even global in scope because the usual factors confining geographic markets for physical products or services usually do not limit intellectual property licensing; transport costs, for example, are irrelevant.⁴²⁶ Moreover, even though the application process for patents may be regarded as a regulatory barrier, it applies to all actual or potential competitors.⁴²⁷

B. The calculation of market shares in the EU

In the case of technology markets one could calculate market shares on the basis of each technology's share of total licensing income from royalties, representing a technology's

⁴²² Technology Transfer Guidelines, *supra* note 1, para 22.

⁴²³ *Id.*

⁴²⁴ *Id.*

⁴²⁵ *Id.*

⁴²⁶ Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.65 (2006).

⁴²⁷ *Id.*

share of the market where competing technologies are licensed.⁴²⁸ However, this is probably a mere theoretical and not a practical way to proceed because of the lack of clear information on royalties in most cases,⁴²⁹ as license agreements are not generally accessible or known to the public. Moreover, a licensor does not necessarily enjoy market power on the technology market even if it has a high share of licensing income.⁴³⁰

Article 3(3) TTBER therefore lays down an alternative method that suggests calculating the market shares on the basis of sales of products incorporating the licensed technology on down-stream product markets.⁴³¹ Hence, a licensor's market share on the relevant technology market is the combined market share on the relevant product market of the contract products produced by the licensor and its licensees with the licensor's technology.⁴³² If the downstream product market is competitive, competition at this level may effectively constrain the licensor.⁴³³ An increase in royalties upstream affects the costs of the licensee, makes it less competitive, and causes it to lose sales.⁴³⁴ The advantage of a technology's market share on the product market is that it is normally a good indicator of the licensor's market power.⁴³⁵ It can be concluded that market shares on the technology market are indirectly calculated through an analysis of the product market, whereas ultimately inferences are drawn from the latter in order to estimate the technology market share. Finally, the Commission underlines that in individual cases outside the safe harbor of the TTBER, it may be necessary, where practically possible, to apply both of the described approaches in order to assess more accurately the market strength of the

⁴²⁸ Technology Transfer Guidelines, *supra* note 1, para 23.

⁴²⁹ *Id.*

⁴³⁰ *Id.*

⁴³¹ *Id.*; Commission Regulation (EC) No 772/2004, *supra* note 17, art 3 para 3.

⁴³² Commission Regulation (EC) No 772/2004, *supra* note 17, art 3 para 3.

⁴³³ *Id.*

⁴³⁴ *Id.*

⁴³⁵ *Id.*

licensor.⁴³⁶ However, it will be, as mentioned, difficult in practice to implement the first approach because of the general lack of information on total licensing income.

It also follows from Article 3(3) TTBER that the licensor's market share is to be calculated on the basis of the sales of the licensor and all its licensees of products incorporating the licensed technology for each relevant market separately. In the case of new technologies that have not yet generated any sales, a zero market share is assigned. When sales commence, the technology will start accumulating market share.⁴³⁷

The Commission provides the following example to illustrate its principles:⁴³⁸

- Companies A and B are active on the same relevant product and geographic market for a certain chemical product. They also each own a patent on different technologies used to produce this product. In year 1 A and B sign a cross-license agreement licensing each other to use their respective technologies. It is established that the total market of the product and its substitutes is worth EUR 100 million in each year.
- In year 1 A and B produce only with their own technology and A sells EUR 15 million of the product and B sells EUR 20 million of the product.
- The market share of A on the technology market depends on the amount of the product sold in the preceding year that was produced, by both A and B, with A's technology. In year 2 the market share of A on the technology market is therefore 15%, reflecting its own production and sales of EUR 15 million in year 1. Similarly, in year 2 B's market share on the technology market is 20%
- The market shares of A and B on the product market depend on their respective sales of the product in the previous year, irrespective of the technology used. The market share of A on the product market is 15% in year 2, whereas the market share of B is 20%.

⁴³⁶ *Id.*

⁴³⁷ Technology Transfer Guidelines, *supra* note 1, para 70.

⁴³⁸ *Id.* para 73 example 3.

AT = A's technology

BT = B's technology

A and B grant each other cross-licenses

A → B

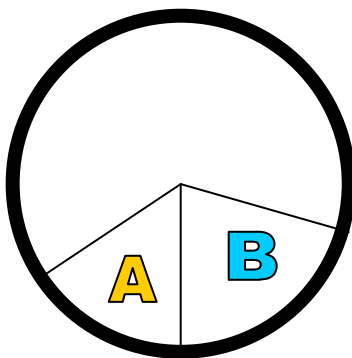
B ← A

Year 1: A sells EUR 15 million produced with AT

B sells EUR 20 million produced with BT

product market worth 100 million

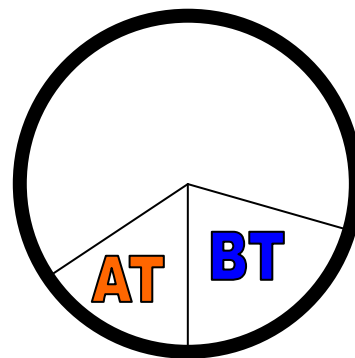
product market



15 %

20 %

technology market



15 %

20 %

= Market shares in year 2 calculated based on sales in previous calendar year

- From year 2 they both use their own and the other party's technology.
- From that year onward A sells EUR 10 million of the product produced with its own technology and EUR 10 million of the product produced with B's technology.
- B sells from year 2 EUR 15 million of the product produced with its own technology and EUR 10 million of the product produced with A's technology.
- It is established that the total market of the product and its substitutes is worth EUR 100 million in each year.
- To assess the license agreement under the TTBER, the market shares of A and B must be calculated on both the technology market and the product market.
- The market share of A on the technology market depends on the amount of the product sold in the preceding year that was produced, by both A and B, with A's technology. From year 3 A's market share on the technology market is 20%, reflecting the EUR 20 million sale of the product produced with A's technology and produced and sold by A and B (EUR 10 million each). Similarly, in year 3 B's market share on the technology market is 25%.
- The market shares of A and B on the product market depend on their respective sales of the product in the previous year, irrespective of the technology used.
- The market share of A on the product market is 20% in year 3, whereas the market share of B on the product market is 25%.

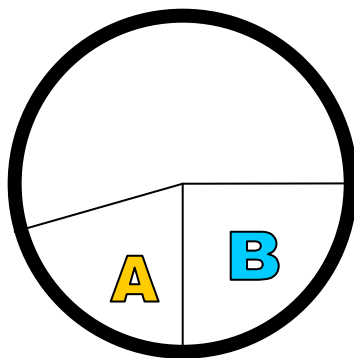
Year 2: A sells EUR 10 million produced with AT

A sells EUR 10 million produced with BT

B sells EUR 15 million produced with BT

B sells EUR 10 million produced with AT

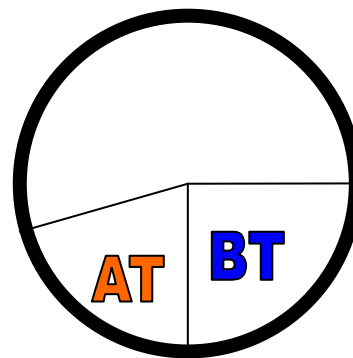
product market



20 %

25%

technology market



20 %

25 %

= Market shares in year 3 calculated based on sales in previous calendar year

- As the agreement is concluded between competitors, their combined market share, both on the technology and on the product market, must be below the 20% market-share threshold to benefit from the safe harbor of the TTBER. It is clear that this is not the case here. The combined market share on the technology market and on the product market is 35% in year 2 and 45% thereafter. This agreement between competitors will therefore have to be assessed on an individual basis.⁴³⁹

⁴³⁹ Technology Transfer Guidelines, *supra* note 1, para 73 example 3.

2.2. The technology market in the U.S.

A. The definition of the technology market in the U.S.

In the U.S., the Agencies acknowledge that in some cases market analysis can require the delineation of technology or innovation markets.⁴⁴⁰ Whenever IPRs are marketed separately from the products in which they are used, the Agencies may consider such technology markets to analyze the competitive effects of a licensing agreement.⁴⁴¹ Consider the pharmaceutical industry where firms develop technologies to control the release of pharmaceutical products within a patient's body and subsequently license them to manufacturers.⁴⁴² These may then incorporate them into new products that do not compete with each other, nor do the undertakings themselves in the downstream markets for the final pharmaceutical products.⁴⁴³ In this case the relevant market can be one consisting of the pharmaceutical products themselves and their therapeutic substitutes, but the controlled-release delivery systems may compete in a separate technology market in competition with other drug delivery systems. Consequently, a technology market separate from a goods market can be delineated.⁴⁴⁴

Pursuant to the IP Guidelines, technology markets consist of the IP being licensed and its close substitutes; these are the technologies or goods that are close enough substitutes to significantly constrain the exercise of market power with respect to the licensed IP.⁴⁴⁵ To determine such close substitutes, the Agencies will (data permitting) identify the smallest group of technologies and goods over which a hypothetical monopolist of those

⁴⁴⁰ IP Guidelines, *supra* note 99, § 3.2.

⁴⁴¹ *Id.* § 3.2.2; *Hynix Semiconductor, Inc. v. Rambus, Inc.*, 2008 WL 73689 (N.D.Cal.) (not reported in F.Supp.2d).

⁴⁴² American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 33-34 (3d ed. 2010).

⁴⁴³ *Id.* at 34.

⁴⁴⁴ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 33-34 (3d ed. 2010).

⁴⁴⁵ *Id.*

technologies and goods would likely exercise market power, for example, by imposing a small but significant and nontransitory price increase.⁴⁴⁶ Besides, technology often is licensed in ways not readily quantifiable in monetary terms. Therefore, the Agencies will delineate the relevant market by identifying other technologies and goods which buyers would substitute at a cost comparable to that of using the licensed technology.⁴⁴⁷ Case law involving the definition of technology markets is rare because the latter are only delineated subsidiarily after the definition of product markets.⁴⁴⁸ A Supreme Court decision regarding this topic does not exist yet.

B. The calculation of market shares in the U.S.

The Agencies will first consider market share data when they are available and accurately reflect the competitive significance of market participants. In addition, evidence of buyers' and market participants' assessments of the competitive significance of technology market participants will be sought.⁴⁴⁹ The latter is of great relevance in cases where market share data are unavailable, or do not accurately represent the competitive significance of market participants.⁴⁵⁰ When market share data or other indicia of market power are not available, and it appears that competing technologies are comparably efficient, the Agencies will assign each technology the same market share.⁴⁵¹

For new technologies, the Agencies generally will use the best available information to estimate market acceptance over a two-year period, beginning with commercial

⁴⁴⁶ IP Guidelines, *supra* note 99, § 3.2.2.

⁴⁴⁷ *Id.*

⁴⁴⁸ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 38 (3d ed. 2010); *Hynix Semiconductor, Inc. v. Rambus, Inc.*, 2008 WL 73689 (N.D.Cal.) (not reported in F.Supp.2d).

⁴⁴⁹ IP Guidelines, *supra* note 99, § 3.2.2.

⁴⁵⁰ *Id.*

⁴⁵¹ *Id.*

introduction.⁴⁵² However, forecasting competitive conditions for technologies that have not yet been commercialized can be a big challenge.⁴⁵³ Issues may arise about the extent of the parties' plans to transfer the technologies at issue, the certainty of the commercialization potential, and the time necessary for commercialization.⁴⁵⁴ Generally, objective evidence is required to prove that a potential market participant is contemplating market entry and that the prospect of entry is in the "near future".⁴⁵⁵

3. Innovation markets

3.1. The innovation market in the EU

The Commission acknowledges that some agreements are likely to have an impact on innovation markets; however, it confines itself to first examining the impact of an agreement on competition within existing product and technology markets.⁴⁵⁶ Competition on these markets may be affected whenever an agreement delays the introduction of improved or new products that over time will replace existing products.⁴⁵⁷ Thus sometimes it is important to assess products that are "in the pipeline" (in development but not yet ready for production) and could either replace or supplement existing products.⁴⁵⁸ In this respect innovation constitutes a source of potential competition which must be taken into account in the overall antitrust assessment.⁴⁵⁹ The Commission admits that in a limited number of cases, it may be useful to determine innovation markets, in particular where an

⁴⁵² *Id.*

⁴⁵³ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 37 (3d ed. 2010).

⁴⁵⁴ *Id.* at 37-38.

⁴⁵⁵ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 38 (3d ed. 2010); *United States v. Siemens Corp.*, 621 F.2d 499, 506-507 (2d Cir. 1980); *FTC v. Atlantic Richfield Co.*, 549 F.2d 289, 296-297 (4th Cir. 1977).

⁴⁵⁶ Technology Transfer Guidelines, *supra* note 1, para 25.

⁴⁵⁷ *Id.*

⁴⁵⁸ Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.41 (2006).

⁴⁵⁹ Technology Transfer Guidelines, *supra* note 1, para 25.

agreement affects innovation aiming at creating new products and where it is possible at an early stage to identify research and development poles.⁴⁶⁰ In such cases an analysis must take place as to whether there will be a sufficient number of competing research and development poles left after the implementation of the agreement for effective competition in innovation to be maintained.⁴⁶¹ Innovation market delineation is particularly useful in the pharmaceutical sector, where the requirements for regulatory approval stages in the development process makes it relatively easy to identify products in the “pipeline” of production.⁴⁶²

3.2. The innovation market in the U.S.

In the U.S., a similar development took place. The IP Guidelines broke new ground by specifying that, in addition to the evaluation of goods and technology markets, under particular circumstances the competitive effects of licensing arrangements are to be assessed additionally on innovation markets.⁴⁶³ An innovation market consists of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development.⁴⁶⁴ Innovation market analysis will be applied only where the capacity for specific research and development activity is associated with identifiable, specialized assets or characteristics of specific undertakings.⁴⁶⁵ The Agencies will try to analyze the competitive position of participants based on factors such as shares of those specialized assets, shares of research and

⁴⁶⁰ *Id.*

⁴⁶¹ *Id.*

⁴⁶² Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.42 (2006).

⁴⁶³ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol’y Int’l Bus.* 801, 804 (2003).

⁴⁶⁴ IP Guidelines, *supra* note 99, § 3.2.3.

⁴⁶⁵ *Id.*

development expenditures, and shares of the market for related products.⁴⁶⁶ They recognize that market share data may not be available or may not accurately reflect the competitive significance of certain competitors.⁴⁶⁷ The Agencies will, therefore, also consider buyers' and market participants' perceptions of competition within the relevant market.⁴⁶⁸

The innovation market concept has been subject to substantial criticism, mainly focusing on the lack of empirical evidence regarding the relationship between research and development concentration and innovation, and the resulting difficulties in identifying which specialized assets are required for innovation.⁴⁶⁹ The problem of market-share analysis has become especially obvious.⁴⁷⁰ Research and development is kept secret for the most part.⁴⁷¹ Apart from the difficulty of identifying possible other research facilities, undertakings will also have to determine the substitutability of the technologies including cost and (hypothetical market) price assessments.⁴⁷² Furthermore, the IP Guidelines do not deal with the geographic scope of innovation markets, but it is suggested that they are likely to be global because of the existing mobility of intellectual property and the low cost of its transfer across national boundaries.⁴⁷³ However, they could be limited geographically if the assets needed to innovate are equally limited by, for example, specific national regulatory requirements.⁴⁷⁴

⁴⁶⁶ *Id.*

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.*

⁴⁶⁹ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol'y Int'l Bus.* 801, 804-805 (2003).

⁴⁷⁰ Gosta Schindler, *Wagging the Dog? Reconsidering Antitrust-based Regulation of IP-Licensing*, 12 *Marq. Intell. Propr. L. Rev.* 49, 73 (2008).

⁴⁷¹ *Id.*

⁴⁷² *Id.*

⁴⁷³ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 39-40 (3d ed. 2010).

⁴⁷⁴ *Id.* at 40.

4. A comparison of market analysis in the EU and the U.S.

Both legal systems consider market definition a necessary precondition of the overall antitrust analysis of a certain behavior with regard to its competitive effect. Moreover, in the EU and the U.S., the relevant product market refers to relevant goods and service markets in both their geographic and product dimension and the effects of an undertaking's conduct must not only be measured on product markets for final products, but also on markets for intermediate products. Both legal systems employ demand and supply side substitutability for market delineation in the form of the SSNIP test. This is related to the fact that the Commission was influenced by the analytical framework developed by the U.S. authorities in their 1992 Horizontal Merger Guidelines.⁴⁷⁵ Both legal systems concur in so far as they consider it necessary to delineate technology markets in addition to product markets. Moreover, a demand substitutability test is also employed with regard to technology markets. However, a notable difference is the fact that in the EU, product and technology markets must always be assessed, while in the U.S. the Agencies usually confine themselves to an evaluation of the competitive effects with regard to product markets. It is only when a technology is marketed separately from products incorporating the technology that the method of delineation of technology markets is employed. In the EU and the U.S. innovation markets are subsidiarily considered necessary to assess the impact of an agreement where product and technology market delineation does not suffice, but neither the EU nor the U.S. guidelines explain how market shares should be calculated on innovation markets. However, differences can be recognized with regard to the calculation of market shares on product and technology markets. The EU Commission will calculate market shares based on the sales of the preceding year, a method which is clearly

⁴⁷⁵ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 6.03 (2006).

regulated. On the contrary, the U.S. Agencies' approach regarding the calculation of market shares seems to be much more flexible, providing for more possibilities and various considerations in the calculation process. One advantage of the European approach is legal certainty; the U.S. approach can be confusing and less predictable. However, the disadvantage is a less flexible approach which may not exactly reflect market realities.

IV. The determination of a competitive relationship between licensor and licensee

1. Agreements between competitors in the EU

One of the fundamental distinctions in antitrust law is the difference between horizontal agreements (between competitors) and vertical agreements (between a firm and its customers and suppliers).⁴⁷⁶ The vertical nature of an agreement, however, does not deal with the competitive relationship of the parties.

According to the Commission, agreements between competitors are considered to be more problematic in the antitrust context than agreements between non-competitors.⁴⁷⁷ They may be actual or potential competitors at two levels: First, at the level where the intellectual property is used to manufacture products by using the licensed technology (product market) or where the technology itself is marketed (technology market). However, competition between undertakings that use the same technology (intra-technology competition, e.g., between licensees) complements competition between undertakings that use competing technologies (inter-technology competition).⁴⁷⁸ Intra-technology competition can lead to lower prices for the products incorporating the relevant technology, which may not only result in direct and immediate benefits for consumers of these products, but also spurs further competition between undertakings that use competing

⁴⁷⁶ *Id.* at § 4.24.

⁴⁷⁷ Technology Transfer Guidelines, *supra* note 1, para 26.

⁴⁷⁸ *Id.*

technologies.⁴⁷⁹ In this context account should be taken of the fact that licensees are selling their own product and not re-selling a product supplied by another undertaking.⁴⁸⁰ Consequently, there may be greater scope for product differentiation and quality-based competition between licensees in contrast to vertical agreements of the resale of products.⁴⁸¹ According to the Commission, competing undertakings compete on the relevant technology market and/or the relevant product market.⁴⁸² In particular with regard to product markets, it is suggested to examine whether the parties would have been actual or potential competitors in the absence of the agreement.⁴⁸³ If without the agreement, the parties would not have been actual or potential competitors in any relevant market affected by the agreement, they are deemed to be non-competitors.⁴⁸⁴ In some cases, however, the parties become competitors after concluding the agreement, but the Commission underlines that in such cases account must be taken of the fact that the parties were non-competitors at the time of the conclusion of the agreement.⁴⁸⁵ I will shed light on this particular scenario below under 2.3.

1.1. Competitors on the relevant technology market

As explained above, the relevant technology market includes technologies which are regarded by the licensees as interchangeable with or substitutable for the licensed technology, by reason of the technologies' characteristics, their royalties, and their intended use.⁴⁸⁶ Competitors on the relevant technology market are undertakings which license out competing technologies without infringing each other's intellectual property

⁴⁷⁹ *Id.*

⁴⁸⁰ *Id.*

⁴⁸¹ *Id.*

⁴⁸² Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(j).

⁴⁸³ Technology Transfer Guidelines, *supra* note 1, para 27.

⁴⁸⁴ Technology Transfer Guidelines, *supra* note 1, para 27.

⁴⁸⁵ *Id.* para 31.

⁴⁸⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(j)(i).

rights.⁴⁸⁷ Hence, they own different technologies. On the contrary, the parties are considered only potential competitors on the technology market where, even though they both own substitutable technologies, the licensee is not licensing its own technology at the moment, but could do so following a small but permanent increase in technology prices by the licensor.⁴⁸⁸ However, for the application of the TTBER, potential competition on the technology market is not taken into account.⁴⁸⁹ Nevertheless, potential competition on the technology market can influence the individual antitrust analysis under Article 101 TFEU.

1.2. Competitors on the relevant product market

It is recalled that the relevant product market comprises products which are regarded by the buyers as interchangeable with or substitutable for the contract products, by reason of the products' characteristics, prices, and intended use.⁴⁹⁰ Competitors on the relevant product market are (absent the licensing agreement) both active on the relevant product and geographic market on which the contract products are sold without infringing each other's intellectual property rights.⁴⁹¹ Potential competitors would, on realistic grounds, undertake the necessary additional investments and switch costs to enter in time the relevant product and geographic market in response to a small and permanent increase in relative prices, however without infringing each other's intellectual property rights.⁴⁹² The entry must occur within one to two years to constitute a realistic competitive constraint.⁴⁹³ The Commission, nevertheless, acknowledges that in individual cases longer periods can be taken into account, whereas the period of time needed for undertakings already on the

⁴⁸⁷ *Id.*; Technology Transfer Guidelines, *supra* note 1, para 28.

⁴⁸⁸ *Id.* para 30.

⁴⁸⁹ *Id.*

⁴⁹⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(j)(ii).

⁴⁹¹ *Id.*

⁴⁹² *Id.*

⁴⁹³ Technology Transfer Guidelines, *supra* note 1, para 29.

market to adjust their capacities can be used as a yardstick to determine this divergent period.⁴⁹⁴ The Commission provides the following example. The parties are likely to be considered potential competitors on the product market where the licensee produces on the basis of its own technology in one geographic market and starts producing in another geographic market on the basis of a licensed competing technology.⁴⁹⁵ In such circumstances, it is likely that the licensee would have been able to enter the second geographic market on the basis of its own technology, unless such entry is precluded by objective factors, including the existence of blocking patents.⁴⁹⁶

2. Agreements between non-competitors in the EU

2.1. Non-competitors on the relevant technology market

It follows as *argumentum e contrario* from the principles explained above that the parties are deemed to be non-competitors whenever they license out non-competing technologies. However, the Commission provides an additional aid in the determination of non-competitors: It states that if the parties own technologies that are in a one-way or two-way blocking position, the parties are considered to be non-competitors on the technology market.⁴⁹⁷ In this context, being in a one-way blocking position means that a technology cannot be exploited without infringing upon another technology.⁴⁹⁸ For example, where one patent covers an improvement of a technology covered by another patent, the exploitation of the improved patent pre-supposes that the holder obtains a license to the basic patent first.⁴⁹⁹ On the contrary, a two-way blocking position exists where neither

⁴⁹⁴ *Id.*

⁴⁹⁵ *Id.*

⁴⁹⁶ *Id.*

⁴⁹⁷ Technology Transfer Guidelines, *supra* note 1, para 32.

⁴⁹⁸ *Id.*

⁴⁹⁹ *Id.*

technology can be exploited without infringing upon the other technology.⁵⁰⁰ The holders must either obtain a license or a waiver from each other.⁵⁰¹ In determining whether a blocking position exists, the Commission relies on objective factors, not on the subjective views of the parties.⁵⁰² The parties must present particularly convincing evidence of the existence of a blocking position where it is obvious that they may have a common interest in claiming the existence of a blocking position in order to be qualified as non-competitors.⁵⁰³ The Commission enumerates as relevant evidence court decision and opinions of independent experts.⁵⁰⁴ With regard to the latter, the Commission will closely examine how the expert has been selected.⁵⁰⁵

2.2. Non-competitors on the relevant product market

It follows as *argumentum e contrario* of the principles laid down above that parties to an agreement are deemed non-competitors if in the absence of the licensing agreement, they are not both active on the relevant product and geographic markets. In addition, the Commission refers to the special constellation that licensor and licensee are non-competitors on the relevant product and technology market although they produce competing products.⁵⁰⁶ Such a scenario can occur when the licensed technology represents such a drastic innovation that the licensee's technology has become obsolete or uncompetitive.⁵⁰⁷ This may be the case if the licensor's technology either leads to the creation of a new market or excludes the licensee's technology from an existing market.⁵⁰⁸

⁵⁰⁰ *Id.*

⁵⁰¹ *Id.*

⁵⁰² *Id.*

⁵⁰³ *Id.*

⁵⁰⁴ *Id.*

⁵⁰⁵ *Id.*

⁵⁰⁶ Technology Transfer Guidelines, *supra* note 1, para 33.

⁵⁰⁷ *Id.*

⁵⁰⁸ *Id.*

It is often not possible to draw such a conclusion at the time of the formation of the agreement, but only after the technology or the products incorporating it have been available to consumer for some time.⁵⁰⁹ A good example was the replacement of the LP technology by the CD technology.⁵¹⁰ In such an event, the classification of the parties' relationship changes into one of non-competitors, if at a later point in time the licensee's technology becomes obsolete.⁵¹¹

2.3. The evolvement from non-competitors to competitors

Another scenario involves parties becoming competitors subsequent to the conclusion of the agreement because the licensee develops and starts exploiting a competing technology⁵¹² not previously present on the market. In this context the Commission focuses on the fact that the parties were non-competitors at the time of the formation of the contract and mainly determines the impact of the agreement on the licensee's ability to exploit his own (competing) technology.⁵¹³ Likewise, the undertakings party to an agreement may also become competitors subsequent to the formation of an agreement where the licensee was already active on the product market prior to the license and where the licensor enters the product market either on the basis of the licensed technology or a new technology.⁵¹⁴ In both cases, the list of hardcore restrictions applicable to competitors will not be of relevance for such agreements unless the license is subsequently amended in any material respect after the parties have become competitors.⁵¹⁵

⁵⁰⁹ *Id.*

⁵¹⁰ *Id.*

⁵¹¹ *Id.*

⁵¹² *Id.* para 31.

⁵¹³ *Id.* para 31.

⁵¹⁴ *Id.* para 31.

⁵¹⁵ *Id.* para 31.

3. Vertical agreements in the U.S.

In the U.S., the focus is on the categorization between horizontal and vertical agreements, which plays an important role in the antitrust analysis. This distinction is recognized by courts, economists, and the enforcement Agencies.⁵¹⁶ According to the IP Guidelines, as with other property transfers, antitrust analysis of intellectual property licenses examines whether the relationship among the parties is primarily horizontal or vertical in nature, or whether it has substantial aspects of both.⁵¹⁷ A licensing agreement has a vertical component when it concerns activities that are in a complementary relationship, which is usually the case in a licensing agreement.⁵¹⁸ For instance, if the licensor's main business is research and development, whereas the licensee focuses on manufacture, the latter will seek a license regarding the licensor's rights which enables it to use the technology.⁵¹⁹ Alternatively, the licensor may be a component manufacturer owning intellectual property rights in a product that the licensee manufactures by combining the component with other inputs.⁵²⁰ Consequently, a licensing agreement is vertical if, at the time it was negotiated, the licensee could not have entered the market without assistance from the licensor, which constitutes an ex ante analysis.⁵²¹ This means that vertical agreements involve collaborative efforts between entities at different levels of the distribution chain.⁵²² They usually result merely in the allocation of tasks to the most efficient actors within a production stream,⁵²³ and hence are not reviewed with particular antitrust scrutiny in the

⁵¹⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 140 (2007), *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 730 & note 4 (1988); IP Guidelines, *supra* note 99, § 3.3.

⁵¹⁷ IP Guidelines, *supra* note 99, § 3.3.

⁵¹⁸ *Id.*

⁵¹⁹ *Id.*

⁵²⁰ *Id.*

⁵²¹ Sergio Baches Opi, *The Approaches of the European Commission and the U.S. Antitrust Agencies towards Exclusivity Clauses in Licensing Agreements*, 24 B.C. Int'l & Comp. L. Rev. 85, 99 (2000).

⁵²² Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 255 (2d ed. 2009).

⁵²³ American Bar Association, *Intellectual Property and Antitrust Handbook* 43 (2007).

U.S. A complicating factor with regard to the categorization of vertical agreements is that such a vertical nature is always present in the case of an intellectual property license.⁵²⁴ For instance, undertakings could be competitors in the market for farm equipment but in a vertical relationship with regard to an emission control technology used in farm equipment and patented by one of the firms.⁵²⁵ This distinction between vertical agreements and other agreements can cause substantial confusions because agreements between competitors are referred to as horizontal agreements, suggesting that vertical agreements should cover agreements between firms that do not interact in a competing relationship.⁵²⁶ However, the vertical nature of an agreement has nothing to do with the competitive relationship of the parties, but rather describes the nature of the parties' relationship for purposes of the agreement.⁵²⁷

4. Horizontal agreements in the U.S.

In addition to the vertical component explained above, the licensor and its licensees may also have a horizontal relationship.⁵²⁸ The Agencies treat a relationship between a licensor and its licensees, or between licensees, as horizontal when they would have been actual or likely potential competitors in a relevant market in the absence of the license.⁵²⁹ For example, if a company licenses its light bulb patents to another company and stipulates the price that the licensee must charge for the bulbs, the agreement is vertical because an input is provided, but can also be horizontal when both firms manufacture bulbs in competition

⁵²⁴ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.2 (2008).

⁵²⁵ IP Guidelines, *supra* note 99, § 3.3 example 5.

⁵²⁶ Steven D. Anderman & John Kallaugh, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 7.01 (2006).

⁵²⁷ *Id.*

⁵²⁸ IP Guidelines, *supra* note 99, § 3.3.

⁵²⁹ *Id.*

with one another and, under the agreement, are fixing prices.⁵³⁰ This dual nature can lead to some characterization problems, but a license agreement can combine both horizontal and vertical aspects.⁵³¹ For antitrust purposes an agreement is horizontal when it presents a significant threat of elimination of competition between the participants.⁵³² In these cases, an additional vertical element is not relevant.⁵³³ However, the existence of a horizontal relationship between a licensor and its licensees does not, in itself, indicate that the licensing agreement is anticompetitive.⁵³⁴ Identification of such relationships is merely an aid to determine whether the agreement is likely to give rise to anticompetitive effects.⁵³⁵ A non-exclusive license without any restraints on the competitive conduct of the licensor or licensee generally does not raise antitrust issues even if the parties to the license are in a horizontal relationship, as it does not necessarily reduce competition.⁵³⁶ Thus, such a relationship does not indicate anticompetitive effects, nor does a purely vertical relationship assure the absence of anticompetitive effects.⁵³⁷ Nevertheless, enforcement Agencies and courts scrutinize agreements between competitors more critically than licenses concluded between firms at different levels of the distribution chain⁵³⁸ – because of the higher risk of cartel-like arrangements.⁵³⁹

The Agencies illustrate their categorization of horizontal and vertical relationships similarly to the following: A, a manufacturer of farm equipment, develops a new patented

⁵³⁰ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.2 (2008).

⁵³¹ *Id.*

⁵³² *Id.*

⁵³³ *Id.*

⁵³⁴ IP Guidelines, *supra* note 99, § 3.3.

⁵³⁵ *Id.*

⁵³⁶ *Id.* § 4.1.2.

⁵³⁷ *Id.* § 3.3.

⁵³⁸ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 253 (2d ed. 2009).

⁵³⁹ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 72 (2009).

emission control technology for its tractor engines and licenses it to F, another farm equipment manufacturer.⁵⁴⁰ A's emission control technology is far superior to the technology currently owned and used by F, so much so that F's technology does not significantly constrain the prices that A could charge for its technology. A's emission control patent has a broad scope and it is likely that any improved emissions control technology that F could develop in the foreseeable future would infringe A's patent.⁵⁴¹

Because F's emission control technology does not significantly constrain A's competitive conduct with respect to its emission control technology, A's and F's emission control technologies are not close substitutes for each other. F is a consumer of A's technology, not an actual competitor in the relevant market for superior emission control technology of the kind licensed by A.⁵⁴² Furthermore, F is not a likely potential competitor of A in the relevant market because, even if F could develop an improved emission control technology, it is likely that it would infringe A's patent. This means that the relationship between A and F with regard to the supply and use of emissions control technology is vertical. Assuming that A and F are actual or likely potential competitors in sale of farm equipment products, their relationship is horizontal in the relevant markets for farm equipment.⁵⁴³

Another conclusion may be drawn if the facts are different: F develops a new valve technology for its engines and enters into a cross license with A, whereby A licenses its emission control technology to F and F licenses its valve technology to A.⁵⁴⁴ A, however, already owns an alternative valve technology that can be used to achieve engine

⁵⁴⁰ IP Guidelines, *supra* note 99, example 5.

⁵⁴¹ *Id.*

⁵⁴² *Id.*

⁵⁴³ *Id.*

⁵⁴⁴ *Id.* example 6.

performance similar to that using F's valve technology at a comparable cost.⁵⁴⁵ Before adopting F's technology, A was using its own valve technology in its production of engines and was licensing (and continues to license) that technology for use by others.⁵⁴⁶ As in the example above, F does not own or control an emission control technology that is a close substitute for the technology licensed from A. Furthermore, as in the case above, F is not likely to develop an improved emission control technology that would be a close substitute for A's technology, because of A's blocking patent.⁵⁴⁷

In this example, F is a consumer and not a competitor of A's emission control technology. Therefore, their relationship is vertical with regard to this technology.⁵⁴⁸ The relationship between A and F in the relevant market that includes engine valve technology is vertical in part and horizontal in part. It is vertical in part because A and F stand in a complementary relationship, in which A is a consumer of a technology supplied by F. However, the relationship between A and F in the relevant market that includes engine valve technology is also horizontal in part because F and A are actual competitors in the licensing of valve technology that can be used to achieve similar engine performance at a comparable cost.⁵⁴⁹ Whether the firms license their valve technologies to others is not important for the conclusion that the firms have a horizontal relationship in this relevant market. Even if A's use of its valve technology were solely captive to its own production, the fact that the two valve technologies are substitutable at comparable cost means that the two firms have a horizontal relationship. Hence, the relationship between A and F is horizontal in the relevant markets for farm equipment.⁵⁵⁰

⁵⁴⁵ *Id.* example 6.

⁵⁴⁶ *Id.* example 6.

⁵⁴⁷ *Id.* example 6.

⁵⁴⁸ *Id.* example 6.

⁵⁴⁹ *Id.* example 6.

⁵⁵⁰ *Id.* example 6.

5. EU and U.S. law compared

In the EU and the U.S. a necessary step in any antitrust analysis is the identification of an actual or potential competitive relationship between the parties. In this respect one can conclude that horizontal agreements in the U.S. are coextensive with agreements between competitors in the EU. In both jurisdictions the focus is on whether the parties would have been actual or potential competitors in a relevant market in the absence of the license. If yes, the contract is neither in the EU nor in the U.S. presumptively unlawful. The characterization of the type of agreement is merely an aid in the antitrust analysis because horizontal agreements in the U.S. and agreements between competitors in the EU are more likely to raise antitrust issues.

Furthermore, the EU approach is regulated in a very detailed and clear manner with regard to technology transfer agreements. A crucial difference, however between both sets of law is the qualification as an agreement concluded between either competitors or non-competitors in the EU, whereas the U.S. approach allows a consideration of horizontal and vertical aspects an agreement without assigning the contract to one specific category from the beginning, as the Commission does.

V. The guiding principles in the application of the core antitrust prohibitions of Article 101 TFEU and Section 1 Sherman Act to patent licenses

1. The EU approach under Article 101 TFEU

Agreements that do not meet the requirements of the block exemption regulation are subject to individual assessment. It must be performed, for instance, when market-share thresholds are exceeded, when more than two parties are involved, or when hardcore or excluded restrictions are imposed. The Commission's Technology Transfer Guidelines also

provide a detailed guidance regarding the analysis of such agreements that fall outside the scope of the TTBER. On a general basis, the Commission emphasizes that the standards set forth in the Technology Transfer Guidelines must be applied in light of the circumstances specific to each case, which demands a reasonable and flexible application.⁵⁵¹ Each case must be assessed on its own facts.⁵⁵² The Commission adds that all examples given serve as illustrations only and are not intended to be exhaustive.⁵⁵³

Outside the scope of the safe harbor of the block exemption regulation, the first step of the analysis is to examine whether in the individual case the agreement is caught by Article 101(1) TFEU and, if so, whether the conditions for individual exemption laid down in Article 101(3) TFEU are satisfied.⁵⁵⁴ Only when agreements contain hardcore restrictions of competition can it normally be presumed that they are prohibited by Article 101 TFEU.⁵⁵⁵ Thus, the Commission states that there is no presumption of illegality of agreements that fall outside the scope of the block exemption provided that they do not contain any hardcore restrictions of competition.⁵⁵⁶ In particular, there is no presumption that Article 101(1) TFEU applies merely because the market-share thresholds are exceeded.⁵⁵⁷

1.1. First step: The applicability of Article 101(1) TFEU

EU competition policy, unlike competition policies in other jurisdictions, must consider the market integration objective and the associated need for a system of undistorted

⁵⁵¹ Technology Transfer Guidelines, *supra* note 1, para 3.

⁵⁵² *Id.*

⁵⁵³ *Id.*

⁵⁵⁴ *Id.* para 37.

⁵⁵⁵ *Id.* para 37.

⁵⁵⁶ *Id.* para 130.

⁵⁵⁷ *Id.* para 130.

competition.⁵⁵⁸ Article 101(1) TFEU prohibits any agreements between undertakings, decisions by associations of undertakings, and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction, or distortion of competition within the internal market.⁵⁵⁹ An examination always entails a confrontation with the counterfactual, being competition that would have occurred or would occur without the agreement.⁵⁶⁰

A. The prerequisite of an agreement or concerted practice between undertakings capable of affecting trade between Member States

A patent licensing agreement, of course, constitutes an agreement for the purpose of Article 101(1) TFEU. The next question is whether it affects trade between Member States. This “effect on trade criterion” is an autonomous European Union law criterion, which plays a role in every antitrust case.⁵⁶¹ The Commission has published guidelines on the effect on trade concept contained in Article 101 and 102 TFEU, where it laid down the principles elaborated by the European Courts with regard to this notion.⁵⁶² It is important because EU law is not applicable to agreements and practices that are not capable of appreciably affecting trade between Member States (the non-appreciable affection of trade rule or NAAT-rule).⁵⁶³ Agreements must thus have a minimum level of cross-border

⁵⁵⁸ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 1-005 (3d ed. 2010).

⁵⁵⁹ TFEU, *supra* note 15, art 101 para 1.

⁵⁶⁰ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.56 (2010); Case 56/65 *Société Technique Minière v Maschinenbau Ulm* [1965] ECR 235; Case 22/71 *Béguelin Import v SAGL Import* [1971] ECR 949, para 17; Case 31/80 *L'Oréal v De Nieuwe AMCK* [1980] ECR 3775, para 19; Case 42/84 *Remia v Commission* [1985] ECR 2545, para 18; Joined Cases C-215 and 216/96 *Carlo Bagnasco v Banca Popolare* [1999] ECR I-135, para 33; Case T-328/03 *O2 v Commission* [2006] ECR II-1231, para 68.

⁵⁶¹ Commission Notice, Guidelines on the effect on trade concept contained in Article 81 and 82 of the Treaty [2003] OJ C101/81 (“Guidelines on the effect on trade concept”), para 12.

⁵⁶² *Id.* para 3.

⁵⁶³ *Id.* para 12.

effects within the EU.⁵⁶⁴ In the course of an assessment under Article 101 TFEU, it is only necessary to determine whether the agreement as a whole is capable of affecting trade between Member States.⁵⁶⁵ The consequence is EU law jurisdiction in respect of the entire agreement, including any parts of the agreement that individually do not affect trade between Member States.⁵⁶⁶ The effect on trade criterion must be distinguished from the question of what constitutes an appreciable restriction of competition under Article 101(1) TFEU,⁵⁶⁷ an issue which will be dealt with separately below.

Notably, the idea of “trade” not only encompasses traditional exchanges of goods and services across borders but involves all cross-border economic activity.⁵⁶⁸ Pursuant to settled case law, it also captures agreements or practices affecting the competitive structure of the market, for example, by eliminating competitors.⁵⁶⁹ The effect on trade between Member States condition demands an impact on cross-border economic activity involving at least two Member States.⁵⁷⁰ However, the agreement itself must not be concluded between undertakings of two different Member States. When the agreement only covers the territory of a single Member State, it will depend on the nature of the alleged infringement and its capacity to foreclose the national market.⁵⁷¹ A good example is a horizontal cartel covering a whole Member State. Such agreements are usually also capable of affecting trade between Member States because they have the effect of reinforcing the partitioning of markets on a national basis by impairing economic penetration, meaning market entry by competitors from other Member States.⁵⁷² Pursuant

⁵⁶⁴ *Id.* para 13.

⁵⁶⁵ *Id.* para 14.

⁵⁶⁶ *Id.* para 14.

⁵⁶⁷ *Id.* para 4.

⁵⁶⁸ *Id.* para 19.

⁵⁶⁹ *Id.* para 20.

⁵⁷⁰ *Id.* para 21.

⁵⁷¹ *Id.* para 77.

⁵⁷² *Id.* para 78.

to the standard test developed by the Court of Justice, the notion “may affect” requires the possibility to foresee – with a sufficient degree of probability on the basis of a set of objective factors of law or fact – that the agreement or practice has an influence, direct or indirect, actual or potential, on the pattern of trade between Member States.⁵⁷³ In addition, the concept has a quantitative element, limiting EU law jurisdiction to agreements and practices which are capable of having effects of a certain magnitude.⁵⁷⁴ Accordingly, Article 101 TFEU does not apply if the effect on trade is insignificant.⁵⁷⁵ Appreciable effects on trade can be determined by analyzing the position and importance of the undertaking under scrutiny on the market for the products concerned.⁵⁷⁶ The Commission has laid down a negative rebuttable presumption (the NAAT-rule) in order to define the absence of an appreciable effect on trade between Member States, which applies to any agreement.⁵⁷⁷ The Commission specified the following cumulative requirements which must be met:⁵⁷⁸ First, the aggregate market share of the parties on any relevant market within the EU affected by the agreement must not exceed 5%.⁵⁷⁹ Second, in the event of a horizontal agreement, the aggregate annual EU turnover of the undertakings in question in the products covered by the agreement must not exceed EUR 40 million.⁵⁸⁰ On the contrary, if the agreement is vertical, the aggregate annual EU turnover of the supplier in the products covered by the agreement must not exceed EUR 40 million, whereas in the case of license agreements the relevant turnover is the aggregate turnover of the licensees in the products incorporating the licensed technology and the licensor’s own turnover in

⁵⁷³ *Id.* para 23.

⁵⁷⁴ *Id.* para 44.

⁵⁷⁵ *Id.* para 44.

⁵⁷⁶ *Id.* para 44.

⁵⁷⁷ *Id.* para 50.

⁵⁷⁸ *Id.* para 52.

⁵⁷⁹ *Id.* para 52 (a).

⁵⁸⁰ *Id.* para 52 (b).

such products.⁵⁸¹ However, it cannot be assumed that agreements not fulfilling these conditions are automatically capable of appreciably affecting trade between Member States; instead, a case-by-case analysis must be conducted.⁵⁸² In addition, agreements between small and medium-sized undertakings (SMEs) are normally not capable of affecting trade between Member States.⁵⁸³ The Commission defines micro, small, or medium-sized undertakings (SMEs) according to their staff headcount and turnover or annual balance-sheet total.⁵⁸⁴ A medium-sized enterprise employs fewer than 250 persons and has an annual turnover not exceeding EUR 50 million or an annual balance-sheet total equal to or less than EUR 43 million.⁵⁸⁵ A small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million.⁵⁸⁶ Lastly, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.⁵⁸⁷ After having determined that an agreement affects trade between Member States, the most delicate issues arise when determining whether it has the object or effect of restricting competition.

B. Restriction of competition

a. Preserving effective competition

Antitrust law aims at protecting effective competition. According to standard economic theory, unless an undertaking possesses and exercises market power, it is unable to affect

⁵⁸¹ *Id.* para 52 (b).

⁵⁸² *Id.* para 51.

⁵⁸³ *Id.* para 50; Commission Notice on agreements of minor importance which do not appreciably restrict competition under Article 81(1) of the Treaty establishing the European Community (*de minimis*) [2001] OJ C368/13, para 3 (“*de minimis* Notice”).

⁵⁸⁴ Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises [2003] OJ L124/136, annex art 2.

⁵⁸⁵ *Id.* annex art 2 para 1.

⁵⁸⁶ *Id.* annex art 2 para 2.

⁵⁸⁷ *Id.* annex art 2 para 3.

competition adversely.⁵⁸⁸ Effective competition can therefore be equated with the absence of market power.⁵⁸⁹ Another alternative description is effective competition defined as the absence of restraints on an undertaking's economic activities by any other firm.⁵⁹⁰ However, an isolated contemplation of the latter principle ignores the realities of commercial behavior in market economies because under this view all commercial contracts are restrictive of competition since every agreement concerning trade involves one firm imposing restraints on the behavior of another, and thus this definition would be too wide.⁵⁹¹ Therefore, block exemptions and *de minimis* provisions are used to narrow it down.⁵⁹²

The core question for antitrust assessment is how much market power an undertaking enjoys.⁵⁹³ Such inferences can be drawn from various characteristics of competition in the particular industry under investigation, including the number of undertakings, barriers to entry and expansion, and the nature of interaction between firms.⁵⁹⁴

The proscription of Article 101(1) TFEU captures distortions of competition between the parties to an agreement as well as distortions of competition between any of the parties and third parties.⁵⁹⁵ Furthermore, the assessment of whether a license agreement restricts competition must be made within the actual context in which competition would occur in the absence of the agreement with its alleged restrictions.⁵⁹⁶ In this respect, account must be taken of the likely impact of the relevant agreement on inter-technology competition on

⁵⁸⁸ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 1-006 (3d ed. 2010).

⁵⁸⁹ *Id.* at § 1-006 and § 3-001.

⁵⁹⁰ *Id.* at § 2-006.

⁵⁹¹ *Id.* at § 2-007.

⁵⁹² *Id.* at § 2-007.

⁵⁹³ Inge Govaere & Hanns Ullrich, *Intellectual Property, Market Power and the Public Interest* 15 (2008).

⁵⁹⁴ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 3-012 (3d ed. 2010).

⁵⁹⁵ Technology Transfer Guidelines, *supra* note 1, para 10.

⁵⁹⁶ *Id.* para 11; Case 56/65 *Société Technique Minière v Maschinenbau Ulm* [1965] ECR 235; Case C-7/95 P *John Deere v Commission* [1998] ECR I-3111, para 76.

the one hand and on intra-technology competition on the other hand.⁵⁹⁷ The first refers to competition between undertakings using competing technologies, while the latter concerns competition between undertakings which use the same technology. Restrictions in both fields are forbidden by Article 101 TFEU.⁵⁹⁸ It is therefore necessary to assess to what extent the agreement affects or is likely to affect these two aspects of competition on the market.⁵⁹⁹

b. Restriction of inter-technology competition

The core question in relation to inter-technology competition is whether the agreement restricts actual or potential competition that would have existed without the contemplated agreement.⁶⁰⁰ If this is the case, the agreement might be caught by Article 101(1) TFEU.⁶⁰¹ While making this assessment, it is necessary to take into account competition between the parties and competition from third parties.⁶⁰² If, for example, two undertakings established in different Member States cross-license competing technologies and undertake not to sell products in each other's home markets, (potential) competition which existed prior to the agreement is restricted.⁶⁰³ Equally, if a licensor imposes obligations on his licensees not to use competing technologies and these obligations foreclose third party technologies, the behavior results in the restriction of actual or potential competition that would have existed in the absence of the agreement.⁶⁰⁴ Negative effects of a licensing agreement occur for instance where inter-technology competition (i.e., competition between undertakings that

⁵⁹⁷ Technology Transfer Guidelines, *supra* note 1, para 11; Joined Cases 56 and 58/64 *Consten and Grundig v Commission* [1966] ECR 299.

⁵⁹⁸ Technology Transfer Guidelines, *supra* note 1, para 11.

⁵⁹⁹ *Id.*

⁶⁰⁰ *Id.* para 12(a).

⁶⁰¹ *Id.* para 12(a).

⁶⁰² *Id.* para 12(a).

⁶⁰³ *Id.* para 12(a).

⁶⁰⁴ *Id.* para 12(a).

license or produce on the basis of substitutable technologies) is reduced.⁶⁰⁵ This is particularly the case where reciprocal obligations are imposed.⁶⁰⁶ For instance, where competitors cross-license each other's competing technologies and impose a reciprocal obligation to provide each other with future improvements of their respective technologies, competition in innovation between the parties is restricted and the agreement is likely to prevent either competitor from gaining a technological lead over the other.⁶⁰⁷ Another constellation where patent licenses can affect inter-technology competition is the creation of barriers to entry for and expansion by competitors.⁶⁰⁸ Such foreclosure effects can result from restraints that prevent licensees from licensing from third parties or create disincentives for them to do so, such as non-compete obligations.⁶⁰⁹ Accordingly, third parties may be foreclosed to such an extent that an insufficient number of licensees are available to third parties and where entry at the level of licensees is difficult.⁶¹⁰ Moreover, suppliers of substitutable technologies may also be foreclosed where a licensor with a sufficient degree of market power ties together various parts of a technology and licenses them together as a package while only a part of the package is essential to produce a certain product.⁶¹¹

c. Restriction of intra-technology competition

The core question in relation to intra-technology competition is whether the agreement restricts competition that would have existed in the absence of the contractual restraints.⁶¹²

For example, where a licensor imposes restrictions on its licensees in order to prevent them

⁶⁰⁵ Technology Transfer Guidelines, *supra* note 1, para 142.

⁶⁰⁶ *Id.*

⁶⁰⁷ *Id.*

⁶⁰⁸ Technology Transfer Guidelines, *supra* note 1, para 144.

⁶⁰⁹ *Id.*

⁶¹⁰ *Id.*

⁶¹¹ *Id.*

⁶¹² Technology Transfer Guidelines, *supra* note 1, para 12(b).

from competing with each other, competition that could have existed between the licensees absent the restraints is restricted.⁶¹³ Such restrictions include, for instance, vertical price fixing and territorial or customer sales restrictions between licensees using the same technology.⁶¹⁴ Some restraints, however, are in certain cases not caught by Article 101(1) TFEU in the first place when the restraint is objectively necessary for the existence of an agreement of a specific type or nature.⁶¹⁵ This is the case when the licensor would not be willing to grant a license in the absence of a specific restraint.

Naturally, the application of Article 101(1) TFEU can only be excluded on the basis of objective factors external to the parties and not depending on their subjective views.⁶¹⁶ Consequently, the core question is not whether the parties in their particular situation would have accepted a less restrictive agreement, but whether, given the nature of the agreement and the characteristics of the market, undertakings in a similar setting would have concluded a less restrictive agreement.⁶¹⁷ In this respect, the Commission mentions as an example territorial restraints in a contract between non-competitors which may fall outside Article 101(1) TFEU for a certain duration if the restrictions are objectively necessary for a licensee to penetrate a new market.⁶¹⁸ Global claims that in the absence of a restraint the supplier would have chosen vertical integration instead of licensing, however, are not sufficient because decisions on whether to vertically integrate depend on a broad range of complex economic factors, a number of which are internal to the undertaking concerned.⁶¹⁹ As restraints may be capable of affecting both inter-technology and intra-technology competition at the same time, it may be required to analyze a restraint in the

⁶¹³ *Id.*

⁶¹⁴ *Id.*

⁶¹⁵ *Id.*; Case 56/65 *Société Technique Minière* [1966] ECR 337 and Case 258/78 *Nungesser* [1982] ECR 2015.

⁶¹⁶ Technology Transfer Guidelines, *supra* note 1, para 12(b).

⁶¹⁷ *Id.*

⁶¹⁸ *Id.*

⁶¹⁹ *Id.*

light of both sets of questions before the conclusion can be drawn whether competition is restricted.⁶²⁰

d. Restriction of competition by object

Article 101(1) TFEU differentiates between restrictions of competition by object and restrictions of competition by effect. Restrictions of competition by object restrict competition by their very nature.⁶²¹ Moreover, they have, taking into consideration the objectives pursued by the EU competition rules, such a high potential for negative effects on competition that it is not necessary to demonstrate any actual effects on the market.⁶²² In line with the case law,⁶²³ the assessment of whether or not an agreement has as its object a restriction of competition is based on a number of factors.⁶²⁴ The latter include, in particular, the content of the agreement and the objective aims pursued by it.⁶²⁵ It may also be necessary to consider the context in which the agreement is applied or the actual conduct and behavior of the parties on the market because the way of implementation can reveal a restriction by object even where the formal agreement does not contain an express provision to that effect.⁶²⁶ Besides, evidence of the parties' subjective intent to restrict competition is a relevant factor but not a necessary condition.⁶²⁷ Whether or not a clause is enforced or applied is irrelevant, since its mere existence can create a visual and

⁶²⁰ *Id.* para 12.

⁶²¹ *Id.* para 14.

⁶²² *Id.* para 14; Case C-49/92 *Commission v Anic Partecipazioni* [1999] ECR I-4125, para 99; Joined Cases 56 and 58/64 *Consten and Grundig v Commission* [1966] ECR 299; Case T-168/01 *Glaxo-Smith-Kline Services v Commission* [2006] ECR II-2969, para 111, affirmed in Case C-501/06P *Glaxo-Smith-Kline Services v Commission* [2009] ECR I-9291.

⁶²³ Joined Cases 29 and 30/83 *CRAM and Rheinzink v Commission* [1984] ECR 1679, para 26; Case 96/82 *ANSEAU-NAVEWA* [1983] ECR 3369, paras 23-25; Case T-168/01 *Glaxo-Smith-Kline Services v Commission* [2006] ECR II-2969, para 111, upheld in Case C-501/06P *Glaxo-Smith-Kline Services v Commission*, *supra* note 623, para 58.

⁶²⁴ Technology Transfer Guidelines, *supra* note 1, para 14.

⁶²⁵ *Id.*

⁶²⁶ *Id.*; Joined Cases 29 and 30/83 *CRAM and Rheinzink v Commission* [1984] ECR 1679, para 26; Case 96/82 *ANSEAU-NAVEWA* [1983] ECR 3369, paras 23-25.

⁶²⁷ Technology Transfer Guidelines, *supra* note 1, para 14.

psychological background which deters competition.⁶²⁸ All the practices enumerated in the list of hardcore restrictions in Article 4 of the TTBER constitute restrictions of competition by object.⁶²⁹

e. Restriction of competition by effect

After having determined that there is no restriction of competition by object, the next step is to assess possible restrictive effects on competition.⁶³⁰ In this respect account must be taken of actual and potential anticompetitive effects,⁶³¹ in the form of anticipated negative effects on prices, output, innovation, or the variety or quality of goods and services with a reasonable degree of probability.⁶³² Furthermore, these likely negative effects on competition must be appreciable.⁶³³ This is the case when at least one of the parties has or obtains some degree of market power and the agreement contributes to the creation, maintenance, or strengthening of that market power or allows the parties to exploit it.⁶³⁴ Market power refers to the ability to maintain prices above competitive levels or to maintain output in terms of product quantities, product quality, and variety or innovation below competitive levels for a not insignificant period of time.⁶³⁵ Clearly, the degree of market power normally required for a finding of an infringement under Article 101(1) TFEU is less than the degree of market power required for a finding of dominance under Article 102 TFEU.⁶³⁶

⁶²⁸ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.60 (2010).

⁶²⁹ Technology Transfer Guidelines, *supra* note 1, para 14.

⁶³⁰ *Id.* para 15; Case T-168/01 *Glaxo-Smith-Kline Services v Commission* [2006] ECR II-2969, para 112.

⁶³¹ Case C-7/95 P *John Deere v Commission* [1998] ECR I-3111.

⁶³² Technology Transfer Guidelines, *supra* note 1, para 15.

⁶³³ *Id.*

⁶³⁴ *Id.*

⁶³⁵ *Id.*

⁶³⁶ *Id.*

The Commission emphasizes the importance of market analysis, which must be performed in the absence of hardcore restrictions.⁶³⁷ Hence, one must keep in mind that, for the purposes of analyzing restrictions of competition by effect, it is normally necessary to define the relevant market and to examine and assess, *inter alia*, the nature of the products and technologies concerned, the market position of the parties, the market position of competitors, the market position of buyers, the existence of potential competitors, and the level of entry barriers.⁶³⁸

Negative effects may also occur in the absence of an agreement because of coordination between competitors in concentrated markets where market conditions are transparent.⁶³⁹

Where a limited number of market participants is fully aware of each other's actions, the market price will be higher, as no competitor can expect to obtain an increase in sales by a price reduction (since all rivals will presumably follow).⁶⁴⁰ Consequently, licensing between competitors may also facilitate collusion.⁶⁴¹ Collusion requires, however, that the undertakings concerned have similar views on what is in their common interest.⁶⁴² A precondition for collusion is the undertakings' ability to monitor each other's market behavior and adequate deterrents to ensure that there is an incentive not to depart from the common policy on the market, while entry barriers must be high enough to limit entry or expansion by outsiders.⁶⁴³

⁶³⁷ *Id.* para 65.

⁶³⁸ *Id.* para 16.

⁶³⁹ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.10 (2006).

⁶⁴⁰ *Id.*

⁶⁴¹ Technology Transfer Guidelines, *supra* note 1, para 143.

⁶⁴² *Id.*

⁶⁴³ *Id.*

C. Inapplicability of Article 101 TFEU

a. Ancillary restraints

The concept of ancillary restraints covers any alleged restriction of competition directly related and necessary to the implementation of a main non-restrictive transaction and proportionate to it.⁶⁴⁴ The Commission further elaborates that restrictions in an agreement that do not have as their object or effect the restriction of competition but are directly related to and necessary for the implementation of the transaction in question fall outside Article 101(1) TFEU.⁶⁴⁵ The required direct relation exists whenever a restraint is subordinate to the implementation of the main transaction and inseparably linked to it.⁶⁴⁶ If on the basis of objective factors it can be concluded that without the restriction the main non-restrictive transaction would be difficult or impossible to implement, the restriction can be considered as objectively necessary for its implementation and proportionate to it.⁶⁴⁷

The Commission does not explicitly denominate ancillary restraints in its Technology Transfer Guidelines, but acknowledges in the course of the determination of a likely impact on intra-technology competition that certain restraints may not be caught by Article 101(1) TFEU when the restraint is objectively necessary for the existence of an agreement of that type or nature.⁶⁴⁸ Without explicitly stating it, in my opinion the Commission acknowledges with such a wording that some restrictions are ancillary. This is particularly the case as some restraints resolve hold-up problems on either side of the parties, meaning that a contractual protection for either of them is necessary to ensure that the technology

⁶⁴⁴ Communication from the Commission, Notice Guidelines on the application of Article 81(3) of the Treaty [2004] OJ C101/97 (“Article 101(3) Guidelines”), para 29.

⁶⁴⁵ *Id.*

⁶⁴⁶ *Id.*

⁶⁴⁷ *Id.* para 31.

⁶⁴⁸ Technology Transfer Guidelines, *supra* note 1, para 12(b); Case 56/65 *Société Technique Minière* [1966] ECR 337 and Case 258/78 *Nungesser v Commission* [1982] ECR 2015.

transfer takes place or that the technology transferred is actually used.⁶⁴⁹ Sometimes, the ancillarity principle will even apply to the license agreement itself, where it is part of a broader cooperation between the parties.⁶⁵⁰ This concept differs from the ancillarity concept in U.S. antitrust law, explained below in Section 2.5.

The application of the ancillary restraint concept must be distinguished from the application of the defense under Article 101(3) TFEU, explained below in Section 1.2, as the latter does not involve any weighing of pro- and anticompetitive effects.⁶⁵¹ This distinction proves to be difficult at times because the Commission does not always clearly distinguish between the two categories in its Technology Transfer Guidelines.

The Commission enumerates in its Technology Transfer Guidelines in a non-exhaustive list examples of practices which fall outside the scope of Article 101(1) TFEU because they are generally not restrictive of competition.⁶⁵² These obligations include (a) confidentiality obligations, (b) obligations on licensees not to sub-license, (c) obligations not to use the licensed technology after the expiry of the agreement, provided that the licensed technology remains valid and in force, (d) obligations to assist the licensor in enforcing the licensed intellectual property rights, (e) obligations to pay minimum royalties or to produce a minimum quantity of products incorporating the licensed technology, and (f) obligations to use the licensor's trade mark or indicate the name of the licensor on the product.⁶⁵³

⁶⁴⁹ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 5.15 (2006).

⁶⁵⁰ *Id.* at § 5.14.

⁶⁵¹ Article 101(3) Guidelines, *supra* note 645, para 30.

⁶⁵² Technology Transfer Guidelines, *supra* note 1, para 155.

⁶⁵³ *Id.*

b. More than 4 other independently controlled technologies

Moreover, in order to promote predictability beyond the application of the TTBER and to confine detailed analysis to cases that are likely to raise real competition issues, the Commission takes the view that, outside the area of hardcore restrictions, Article 101 TFEU is unlikely to be infringed where there are four or more independently controlled technologies in addition to the technologies controlled by the parties to the agreement that may be substitutable for the licensed technology at a comparable cost to the user.⁶⁵⁴ In assessing whether the technologies are sufficiently substitutable the relative commercial strength of the technologies in question must be taken into account.⁶⁵⁵ The competitive constraint imposed by a technology is limited if it does not constitute a commercially viable alternative to the licensed technology.⁶⁵⁶ This may be the case if, due to network effects in the market, consumers have a strong preference for products incorporating the licensed technology, whereas other technologies already on the market or likely to come to market within a reasonable period of time do not constitute a real alternative, hence imposing only a limited competitive constraint.⁶⁵⁷

c. De minimis

An agreement is deemed to have the effect of restricting competition in the sense of Article 101(1) TFEU if it affects actual and potential competition to such an extent that, on the relevant market, negative effects on prices, output, innovation, or the variety or quality of goods and services can be expected with a reasonable degree of probability.⁶⁵⁸ In its Notice

⁶⁵⁴ Technology Transfer Guidelines, *supra* note 1, para 131.

⁶⁵⁵ *Id.*

⁶⁵⁶ *Id.*

⁶⁵⁷ *Id.*

⁶⁵⁸ Article 101(3) Guidelines, *supra* note 645, para 24.

concerning *de minimis* agreements⁶⁵⁹ the Commission characterized (with the help of market-share thresholds) the agreements which do not appreciably restrict competition and therefore fall outside the scope of Article 101(1) TFEU.⁶⁶⁰ This is the case if the aggregate market share held by the parties to the agreement does not exceed 10% on any of the relevant markets affected by the agreement, provided that it is concluded between undertakings which are actual or potential competitors on any of these markets.⁶⁶¹

With regard to agreements between non-competitors, the agreement does not appreciably restrict competition if the market share held by each of the parties to the agreement does not exceed 15% on any of the relevant markets affected by the agreement.⁶⁶² However, if an agreement contains hardcore restrictions of competition, the negative presumption does not apply and such conduct will not profit from the provisions of the *de minimis* notice.⁶⁶³ Moreover, in cases where it is difficult to classify the agreement as either an agreement between competitors or an agreement between non-competitors, the 10% threshold is applicable.⁶⁶⁴ Account should also be taken of the market shares of connected undertakings because they must be included in the calculation process.⁶⁶⁵ However, in the event that these market-share thresholds are exceeded, it is not implied that the agreement or practice automatically appreciably restricts competition.⁶⁶⁶ A determination to this effect depends on a number of factors.

⁶⁵⁹ *De minimis* Notice, *supra* note 584.

⁶⁶⁰ *Id.* para 2.

⁶⁶¹ *Id.* para 7(a).

⁶⁶² *Id.* para 7(b).

⁶⁶³ *Id.* para 11.

⁶⁶⁴ *Id.* para 7.

⁶⁶⁵ *Id.* para 12.

⁶⁶⁶ *Id.* para 2.

D. Relevant factors for the assessment under Article 101(1) TFEU

The Commission explains the factors which play an important role in the course of the individual antitrust analysis with the aim of determining whether Article 101 TFEU is applicable. First, due account should be taken of the way in which competition operates on the market in question.⁶⁶⁷ An analysis should involve considerations of (a) the nature of the agreement, (b) the market position of the parties, (c) the market position of competitors, (d) the market position of buyers of the licensed products, (e) entry barriers, (f) the maturity of the market, and (g) other factors.⁶⁶⁸ Moreover, the Commission underlines that the importance of individual factors can vary from case to case and depends on the configuration of the different factors.⁶⁶⁹ A high market share of the parties, for example, is usually a good indicator of market power, but in combination with low entry barriers it may not be indicative of market power.⁶⁷⁰ Consequently, firm rules on the importance of the individual factors cannot be established.⁶⁷¹

As licenses can take many shapes and forms, it is important to analyze the nature of the agreement with regard to the competitive relationship between the parties and its inherent restraints.⁶⁷² It is necessary, however, to go beyond the express terms of the agreement because additionally implicit restraints may be derived from the way in which the agreement has been implemented by the parties and the incentives that they face.⁶⁷³ The Commission remarks that the market position of the parties provides an indication of the degree of market power, if any, possessed by the licensor, the licensee, or both.⁶⁷⁴ Of

⁶⁶⁷ Technology Transfer Guidelines, *supra* note 1, para 132.

⁶⁶⁸ *Id.*

⁶⁶⁹ *Id.*

⁶⁷⁰ *Id.*

⁶⁷¹ *Id.*

⁶⁷² Technology Transfer Guidelines, *supra* note 1, para 133.

⁶⁷³ *Id.*

⁶⁷⁴ Technology Transfer Guidelines, *supra* note 1, para 134.

course, the higher their market share, the greater their market power is likely to be.⁶⁷⁵ This is particularly true where the market share reflects cost advantages or other competitive advantages vis-à-vis competitors.⁶⁷⁶ Such advantages may, for example, result from being a first mover in the market, from holding essential patents, or from the possession of superior technology.⁶⁷⁷ Above all, in analyzing the competitive relationship between the parties, it is sometimes necessary to go beyond an analysis of the market and the competitive relationship of the parties.⁶⁷⁸ Even where the licensor is not an actual or potential supplier on the product market and the licensee is not an actual or potential competitor on the technology market, it is relevant to the analysis whether the licensee owns a competing technology which is not being licensed.⁶⁷⁹

Account must be taken of the market position of competitors, which is reflected by their market shares and possible competitive advantages and disadvantages.⁶⁸⁰ As a general rule, the stronger the competitors and the greater their number, the less risk there is that the parties will be able to individually exercise market power.⁶⁸¹ In contrast, if there are just a few competitors with similar market positions (with regard to their size, costs, R&D potential, etc.), the market structure may increase the risk of collusion.⁶⁸²

In addition to the competitors' positions, the market position of buyers should be considered too, as it provides an indication of whether one or more buyers possess buyer power.⁶⁸³ The first indicator of buying power is the market share of the buyer on the

⁶⁷⁵ *Id.*

⁶⁷⁶ *Id.*

⁶⁷⁷ *Id.*

⁶⁷⁸ Technology Transfer Guidelines, *supra* note 1, para 135.

⁶⁷⁹ *Id.*

⁶⁸⁰ Technology Transfer Guidelines, *supra* note 1, para 136.

⁶⁸¹ *Id.*

⁶⁸² *Id.*

⁶⁸³ Technology Transfer Guidelines, *supra* note 1, para 137.

purchase market, which reflects the importance of his demand for possible suppliers.⁶⁸⁴ Other indicators focus on the position of the buyer on its resale market, including characteristics such as a wide geographic spread of outlets and its brand image among final consumers.⁶⁸⁵ The reason for the inclusion of buyer power in the antitrust analysis is that it may prevent the licensor and/or the licensee from exercising market power on the market and thereby positively affect competition on the market.⁶⁸⁶ Where strong buyers simply pass on any price increase to their customers, the buyers's position is not such as to prevent the exercise of market power by the licensee on the product market and is therefore not capable of solving the competition problem on that market.⁶⁸⁷

Another factor in the antitrust analysis is entry barriers. The Commission advises that these are to be measured by the extent to which undertakings can increase their price above the competitive level without attracting new entry.⁶⁸⁸ In the absence of entry barriers, easy and quick entry would render price increases unprofitable.⁶⁸⁹ When effective entry, preventing or eliminating the exercise of market power, is likely to occur within one or two years, entry barriers can, as a general rule, be considered to be low.⁶⁹⁰ They may result from a wide variety of factors such as economies of scale and scope, government regulations (especially where they establish exclusive rights), state aid, import tariffs, intellectual property rights, ownership of resources (where the supply is limited due to, for instance natural limitations), essential facilities, a first mover advantage, or brand loyalty of consumers created by strong advertising over a period of time.⁶⁹¹ Restrictive agreements entered into by undertakings may also work as an entry barrier by making access more

⁶⁸⁴ *Id.*

⁶⁸⁵ *Id.*

⁶⁸⁶ *Id.*

⁶⁸⁷ *Id.*

⁶⁸⁸ Technology Transfer Guidelines, *supra* note 1, para 138.

⁶⁸⁹ *Id.*

⁶⁹⁰ *Id.*

⁶⁹¹ *Id.*

difficult and foreclosing (potential) competitors.⁶⁹² Entry barriers may be present at all stages of the research and development, production, and distribution process.⁶⁹³ The question whether certain of these factors should be described as entry barriers depends particularly on whether they entail sunken costs and hence costs which must be incurred to enter or be active on a market but are lost when the market is exited.⁶⁹⁴ The more costs are sunk, the more potential entrants must weigh the risks of entering the market and the more credibly incumbents can threaten that they will match new competition, as sunken costs make it costly for incumbents to leave the market.⁶⁹⁵ In general, entry requires sunken costs, sometimes minor and sometimes major. Therefore, actual competition is in general more effective and will weigh more heavily in the assessment of a case than potential competition.⁶⁹⁶

The Commission will also consider whether the market is mature, taking into consideration whether it has existed for some time, where the technology used is well known and widespread and not changing very much and in which demand is relatively stable or declining.⁶⁹⁷ Under these conditions, restrictions of competition are more likely to have negative effects than in more dynamic markets.⁶⁹⁸

Other additional factors may include cumulative effects, i.e., the coverage of the market by similar agreements, the duration of the agreements, the regulatory environment, and behavior that may indicate or facilitate collusion, like price leadership, pre-announced

⁶⁹² *Id.*

⁶⁹³ *Id.*

⁶⁹⁴ *Id.*

⁶⁹⁵ *Id.*

⁶⁹⁶ *Id.*

⁶⁹⁷ Technology Transfer Guidelines, *supra* note 1, para 139.

⁶⁹⁸ *Id.*

price changes and discussions on the “right” price, price rigidity in response to excess capacity, price discrimination, and past collusive behavior.⁶⁹⁹

The conclusion can be drawn that a wide variety of factors exist that should be taken into consideration in the assessment of a technology transfer agreement making the antitrust analysis an individual one that varies on a case-by-case basis. If the result of this first step analysis is that an agreement does not restrict competition, there is no need to conduct a further analysis of procompetitive effects. Such agreements are valid without any need to focus on possible procompetitive effects of an agreement.

1.2. Second step: Applicability of 101(3) TFEU

After having determined that a license agreement is caught by Article 101(1) TFEU, the next step is to analyze whether the conditions for individual exemption from antitrust scrutiny established in Article 101(3) TFEU are satisfied. When all four requirements contained in this provision are met, the agreement enhances competition within the relevant market because it causes the undertakings concerned to offer cheaper or better products to consumers and compensates them for the adverse effects of the restrictions of competition.⁷⁰⁰ In consequence, the restrictive license agreement in question is valid and enforceable, no prior decision to that effect being required.⁷⁰¹ As a matter of fact, Article 101(3) TFEU does not exclude *a priori* certain types of agreements from its scope.⁷⁰² However, the Commission underlines that in the case of restrictions of competition by object, it is unlikely that the conditions of Article 101(3) TFEU will be fulfilled.⁷⁰³ As

⁶⁹⁹ Technology Transfer Guidelines, *supra* note 1, para 140.

⁷⁰⁰ Article 101(3) Guidelines, *supra* note 645, para 34.

⁷⁰¹ Technology Transfer Guidelines, *supra* note 1, para 18.

⁷⁰² Case T-17/93 *Matra Hachette v Commission* [1994] ECR II-595, para 85.

⁷⁰³ Technology Transfer Guidelines, *supra* note 1, para 14.

mentioned above, hardcore restrictions constitute restrictions of competition by object;⁷⁰⁴ hence, a strong presumption exists that the engagement in these practices will ultimately result in an antitrust violation.

The balancing of anticompetitive and procompetitive effects must be conducted exclusively within the framework laid down in Article 101(3) TFEU⁷⁰⁵ because the CFI held in *Métropole Television*⁷⁰⁶ that European competition law does not provide for a rule of reason in the application of Article 101(1) TFEU.⁷⁰⁷ Agreements which are caught by the general antitrust prohibition and fail to satisfy the conditions of Article 101(3) TFEU are void and prohibited.⁷⁰⁸ Moreover, agreements which may affect trade between Member States cannot be interdicted by national antitrust laws of the Member States if they do not restrict competition within the meaning of Article 101(1) TFEU or are entitled to exemption under Article 101(3) TFEU, because EU law prevails.⁷⁰⁹ A very useful additional tool for individual analysis under Article 101(3) TFEU is the Commission's Article 101(3) Guidelines,⁷¹⁰ which provide more detailed guidance on the application of the four conditions laid down in this Treaty provision.⁷¹¹ The assessment of restrictive agreements under Article 101(3) TFEU is made within the actual context in which they occur and on the basis of the facts existing at any given point in time.⁷¹² The evaluation is sensitive to material changes in facts, meaning the exception rule of Article 101(3) TFEU applies as long as the four conditions are fulfilled and ceases to apply when this is no

⁷⁰⁴ *Id.*

⁷⁰⁵ Article 101(3) Guidelines, *supra* note 645, para 11.

⁷⁰⁶ Case T-112/99 *Métropole Television (M6) and others v Commission* [2001] ECR II-2459, para 74.

⁷⁰⁷ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 11 (2008).

⁷⁰⁸ *Id.* at 10.

⁷⁰⁹ Regulation 1/2003, *supra* note 151, art 3 para 2.

⁷¹⁰ Article 101(3) Guidelines, *supra* note 645.

⁷¹¹ *Id.* para 5.

⁷¹² Technology Transfer Guidelines, *supra* note 1, para 147.

longer the case.⁷¹³ European Court of Justice case law has established that only objective benefits can be taken into account.⁷¹⁴ Article 101(3) TFEU refers expressly only to goods, but applies by analogy to services as well.⁷¹⁵

A. Procompetitive efficiencies

The Commission clearly recognizes the procompetitive nature of the vast majority of license agreements and enumerates various reasons that lead to this assumption.⁷¹⁶ The substantial procompetitive potential of license agreements is in general widely acknowledged and not only by the Commission. The first condition of Article 101(3) TFEU requires an evaluation of possible efficiency gains as license agreements may bring together complementary technologies and other assets allowing new or improved products to be put on the market or existing products to be produced at lower cost.⁷¹⁷ Efficiencies at the level of the licensee often stem from a combination of the licensor's technology with the assets and technologies of the licensee.⁷¹⁸ Such integration of complementary assets and technologies may lead to a cost/output configuration that would not otherwise be possible.⁷¹⁹ For example, the combination of an improved technology of the licensor with more efficient production or distribution assets of the licensee can reduce production costs or lead to the production of a higher quality product.⁷²⁰

⁷¹³ *Id.*

⁷¹⁴ Case 56/64 *Consten and Grundig v Commission* [1966] ECR 1966; Article 101(3) Guidelines, *supra* note 645, para 49.

⁷¹⁵ *Id.* para 48.

⁷¹⁶ Technology Transfer Guidelines, *supra* note 1, para 17.

⁷¹⁷ Technology Transfer Guidelines, *supra* note 1, para 148; Article 101(3) Guidelines, *supra* note 645, para 33.

⁷¹⁸ Technology Transfer Guidelines, *supra* note 1, para 17.

⁷¹⁹ *Id.*

⁷²⁰ *Id.*

In addition, license agreements may promote innovation by allowing innovators to earn returns to cover at least part of their research and development costs.⁷²¹ At the same time, they also lead to a dissemination of technologies, which may create value by reducing the licensee's production costs or by fostering the production of new or improved products.⁷²² Licensing can also contribute to the removal of obstacles to the development and exploitation of the licensee's own technology.⁷²³ In particular in sectors where large numbers of patents are prevalent, licensing is often chosen to ensure design freedom by removing the risk of infringement claims by the licensor.⁷²⁴ In other words, when the licensor agrees not to invoke its intellectual property rights to prevent the sale of the licensee's products, the agreement removes an obstacle to the sale of the licensee's product and thus generally promotes competition.⁷²⁵

The Commission will consider the following factors in the assessment of efficiencies: (a) the nature of the claimed efficiencies, (b) the link between the agreement and the efficiencies, (c) the likelihood and magnitude of each claimed efficiency, and (d) how and when each claimed efficiency would be achieved.⁷²⁶ It underlines that a direct causal link between the agreement and the claimed efficiencies is normally required, which exists for instance where a technology transfer agreement enables the licensees to produce new or improved products.⁷²⁷ On the contrary, an insufficient indirect effect would be a claim that the agreement allows the undertakings concerned to increase their profits, leading them to invest more in research and development to the ultimate benefit of consumers.⁷²⁸

⁷²¹ *Id.*

⁷²² *Id.*

⁷²³ *Id.*

⁷²⁴ *Id.*

⁷²⁵ *Id.*

⁷²⁶ Article 101(3) Guidelines, *supra* note 645, para 51.

⁷²⁷ *Id.* para 54.

⁷²⁸ *Id.* para 54

The central analytical tool used to implement modern competition policy is, as mentioned, the concept of market power.⁷²⁹ The latter has a precondition that conduct or structural change is likely to reduce efficiency.⁷³⁰ However, market power can also lead to an increase in efficiency(ies), whereas the latter are categorized in static efficiencies (improvements in the current performance of the market) and dynamic efficiencies (improvements in the performance of the market over time).⁷³¹ Static efficiency encompasses allocative and productive efficiency.⁷³² Allocative efficiency provides that existing goods and services are allocated to those who value them most, in terms of their willingness to pay.⁷³³ Resources thus allocated are used in the best way possible.⁷³⁴ Allocative efficiency refers to efficiency of the market as a whole.⁷³⁵ Productive efficiency, on the other hand, focuses on a particular firm and considers whether it organizes its resources in such a manner that enables it to exploit all economies of scale, to exploit existing technology effectively, and cuts all superfluous costs, so that production cost is at minimum.⁷³⁶ It thus means the more efficient use of the resources of an individual undertaking (as in achieving economies of scale) and lower costs.⁷³⁷ Static models like those named above focus on prices and quantities and put heavy weight on price competition between firms given current costs and current product offerings.⁷³⁸ However, this may be inappropriate in a dynamic environment because in many dynamic

⁷²⁹ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.05 (2006).

⁷³⁰ *Id.*

⁷³¹ *Id.*

⁷³² *Id.* at § 4.13.

⁷³³ Monti Giorgio, *EC Competition Law* 45 (2007).

⁷³⁴ *Id.*

⁷³⁵ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.13 (2006).

⁷³⁶ Monti Giorgio, *EC Competition Law* 45 (2007).

⁷³⁷ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.13 (2006).

⁷³⁸ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 2-036 (3d ed. 2010).

competitive environments firms compete not only on prices but also on innovation.⁷³⁹ Dynamic efficiency relates to the efficiency of the market over time.⁷⁴⁰ It focuses on the medium- or long-term gain to future consumer welfare that may be generated by new products, processes, or ways of doing business.⁷⁴¹ It is a measure of whether firms have the ability and the incentives to increase productivity and to innovate, developing new products or reducing production costs which can bring greater benefits to consumers.⁷⁴² Whereas static measures are only a “snapshot” of the current market position, dynamic efficiency looks at the potential that the economy has to develop further.⁷⁴³ The importance of dynamic efficiency is universally acknowledged, particularly in the context of intellectual property rights. However, a tension remains between considerations of dynamic efficiency and the modern model of competition analysis, which is based on static efficiency.⁷⁴⁴ It is sometimes suggested that the emphasis of competition policy on static efficiency actually impedes dynamic efficiency because only firms that possess substantial market power can invest in research and development.⁷⁴⁵ However, this tension is resolved by accepting that some conduct that creates market power is allowed where it could promote dynamic efficiency.⁷⁴⁶ Besides, dynamic efficiency considerations are also introduced, to a limited extent, to consideration of competitive harm, meaning that conduct or structural change leading to a reduction of dynamic efficiency may be condemned as a competitive harm, alongside reductions in static efficiency.⁷⁴⁷

⁷³⁹ *Id.*

⁷⁴⁰ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.14 (2006).

⁷⁴¹ *Id.*

⁷⁴² Monti Giorgio, *EC Competition Law* 45 (2007).

⁷⁴³ *Id.*

⁷⁴⁴ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.14 (2006).

⁷⁴⁵ *Id.*

⁷⁴⁶ *Id.*

⁷⁴⁷ *Id.*

The difficulty in assessing dynamic efficiencies is that the benefits of present day conduct or structural change for dynamic efficiency are inevitably speculative.⁷⁴⁸ It is only possible to establish that practices or structural change can create the necessary conditions for improvements in dynamic efficiency.⁷⁴⁹ Accordingly, also the benefits of dynamic efficiencies can rarely be fully quantified.⁷⁵⁰ At most it may be possible to identify the range of potential benefits and the number of potential consumer beneficiaries.⁷⁵¹ A high degree of dynamic efficiency yields an increase in allocative and productive efficiencies because, due to the development of new products, more goods that consumers value are produced and resources are used more efficiently than they would be without the technological development.⁷⁵²

The licensor might be better off if it opts for licensing its IP rather than exploiting it itself.⁷⁵³ License agreements may also give rise to efficiencies at the distribution stage in the same way as vertical distribution agreements, in the form of cost savings or the provision of valuable services to consumers.⁷⁵⁴ A further example of possible efficiency gains arise in agreements whereby technology owners assemble a technology package for licensing to third parties.⁷⁵⁵ Such pooling arrangements may in particular reduce transaction costs, as licensees do not have to conclude separate license agreements with each licensor.⁷⁵⁶ Procompetitive licensing may also occur to ensure design freedom.⁷⁵⁷ In sectors where large numbers of intellectual property rights exist and where individual products may infringe upon a number of existing and future property rights, license

⁷⁴⁸ *Id.* at § 4.15.

⁷⁴⁹ *Id.* at § 4.15.

⁷⁵⁰ *Id.* at § 4.15.

⁷⁵¹ *Id.* at § 4.15.

⁷⁵² Monti Giorgio, *EC Competition Law* 45 (2007).

⁷⁵³ Technology Transfer Guidelines, *supra* note 1, para 148.

⁷⁵⁴ *Id.*

⁷⁵⁵ *Id.*

⁷⁵⁶ *Id.*

⁷⁵⁷ *Id.*

agreements whereby the parties agree not to assert their property rights against each other are often procompetitive because they allow the parties to develop their respective technologies without the risk of subsequent infringement claims.⁷⁵⁸

The Commission distinguishes two categories of efficiencies that become relevant in the assessment of the first condition of Article 101(3) TFEU: cost efficiencies and qualitative efficiencies.⁷⁵⁹ However, there is a significant overlap between both categories and the Commission does not consider it appropriate to draw clear and firm distinctions.⁷⁶⁰ The first category of cost efficiencies encompasses, for example, cost savings through the development of new production technologies and methods⁷⁶¹ or through synergies of a combination of existing assets.⁷⁶² Qualitative efficiencies are, for example, quality improvements.⁷⁶³

B. Consumers' share of the resulting benefits

The second condition that consumers must receive a fair share of the benefits implies that consumers of the goods produced under the license must at least be compensated for the negative effects of the agreement.⁷⁶⁴ The term “consumer” refers to any user of the product, including wholesalers, retailers, and end users.⁷⁶⁵ Accordingly, the efficiency gains must fully off-set the likely negative impact on prices, output, and other relevant factors caused by the agreement.⁷⁶⁶ This may be achieved by changing the cost structure of the undertakings concerned, giving them an incentive to reduce price, or by allowing

⁷⁵⁸ *Id.*

⁷⁵⁹ Article 101(3) Guidelines, *supra* note 645, para 59.

⁷⁶⁰ *Id.*

⁷⁶¹ *Id.* para 64.

⁷⁶² *Id.* para 65.

⁷⁶³ *Id.* para 69.

⁷⁶⁴ Technology Transfer Guidelines, *supra* note 1, para 150.

⁷⁶⁵ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 16 (2008).

⁷⁶⁶ Technology Transfer Guidelines, *supra* note 1, para 150.

consumers to gain access to new or improved products, compensating for any likely price increase.⁷⁶⁷ Thus, as long as the increase in value stemming from such improvements exceeds any harm from maintenance or an increase in price caused by the restrictive agreement, consumers are better off than without it.⁷⁶⁸ Since the contribution of benefits flowing from restrictive agreements is assessed in principle within the confines of each relevant market to which the agreement relates, it follows that efficiencies generated by the restrictive agreement within a relevant market must outweigh the anticompetitive effects produced by the agreement within the same relevant market.⁷⁶⁹ Consequently, negative effects on consumers in one geographic market or product market cannot normally be balanced against and compensated by positive effects for consumers in another unrelated geographic or product market.⁷⁷⁰

C. Indispensability of the restriction

Under the indispensability test, the central question is whether individual restrictions enable a more efficient performance of the activity in question than would have been the case in the absence of the restriction concerned.⁷⁷¹ Before one can provide an answer to that question, the market conditions and the realities facing the parties must be examined. However, undertakings invoking the benefit of Article 101(3) TFEU are not required to consider hypothetical or theoretical alternatives, but they must demonstrate why seemingly realistic and clearly less restrictive alternatives would be significantly less efficient.⁷⁷² Only if the application of what appears to be a commercially realistic and less restrictive

⁷⁶⁷ *Id.*

⁷⁶⁸ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.32 (2006).

⁷⁶⁹ Article 101(3) Guidelines, *supra* note 645, para 43.

⁷⁷⁰ *Id.*

⁷⁷¹ Technology Transfer Guidelines, *supra* note 1, para 149.

⁷⁷² *Id.*

alternative would lead to a significant loss of efficiencies, the restriction in question is treated as indispensable.⁷⁷³ Any alternative must reproduce the entire benefit of the existing system.⁷⁷⁴ In some cases, it may also be necessary to examine whether the agreement as such is indispensable to achieve the efficiencies.⁷⁷⁵ This may, for example, be crucial in the context of technology pools that include complementary but non-essential technologies, in which case it must be examined to what extent such inclusion gives rise to particular efficiencies or whether, without a significant loss of efficiencies, the pool could be limited to technologies for which there are no substitutes.⁷⁷⁶ In the case of simple licensing between two parties, it is generally not necessary to go beyond an examination of the indispensability of individual restraints.⁷⁷⁷ Normally there is no less restrictive alternative to the license agreement as such.⁷⁷⁸ This condition requires the efficiencies produced by the agreement to be specific to it in the sense that there are not other economically practicable and less restrictive means for the parties to achieve these efficiencies.⁷⁷⁹ A restriction fulfills the indispensability requirement if its absence would eliminate or significantly reduce the efficiencies that follow from the agreement or make it significantly less likely that they will materialize.⁷⁸⁰ Of course, the more restrictive the restraint, the stricter the test under the third condition.⁷⁸¹ The Commission mentions that hardcore restrictions in Commission guidelines and notices are unlikely to be considered indispensable.⁷⁸²

⁷⁷³ *Id.*

⁷⁷⁴ Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.37 (2006).

⁷⁷⁵ Technology Transfer Guidelines, *supra* note 1, para 149.

⁷⁷⁶ *Id.*

⁷⁷⁷ *Id.*

⁷⁷⁸ *Id.*

⁷⁷⁹ Article 101(3) Guidelines, *supra* note 645, para 75.

⁷⁸⁰ *Id.* para 79.

⁷⁸¹ *Id.* para 79.

⁷⁸² *Id.* para 79.

D. No elimination of competition

The last condition of Article 101(3) TFEU, according to which the agreement must not afford the parties the possibility of eliminating competition in respect of a substantial part of the products concerned, presupposes an analysis of remaining competitive pressures on the market and the impact of the agreement on such sources of competition.⁷⁸³ This provision is intended to ensure that the degree of competition necessary for the attainment of the objectives of the Treaty is preserved.⁷⁸⁴ In the application of the last condition of Article 101(3) TFEU, the relationship between Article 101(3) TFEU and Article 102 TFEU must be taken into account.⁷⁸⁵ According to settled case law, the application of Article 101(3) TFEU cannot prevent the application of Article 102 TFEU.⁷⁸⁶ Moreover, since both articles pursue the aim of maintaining effective competition on the market, consistency requires that Article 101(3) TFEU be interpreted as precluding any application of the exception rule to restrictive agreements that constitute an abuse of a dominant position.⁷⁸⁷

The fact that the agreement substantially reduces one dimension of competition does not necessarily mean that competition is completely eliminated within the meaning of Article 101(3) TFEU.⁷⁸⁸ A technology pool, for instance, can result in an industry standard, leading to a situation in which there is little competition in terms of the technological

⁷⁸³ Technology Transfer Guidelines, *supra* note 1, para 151.

⁷⁸⁴ Steven D. Anderman & John Kallaugh, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.37 (2006).

⁷⁸⁵ Technology Transfer Guidelines, *supra* note 1, para 151.

⁷⁸⁶ See Joined Cases C-395/96 P and C-396/96 P *Compagnie Maritime Belge v Commission* [2000] ECR I-1365, para 130. Similarly, the application of Article 101(3) does not prevent the application of the Treaty rules on the free movement of goods, services, persons and capital. These provisions are in certain circumstances applicable to agreements, decisions and concerted practices within the meaning of Article 101(1), see to that effect Case C-309/99 *Wouters* [2002] ECR I-1577, para 120.

⁷⁸⁷ Technology Transfer Guidelines, *supra* note 1, para 151; Article 101(3) Guidelines, *supra* note 645, para 106.

⁷⁸⁸ Technology Transfer Guidelines, *supra* note 1, para 152.

format.⁷⁸⁹ Once the main players in the market adopt a certain format, network effects may make it very difficult for alternative formats to survive.⁷⁹⁰ This does not imply, however, that the creation of a de facto industry standard always eliminates competition within the meaning of the last condition of Article 101(3) TFEU.⁷⁹¹ Within the standard, suppliers may compete on price, quality, and product features.⁷⁹² However, in order for the agreement to comply with Article 101(3) TFEU, the parties must ensure that the agreement does not unduly restrict competition or future innovation.⁷⁹³

The degree of competition existing prior to the agreement plays an important role.⁷⁹⁴ The term “eliminated” refers to the state where competition is no longer effective in a significant market as a result of the agreement.⁷⁹⁵ However, there is no real precedent regarding what would constitute a substantial part of the EU for purposes of this provision.⁷⁹⁶ Most commentators have equated this requirement with the similar language in Article 102 TFEU, which is usually interpreted as referring to the geographic scope of the market that is affected.⁷⁹⁷ In addition, from a practical point of view, this condition is unlikely to be significant in many cases as it will rarely be the case that an agreement could eliminate competition in a significant market and still meet the balancing test of benefits versus restrictive effects.⁷⁹⁸ One likely scenario, though, would involve benefits of an agreement which are attributable to a different market than the one where the competitive

⁷⁸⁹ *Id.*

⁷⁹⁰ *Id.*

⁷⁹¹ *Id.*

⁷⁹² *Id.*

⁷⁹³ *Id.*

⁷⁹⁴ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.38 (2006).

⁷⁹⁵ *Id.*

⁷⁹⁶ *Id.* at § 3.39.

⁷⁹⁷ *Id.* at § 3.39.

⁷⁹⁸ *Id.* at § 3.40.

harm occurs.⁷⁹⁹ If the benefited market is substantially larger than the harmed market and competition is eliminated in the harmed market, the arrangements could fail the elimination of competition condition.⁸⁰⁰ This would mean that the agreements would be prohibited even though they generate a net benefit in consumer welfare or allocative efficiency.⁸⁰¹ Since this result is difficult to justify from the perspective of an economics-based competition policy, special care will be required both in defining markets and in identifying the elimination of competition to ensure that this condition can be invoked only where there is a serious economic loss in a significant market.⁸⁰²

Individual exemption can be granted only if all four restrictions of Article 101(3) TFEU are fulfilled; hence, a licensing agreement must produce objective economic benefits, consumers must receive a fair share of the efficiency gains, the restrictions on competition must be indispensable to attain the efficiencies, and the agreement must not afford the parties the possibility of eliminating competition in respect of a substantial part of the products concerned.⁸⁰³ These four conditions are cumulative⁸⁰⁴ and exhaustive.⁸⁰⁵

From an institutional perspective, the Commission's antitrust approach to IP licensing provides for a shift of the burden of proof that is contrary to IP laws.⁸⁰⁶ In general, the challenging party carries the burden of proof to establish invalidity, unenforceability, or other improper conduct with regard to IPRs.⁸⁰⁷ According to the Commission's approach, the IPR owner must prove the legality of the planned measure, which includes an analysis

⁷⁹⁹ *Id.* at § 3.40.

⁸⁰⁰ *Id.* at § 3.40.

⁸⁰¹ *Id.* at § 3.40.

⁸⁰² *Id.* at § 3.40.

⁸⁰³ Technology Transfer Guidelines, *supra* note 1, para 146.

⁸⁰⁴ Joined Cases 43/82 and 63/82 *VBV & VBBB v Commission* [1984] ECR 19, para 61; Case T-185/00 *Métropole Television SA (M6) and others v Commission* [2002] ECR II-3805, para 86.

⁸⁰⁵ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 15 (2008).

⁸⁰⁶ Gosta Schindler, *Wagging the Dog? Reconsidering Antitrust-based Regulation of IP-Licensing*, 12 *Marq. Intell. Propr. L. Rev.* 49, 63 (2008).

⁸⁰⁷ *Id.*

of the relevant markets and the market shares of all market participants in the relevant market.⁸⁰⁸ Especially the latter task may be very difficult at times, in particular in the IP context.⁸⁰⁹ Consequently, such shift in the burden of proof might already in advance deter an IP owner from licensing its rights.⁸¹⁰ At the same time it potentially stifles the dissemination of technology and thereby defeats the purpose of the TTBER.⁸¹¹ Moreover the self-assessment system increases costs,⁸¹² as expert opinions will often be necessary to estimate the impact of a certain behavior on the market.

Hardcore restrictions of competition fulfill the conditions of Article 101(3) TFEU only in exceptional circumstances.⁸¹³ Such agreements usually fail one of the first two conditions because they generally do not create objective economic efficiencies or benefits for consumers.⁸¹⁴ Moreover, these types of agreements often also fail the indispensability test under the third condition.⁸¹⁵ For example, if the parties fix the price at which the products produced under the license must be sold, this will generally lead to a lower output and a misallocation of resources and higher prices for consumers.⁸¹⁶ The price restriction is also not indispensable to achieve the possible efficiencies resulting from the availability to both competitors of the two technologies.⁸¹⁷ In general, it can be particularly difficult to determine whether a provision is compatible with Article 101 on the basis that they do not restrict competition and therefore fall outside Article 101(1) TFEU or on the basis that they meet the criteria for exemption under Article 101(3) TFEU.

⁸⁰⁸ *Id.*

⁸⁰⁹ *Id.*

⁸¹⁰ *Id.*

⁸¹¹ *Id.*

⁸¹² *Id.* at 64.

⁸¹³ Technology Transfer Guidelines, *supra* note 1, para 18.

⁸¹⁴ *Id.*

⁸¹⁵ *Id.*

⁸¹⁶ *Id.*

⁸¹⁷ *Id.*

2. The U.S. approach under Section 1 Sherman Act

2.1. Introduction

The U.S. Agencies' IP Guidelines enumerate as their underlying general principles that intellectual property is considered comparable to any other form of property and not presumed to create market power in the antitrust context.⁸¹⁸ The latter was confirmed in *Illinois Tool Works*.⁸¹⁹ Intellectual property is similar to other types of property because it bestows upon its owner the ability to exclude others and to transfer rights by license for its own profit.⁸²⁰ However, IP differs from tangible property in so far as multiple users can use a specific item at the same time.⁸²¹ Besides, although it may be expensive to create the first product unit of an intellectual asset, the IP portion of that product (as distinguished from any tangible embodiment, such as the metal in a patented machine) can be reproduced indefinitely at essentially zero cost.⁸²² Therefore, other antitrust cases can be used for a better understanding of the Agencies application of the rule of reason approach. In addition, the Agencies remark that intellectual property licensing allows firms to combine complementary factors of production and, consequently, is generally procompetitive.⁸²³ The Agencies apply general antitrust principles to licensing agreements because of the underlying rationale that certain types of conduct with respect to intellectual property rights may raise antitrust issues when they create anticompetitive effects.⁸²⁴ Thus, agreements concerning intellectual property rights are neither free from antitrust scrutiny nor particularly suspect under antitrust law.⁸²⁵ This has meant a big shift from the old system, which was traditionally applied by the Agencies and encompassed a rigid approach

⁸¹⁸ IP Guidelines, *supra* note 99, § 2.0.

⁸¹⁹ *Illinois Tool Works v. Indep. Ink*, 547 U.S. 28, 42 (2006).

⁸²⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 17 (2007).

⁸²¹ *Id.*

⁸²² *Id.*

⁸²³ IP Guidelines, *supra* note 99, § 2.0.

⁸²⁴ *Id.* § 2.1.

⁸²⁵ *Id.* § 2.1.

to licensing arrangements, identifying particular practices that were considered forbidden as the “Nine No-No’s” of IP licensing.⁸²⁶

2.2. The rule of reason analysis

A. Introduction

The first requirement for the application of Section 1 Sherman Act is an agreement between two or more independent firms or parties.⁸²⁷ The burden of proof rests on the plaintiff asserting a violation of Section 1 of the Sherman Act to establish a contract, combination in the form of trust or otherwise, or conspiracy between or among two or more parties that unreasonably restrains trade and affects interstate or foreign trade.⁸²⁸ By its nature a patent licensing agreement fulfills this condition and the element is established by the existence of a license agreement between two independently controlled entities.⁸²⁹ The condition that the agreement must affect interstate commerce is fulfilled if the activity in question “substantially and adversely affects interstate commerce,”⁸³⁰ as opposed to purely intrastate trade.

The biggest challenge in a Section 1 claim involving the licensing of intellectual property is the establishment that the agreement unreasonably restrains trade.⁸³¹ If read literally, Section 1 Sherman Act would capture essentially all types of contracting activity; therefore, it was established in *Standard Oil Co. v. United States*⁸³² that only those

⁸²⁶ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 258 (2d ed. 2009).

⁸²⁷ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 7 (2007); *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 761 (1984).

⁸²⁸ American Bar Association, *Intellectual Property and Antitrust Handbook* 159 (2007); *Tunis Bros. v. Ford Motor Co.*, 952 F.2d 715, 722 (3d Cir. 1991).

⁸²⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 160 (2007).

⁸³⁰ *Id.*; *Hosp. Bldg. v. Trs. of Rex Hosp.*, 425 U.S. 738, 743 (1976); *Summit Health v. Pinhas*, 500 U.S. 322, 329 (1991); *McLain v. Real Estate Bd.*, 444 U.S. 232, 241-242 (1980).

⁸³¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 160 (2007).

⁸³² *Standard Oil Co. v. United States*, 221 U.S. 1 (1911).

restraints of trade that unduly or unreasonably restrict competition cause an antitrust violation.⁸³³ The method developed by the courts to capture unreasonable restraints, and to which Section 1 Sherman Act claims are in general subject, is the antitrust rule of reason,⁸³⁴ which applies to the vast majority of licensing restraints.⁸³⁵ In *Board of Trade of Chicago v. United States*,⁸³⁶ a very important early precedent,⁸³⁷ the Supreme Court described the rule of reason as a comprehensive analysis that considers “the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable, as well as the history of the restraint, the evil believed to exist, the reason for adopting the particular remedy, and the purpose or end sought to be attained.”⁸³⁸

In the late 1970s, however, the Court reassessed the contours of the rule of reason in two cases.⁸³⁹ In *Continental T.V., Inc. v. GTE Sylvania Inc.*,⁸⁴⁰ the Court described the rule of reason as a process of weighing all facts and circumstances of a case to determine whether a practice unreasonably restrained competition.⁸⁴¹ Moreover, in *National Society of Professional Engineers v. United States*,⁸⁴² the Court provided a more focused approach, emphasizing the primacy of anticompetitive effects in the rule of reason analysis, thus concentrating on the main question of whether the challenged practice promotes competition or suppresses it.⁸⁴³ In the same decision the Court stated that the rule of reason

⁸³³ 221 U.S. at 58.

⁸³⁴ *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 726 (1988).

⁸³⁵ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol’y Int’l Bus.* 801, 803 (2003).

⁸³⁶ *Board of Trade of Chicago v. United States*, 246 U.S. 231 (1918).

⁸³⁷ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007).

⁸³⁸ 246 U.S. at 238.

⁸³⁹ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007).

⁸⁴⁰ *Continental T.V. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

⁸⁴¹ 433 U.S. at 49; Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007).

⁸⁴² *National Society of Professional Engineers v. United States*, 435 U.S. 679 (1978).

⁸⁴³ 435 U.S. at 691; Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007).

is an effects-based test that looks past a restraint's structure to determine market impact, referring to the ultimate impact of the restraint on competitive conditions.⁸⁴⁴

The finding of an antitrust violation does not presuppose a formal agreement or, necessarily, direct evidence of concerted action; it may also be inferred from circumstantial evidence that is likely to exclude the possibility of independent action and reasonably proves a deliberate commitment to a common scheme with an unlawful objective.⁸⁴⁵

The Agencies clearly state in their IP Guidelines that the rule of reason constitutes their general approach in analyzing potential restraints in license agreements.⁸⁴⁶ They inquire whether a restraint is likely to have anticompetitive effects and, if so, whether the restraint is reasonably necessary to achieve procompetitive benefits that outweigh those anticompetitive effects.⁸⁴⁷ Consequently, this method stresses a very flexible, case-specific consideration of possible efficiencies.⁸⁴⁸ The rule of reason analysis involves "specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint's history, nature, and effect."⁸⁴⁹

The Agencies underline that the application of the rule of reason generally postulates an extensive inquiry into market conditions.⁸⁵⁰ One important factor in the overall assessment is whether one of the parties enjoys market power.⁸⁵¹ The latter serves as a screen on antitrust review, limiting it to the cases where an undertaking's practices are most likely to

⁸⁴⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 44 (2007); 435 U.S. at 688.

⁸⁴⁵ *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 768 (1984); American Bar Association, *Intellectual Property and Antitrust Handbook* 43-44 (2007).

⁸⁴⁶ IP Guidelines, *supra* note 99, § 3.2. and § 4.

⁸⁴⁷ *Id.*; Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol'y Int'l Bus.* 801, 803 (2003).

⁸⁴⁸ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol'y Int'l Bus.* 801, 825 (2003).

⁸⁴⁹ *State Oil Co. v. Khan*, 522 U.S. 3, 10 (1997).

⁸⁵⁰ IP Guidelines, *supra* note 99, § 3.4.

⁸⁵¹ Roger D. Blair. & David L. Kaserman, *Antitrust Economics* 110 (2d ed. 2009).

impose anticompetitive effects.⁸⁵² In every market that is not perfectly competitive each market participant enjoys some degree of market power as it can increase its price above marginal cost to a certain extent without causing a total loss of sales.⁸⁵³ Hence, a distinction must be made between a competitively significant and insignificant degree of market power.⁸⁵⁴ It can be concluded that the parties' market position plays an important role because the size of the defendant's market share is the primary factor in determining whether market power exists.⁸⁵⁵ However, it is by no means the only one because undertakings with market shares as low as 22 - 30% have been found to possess market power.⁸⁵⁶ Consequently, as market shares are not necessarily a viable proxy to ascertain market power, the cases analyzing the legality of restraint in licenses – especially between horizontal competitors – do not indicate a particular market share level that must exist as a prerequisite for illegality.⁸⁵⁷ Another important factor is the competitive relationship of the parties: whether it is horizontal or vertical.⁸⁵⁸ The Agencies underline in this respect that a horizontal relationship need not give rise to an anticompetitive effect, nor does a purely vertical relationship assure the absence of any anticompetitive effects.⁸⁵⁹

Other factors in the overall antitrust assessment include consumer demand, pricing trends, and sales practices in the industry.⁸⁶⁰ Moreover, the potential for competitive harm may also depend on the degree of concentration in, the difficulty of entry into, and the

⁸⁵² Einer Elhauge, *United States Antitrust Law and Economics* 183 (2008).

⁸⁵³ Roger D. Blair & David L. Kaserman, *Antitrust Economics* 110 (2d ed. 2009).

⁸⁵⁴ *Id.* at 110-111.

⁸⁵⁵ *United States v. Dentsply Int'l*, 399 F.3d 181, 187 (3d Cir. 2005).

⁸⁵⁶ *Toys "R" US v. FTC*, 221 F.3d 928, 937 (7th Cir. 2000); American Bar Association, *Intellectual Property and Antitrust Handbook* 40 (2007).

⁸⁵⁷ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 56 (3d ed. 2010).

⁸⁵⁸ IP Guidelines, *supra* note 99, § 3.3.

⁸⁵⁹ *Id.*

⁸⁶⁰ *Toys "R" US v. FTC*, 221 F.3d 928, 937 (7th Cir. 2000); American Bar Association, *Intellectual Property and Antitrust Handbook* 40 (2007).

responsiveness of supply and demand to price changes in the relevant markets.⁸⁶¹ The Supreme Court established: “The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.”⁸⁶² However, if the plaintiff is able to discharge that burden, the defendant is still allowed to assert that the practice is justified from a competitive point of view, by demonstrating that its procompetitive aspects outweigh any possible harm to competition.⁸⁶³

B. Analysis of anticompetitive effects

The Agencies establish whether a restriction in a licensing agreement concluded by parties in a horizontal relationship may increase the risk of coordinated pricing, output restrictions, or the acquisition or maintenance of market power.⁸⁶⁴ Consequently, a licensing restraint can harm competition among actual or potential competitors by facilitating market division or price fixing.⁸⁶⁵ In addition, there is a risk that license restrictions with respect to one market may harm competition in another market by anticompetitively foreclosing access to, or significantly raising the price of, an important input, or by facilitating coordination to increase price or reduce output.⁸⁶⁶ Furthermore, an agreement raises antitrust issues if it poses a significant risk of retarding or restricting the development of new or improved goods and processes.⁸⁶⁷

When the licensor and licensees are in a vertical relationship, a very important aspect of the antitrust analysis is the determination of whether the licensing agreement harms

⁸⁶¹ IP Guidelines, *supra* note 99, § 4.1.1.

⁸⁶² *Board of Trade of Chicago v. United States*, 246 U.S. 231, 238 (1918).

⁸⁶³ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 51 (2010).

⁸⁶⁴ IP Guidelines, *supra* note 99, § 4.1.1.

⁸⁶⁵ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol’y Int’l Bus.* 801, 803 (2003).

⁸⁶⁶ *Id.*

⁸⁶⁷ IP Guidelines, *supra* note 99, § 4.1.1.

competition among entities in a horizontal relationship at the level of the licensor or licensees, or possibly in another relevant market.⁸⁶⁸ As explained, competitive harm may be associated with foreclosure of access to, or the increase of competitors' costs of obtaining, important inputs, or facilitated coordination to raise price or restrict output.⁸⁶⁹ The risk of anticompetitively foreclosing access or increasing competitors' costs depends on the proportion of the markets affected by the licensing restraint, other characteristics of the relevant markets, and the duration of the restraint.⁸⁷⁰ However, such foreclosure effects on competition do not merely occur because some or all of the potential licensees in an industry choose to use the licensed technology to the exclusion of other technologies.⁸⁷¹ Such exclusive use may simply be the consequence of the licensed technology having the lowest cost or highest value.⁸⁷²

In general a restraint must cause substantial anticompetitive effects to qualify as unreasonable.⁸⁷³ If, upon an evaluation of the market factors, the conclusion can be drawn that the restriction at issue is unlikely to have an anticompetitive effect, a further examination of procompetitive benefits is not required and the contract will not be challenged.⁸⁷⁴ If, however, the restraint has, or tends to have, anticompetitive effects, the next step is to consider whether the restraint is reasonably necessary to achieve procompetitive efficiencies.⁸⁷⁵

⁸⁶⁸ *Id.*

⁸⁶⁹ *Id.*

⁸⁷⁰ *Id.*

⁸⁷¹ *Id.*

⁸⁷² *Id.*

⁸⁷³ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007).

⁸⁷⁴ IP Guidelines, *supra* note 99, § 4.2.

⁸⁷⁵ *Id.*

C. Analysis of efficiencies and justifications

Despite potential adverse effects, procompetitive benefits of licensing are also acknowledged in the U.S.⁸⁷⁶ These positive effects include the consideration that some licensing restraints facilitate the integration of licensed property with complementary factors of production – a process which leads to a more efficient exploitation of the IP, reduced costs, and the potential introduction of new products.⁸⁷⁷ In addition, some restraints enable the coordinated development of technologies that are in a blocking relationship⁸⁷⁸ and could not be used without infringing upon the other patent owner's IP absent the license. Licensing restrictions also protect the licensee from free riding on its investments and from competition by the licensor's own technology.⁸⁷⁹ As a result, the licensee has an incentive to invest in the commercialization and distribution of products embodying the licensed IP and to develop additional applications for the licensed IP.⁸⁸⁰ Otherwise, it may be reluctant to conclude the licensing agreement at all because it would fear competition by the licensor whose expenses are not burdened by royalties.

D. The balancing act

If the restraint is reasonably necessary, the Agencies will balance the procompetitive efficiencies and the anticompetitive effects in order to determine the probable net effect on competition in each relevant market.⁸⁸¹ A logical consequence is that, with the increase of expected anticompetitive effects in a particular licensing agreement, the level of required

⁸⁷⁶ Alden F. Abbott, *Intellectual Property Licensing and Antitrust Policy: A Comparative Perspective*, 34 *Law & Pol'y Int'l Bus.* 801, 803 (2003).

⁸⁷⁷ *Id.*

⁸⁷⁸ *Id.*

⁸⁷⁹ *Id.*

⁸⁸⁰ *Id.*

⁸⁸¹ IP Guidelines, *supra* note 99, § 4.2.

evidence establishing expected efficiencies must equally be higher.⁸⁸² In this context, the existence of practical and significantly less restrictive alternatives must be taken into consideration in the course of a determination of whether a restraint is reasonably necessary.⁸⁸³ Accordingly, if the parties could have achieved similar efficiencies by significantly less restrictive methods, the Agencies will not grant priority to the parties' efficiency claim.⁸⁸⁴ Nevertheless, in the course of this assessment the Agencies will not look for the theoretically least restrictive alternative, which is unrealistic in the practical prospective business situation faced by the parties.⁸⁸⁵

After anticompetitive effects have been determined, the duration of the restraint at issue must be taken into account when determining whether it is reasonably necessary to achieve the alleged procompetitive efficiency.⁸⁸⁶ However, the Agencies will focus on situations in which the duration clearly exceeds the period needed to achieve the procompetitive efficiency.⁸⁸⁷ Accordingly, a restraint can be justified by the needs of a new entrant, but may not have a procompetitive efficiency justification under different market conditions.⁸⁸⁸

Other important elements of the analysis are whether the alleged justifications are cognizable in a sense that they are theoretically plausible and of a character that is likely to advance competitive efficiencies and valid, meaning that they actually accomplish their asserted goal when applied.⁸⁸⁹ Although licensing agreements are generally considered as procompetitive and welfare-enhancing, antitrust concerns can still arise when they harm

⁸⁸² *Id.*

⁸⁸³ *Id.*

⁸⁸⁴ *Id.*

⁸⁸⁵ *Id.*

⁸⁸⁶ *Id.*

⁸⁸⁷ *Id.*

⁸⁸⁸ *Id.*

⁸⁸⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 492 (2007).

competition.⁸⁹⁰ Consequently, any behavior that impairs the opportunities of rivals, and does not further competition on the merits or does so in an unnecessarily restrictive way, is qualified as anticompetitive.⁸⁹¹

The result of the balancing act of procompetitive benefits against negative effects on competition is easy to predict at the extremes but, apart from these particular scenarios, other cases present significant difficulties.⁸⁹² Courts often engage in a burden-shifting analysis, dismissing many cases because the plaintiff could not show that the restraint had a significant anticompetitive effect.⁸⁹³ Where a claim is governed by the rule of reason, the burden of proof rests with the plaintiff to establish that the overall effect of the restraints in an agreement harms competition in a market that is relevant for purposes of the antitrust laws.⁸⁹⁴ The plaintiff must first define the relevant product or service market and the geographic market in which competition occurs.⁸⁹⁵ A plaintiff must further demonstrate that the defendant or conspirators exercise market power and negatively affect competition in the relevant market.⁸⁹⁶ The exercise of market power can be proven by direct evidence or expert testimony (e.g., regarding the market shares in a relevant market) eventually coupled with an economic analysis explaining why such market shares may warrant an inference of market power in light of market structure, barriers to entry, and possibly other factors, such as the market positions of competitors.⁸⁹⁷ If the plaintiff meets its burden of proof, the burden shifts to the defendants, who must come forward with a procompetitive

⁸⁹⁰ Sharon K. Sandeen, American Bar Association, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 260 (2d ed. 2009).

⁸⁹¹ *Id.*

⁸⁹² American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 60 (3d ed. 2010).

⁸⁹³ *Id.*

⁸⁹⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 160 (2007).

⁸⁹⁵ *Id.*; *Walker Process Equip. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 178 (1965).

⁸⁹⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 160 (2007); *United States v. Visa USA*, 344 F.3d 229, 238 (2d Cir. 2003).

⁸⁹⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 161 (2007).

justification.⁸⁹⁸ In assessing such justifications, courts may take into account the extent to which the restraint is reasonably necessary to achieve the procompetitive justification and the extent to which such objectives may be attained through less restrictive means.⁸⁹⁹

2.3. The per-se rule

With regard to Section 1 Sherman Act, courts have divided unreasonable restraints into two categories: per se illegal and qualified illegal after having failed the rule of reason test.⁹⁰⁰ Per se forbidden practices are so inherently anticompetitive that they are found illegal, irrespective of any possible justification.⁹⁰¹ Its application is only appropriate where experience with a particular kind of restraint allows one to predict with confidence that the rule of reason will condemn it,⁹⁰² thus only manifestly anticompetitive practices justify its application.⁹⁰³ The only assessment under the per se rule is whether an agreement was concluded; the element of unreasonableness is presumed.⁹⁰⁴ Scenarios where such practices improve competitiveness will be rare and therefore do not justify the substantial burden of requiring antitrust plaintiffs to prove unreasonableness.⁹⁰⁵ Consequently, where a per se activity comes under scrutiny, courts will find liability automatically and will not perform an efficiencies-based test.⁹⁰⁶ Hence a legitimate business reason cannot justify antitrust conduct that has been deemed per se illegal, as

⁸⁹⁸ *Id.*; *United States v. Visa USA*, 344 F.3d 229, 238 (2d Cir. 2003); *PolyGram Holding v. FTC*, 416 F.3d 29, 38 (D.C. Cir. 2005).

⁸⁹⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 161 (2007); *United States v. Visa USA*, 344 F.3d 229, 238 (2d Cir. 2003).

⁹⁰⁰ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 35-36 (2010).

⁹⁰¹ *Id.* at 46.

⁹⁰² Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 69 (2010), *State Oil Co. v. Khan*, 522 U.S. 3, 10 (1997), *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877, 894 (2007), *Arizona v. Maricopa County Med. Soc'y*, 457 U.S. 332, 351 (1982).

⁹⁰³ *Continental TV v. GTE Sylvania*, 433 U.S. 36, 50 (1977).

⁹⁰⁴ Gary Myers, *The Intersection of Antitrust and Intellectual Property: Cases and Materials* 10 (2007); *Northern Pacific Ry. Co. v. United States*, 356 U.S. 1, 5 (1958).

⁹⁰⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 44 (2007).

⁹⁰⁶ *Id.*; *Palmer v. BRG of Ga.*, 498 U.S. 46, 49-50 (1990).

courts are likely to find liability automatically.⁹⁰⁷ Where a plaintiff proves conduct that falls within a per se category, nothing more is needed for liability – an assessment of the defendant’s power, illicit purpose, and anticompetitive effect are considered irrelevant.⁹⁰⁸

In order to decide whether the per se or rule of reason is applied to a restraint, the Agencies analyze whether it can be expected to contribute to an efficiency-enhancing integration of economic activity.⁹⁰⁹ As explained, it can be presumed in general that licensing arrangements promote such integration because they facilitate the combination of the licensor’s intellectual property with complementary factors of production owned by the licensee.⁹¹⁰ A restriction in a licensing arrangement may enhance such integration by fostering the development and marketing of the licensed technology, or by substantially reducing transactions costs.⁹¹¹ However, if the type of restraint is one that has been accorded per se treatment – and thus of a kind that would always or almost always tend to reduce output or increase prices – and if it lacks any efficiency enhancing integration of economic activity, it is likely to be challenged under the per se rule instead of a rule of reason analysis.⁹¹² Classic per se illegal practices denominated by courts predominantly involve secret agreements between competitors that aim at the elimination of competition and lead to an increase in prices.⁹¹³ The Agencies list in their IP Guidelines, for example, naked price fixing,⁹¹⁴ market division agreements among competitors,⁹¹⁵ output restrictions, and group boycotts and resale price maintenance agreements.⁹¹⁶

⁹⁰⁷ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 256 (2d ed. 2009); 498 U.S. at 49-50.

⁹⁰⁸ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 665 (2d ed. 2007).

⁹⁰⁹ IP Guidelines, *supra* note 99, § 3.4; *Broadcast Music v. CBS*, 441 U.S. 1, 16-24 (1979).

⁹¹⁰ IP Guidelines, *supra* note 99, § 3.4.

⁹¹¹ *Id.*

⁹¹² *Id.*

⁹¹³ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 36 (2010).

⁹¹⁴ *Arizona v. Maricopa County Med. Soc’y*, 457 U.S. 332, 354 (1982); *Catalano, Inc. v. Target Sales, Inc.* 446 U.S. 643, 650 (1980).

In the last 15 years the Supreme Court has shown an active interest in reforming antitrust law.⁹¹⁷ Changes in judicial practice could be witnessed in areas such as vertical price fixing or the market power presumption in the patent context, where it has replaced decisions that applied a per se analysis with a more relaxed rule of reason treatment.⁹¹⁸ Thus the category of per se forbidden practices has shrunk. The court observed that the rule of reason and the per se rule – the two essential standards – overlap at the margin: “there is often no bright line separating per se from rule of reason analysis.”⁹¹⁹ Even though the dividing line has blurred somewhat in recent years, it still forms a useful basis for categorization.⁹²⁰

2.4. The truncated rule of reason analysis

Antitrust litigation may be linked to substantial costs because the rule of reason requires evidence that the defendant exercised market power, which a plaintiff can only prove after defining the relevant market, a task that often combines expert opinions and extensive document productions.⁹²¹ Even courts identified the problem of long and expensive litigation.⁹²² This has led to the establishment of the truncated rule of reason or “quick look” approach, according to which the comprehensive inquiry into market conditions can be truncated under specific circumstances.⁹²³ If the Agencies conclude that a restraint has

⁹¹⁵ *Palmer v. BRG of Ga.*, 498 U.S. 46, 49-50 (1990); *United States v. Topco Assocs.*, 405 U.S. 596, 607-608 (1972).

⁹¹⁶ IP Guidelines, *supra* note 99, § 3.4; Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer, A Transactions-based Guide to Intellectual Property Law* 256 and 259 (2d ed. 2009).

⁹¹⁷ *Id.* at 64.

⁹¹⁸ *Id.* at 64; *State Oil Co. v. Khan*, 522 U.S. 3 (1997) (vertical maximum price fixing); *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006) (patent does not automatically confer market power); *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705 (2007) (vertical minimum price fixing).

⁹¹⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 45 (2007); *NCAA v. Board of Regents of the Univ. of Oklahoma*, 468 U.S. 85, 104 note 26 (1984).

⁹²⁰ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 45-46 (2010).

⁹²¹ Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 57 (2009).

⁹²² *Bell Atl. Corp. v. Twombly*, 127 S. Ct. 1555, 1567 (2007).

⁹²³ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 61 (3d ed. 2010).

no likely anticompetitive effects, they will treat it as reasonable, without a detailed analysis of market power or potential justifications.⁹²⁴ Similarly, if a restraint facially appears to be of a kind that would always or almost always tend to reduce output or increase prices, and the restraint is not reasonably related to efficiencies, the Agencies will also likely challenge the restraint without an elaborate analysis of particular industry circumstances.⁹²⁵ The application of the truncated rule of reason depends on the categorization as “highly suspicious restraints but sufficiently novel that collective judicial experience is insufficient to warrant per se condemnation.”⁹²⁶ Moreover, in such cases proof of market power or sometimes even anticompetitive effect can be truncated or even skipped, but subsequently, the burden of proof still shifts to the defendant to demonstrate outweighing procompetitive benefits.⁹²⁷ The Supreme Court has held, however, that it would be inappropriate to consider the truncated formula of the rule of reason a new category of analysis that can be classified between per se and rule of reason, because the Court actually moved away from any reliance upon fixed categories and toward a “continuum.”⁹²⁸

An example where courts employed the truncated rule of reason involved a horizontal agreement to withhold services or information from consumers.⁹²⁹ Prior to *California Dental*,⁹³⁰ where the evidence of actual anticompetitive effects was not clear, most courts

⁹²⁴ IP Guidelines, *supra* note 99, § 3.4; *FTC v. Indiana Federation of Dentists*, 476 U.S. 447, 460-461 (1986); *NCAA v. Board of Regents of the Univ. of Oklahoma*, 468 U.S. 85, 109 (1984).

⁹²⁵ IP Guidelines, *supra* note 99, § 3.4; 476 U.S. at 459-460; 468 U.S. at 109; Sara M. Biggers et al., *Intellectual Property and Antitrust: A Comparison of Evolution in the European Union and United States*, 22 Hamline J. Pub. L. & Pol’y 209, 254 (1999).

⁹²⁶ IP Guidelines, *supra* note 99, § 3.4 note 27; 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.3d (2008).

⁹²⁷ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.3d (2008).

⁹²⁸ *California Dental Ass’n v. FTC*, 526 U.S. 756, 779 (1999); *Polygram Holding v. FTC*, 416 F.3d 29, 35-36 (D.C. Cir. 2005); American Bar Association, *Intellectual Property and Antitrust Handbook* 45 (2007).

⁹²⁹ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 62 (3d ed. 2010); *NCAA v. Board of Regents of the Univ. of Oklahoma*, 468 U.S. 85, 104 (1984); *FTC v. Indiana Fed’n of Dentists*, 476 U.S. 447, 459 (1986).

⁹³⁰ *California Dental Ass’n v. FTC*, 526 U.S. 756 (1999).

rejected the quick look approach and demanded instead a full rule of reason analysis.⁹³¹ Pursuant to *California Dental*, the affirmative showing required to demonstrate illegality depends and hence may vary with the nature of the restraint and the circumstances of the markets.⁹³² Moreover, in this decision the Court also stated that there is no clear line distinguishing quick-look from rule of reason cases.⁹³³ This category is therefore not explicitly recognized as a separate one by the case law. Summing up, the conclusion can be drawn that in Section 1 Sherman Act litigation today, courts qualify the most concerning categories of horizontal agreements as per se illegal, but uphold the majority of vertical agreements under the rule of reason.⁹³⁴

2.5. Ancillarity

A notion of ancillarity exists also in the U.S. Over the years, courts have drawn distinctions between naked restraints that had no purpose except to harm competition and agreements that were ancillary to a legitimate objective.⁹³⁵ A restraint can be described as ancillary if its objectively intended purpose or likely effect is lower prices or increased output, as measured by quantity or quality.⁹³⁶ Nevertheless, ancillary restraints are not automatically legal; they receive rule of reason treatment⁹³⁷ and may still be found unlawful.⁹³⁸ Note the difference to the concept of ancillarity in the EU, explained above.

⁹³¹ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 62 (3d ed. 2010); *United States v. Brown Univ.*, 5 F.3d 658, 678 (3d Cir. 1993); *U.S. Healthcare v. Healthsource, Inc.*, 986 F.2d 589, 595 (1st Cir. 1993).

⁹³² 526 U.S. at 780-781; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 62 (3d ed. 2010).

⁹³³ 526 U.S. at 779.

⁹³⁴ Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 58 (2009).

⁹³⁵ *United States v. Addyston Pipe & Steel Co.*, 85 Fed. 271, 282 (6th Cir. 1898); Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 62 (2009).

⁹³⁶ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.3 (2008).

⁹³⁷ *Id.* at § 30.3b.

3. A comparison of EU and U.S. law

A significant convergence of EU and U.S. antitrust law can be observed when both approaches appraise licensing as potentially procompetitive. Moreover, neither in the EU nor in the U.S. are intellectual property rights presumed to confer market power. Case law in both jurisdictions has established that IP rights are neither free from antitrust scrutiny nor particularly suspect. A first difference is that EU law does not provide for a rule of reason analysis in the application of the general antitrust prohibition of Article 101(1) TFEU. Consequently, no balancing act of the pro- and anticompetitive effects of the agreement takes place in the assessment of whether competition is appreciably restricted, thereby affecting trade between Member States in the sense of Article 101(1) TFEU.⁹³⁹ However, the evaluation under Article 101(3) TFEU undeniably resembles to a certain extent the rule of reason analysis under Section 1 Sherman Act, due to the introduction of a more economic approach in the EU.⁹⁴⁰ Conversely, the U.S. approach differs in so far as the rule of reason provides a quite flexible method to balance anticompetitive and procompetitive benefits to determine whether a practice is forbidden under the antitrust prohibition. In the EU, on the other hand, the established regime is rather strict. The four conditions, laid down in Article 101(3) TFEU, must be fulfilled to grant an exemption of an otherwise impermissible practice. Some authors denominate the analysis under Article 101(3) TFEU a rule of reason analysis.⁹⁴¹ Based on the above, I do not agree because of the explained differences between the analysis under Article 101 TFEU and the U.S. antitrust rule of reason.

⁹³⁸ *Id.* at § 3.24.

⁹³⁹ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 68 (3d ed. 2010); Case C-235/92 *Montecatini v Commission* [1999] ECR I-4539, para 133.

⁹⁴⁰ Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.43 (2006).

⁹⁴¹ Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 70 (2010).

A further difference is the absence of any per se rules in the EU in contrast to the U.S.,⁹⁴² which means that any practice – including hardcore restrictions – that fulfills the four conditions of Article 101(3) TFEU could theoretically be exempted from antitrust scrutiny. Nevertheless, the ultimate result will be the same in both jurisdictions because it is hard to imagine a scenario where hardcore restrictions that constitute a restriction of competition by object would fulfill the conditions for individual exemption. A de facto similarity with per se forbidden practices is hence undeniable.

In both jurisdictions the actual effects of the agreement at issue must be examined – a further similarity. This resemblance, influenced by an economic understanding of IP licensing, is not a coincidence; the EU was inspired by the legal situation in place in the U.S.⁹⁴³ There is generally strong convergence between both systems as the application of Article 101 TFEU and Section 1 Sherman Act is firmly based on enhancing consumer welfare.⁹⁴⁴ There has been criticism, however, that despite the explanation in the IP Guidelines, it is still unclear how clauses are exactly evaluated under the rule of reason.⁹⁴⁵ Only the extremes allow for a clear estimation.⁹⁴⁶ Accordingly, clearly anticompetitive restraints are challenged under the per se rule, whereas clearly procompetitive restraints are permissible in line with the rule of reason.⁹⁴⁷ This is true in so far as it is not generally easy to predict the outcome of the evaluation in advance. This critique is also justified with regard to the EU system, where antitrust counselors face the same problems.

Under both antitrust laws a number of factors plays an important role in the antitrust analysis and will influence the ultimate result, which can, of course vary on a case-by-case

⁹⁴² Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.43 (2006).

⁹⁴³ *Id.*

⁹⁴⁴ Gosta Schindler, *Wagging the Dog? Reconsidering Antitrust-based Regulation of IP-Licensing*, 12 Marq. Intell. Propr. L. Rev. 49, 72 (2008).

⁹⁴⁵ *Id.*

⁹⁴⁶ *Id.*

⁹⁴⁷ *Id.*

basis depending on the configuration of the particular factors in a case at issue. There is also convergence with regard to the relevant factors in the course of the antitrust assessment: An appropriate analysis demands an extensive inquiry into market conditions. It is therefore, *inter alia*, necessary in the EU and the U.S. to evaluate the market position of the parties, and the position of their competitors. An important step is the determination of actual or potential competitive relationships between the parties and whether one of them enjoys market power. Moreover, the market position of buyers of the licensed products should also be taken into account, and the existence of entry barriers on the relevant market, as well as pricing trends and sales practices in the industry. Notably, the Agencies will consider the duration of the restraint and whether the claimed efficiencies can be achieved by significantly less restrictive methods. The Commission equally considers the duration of the agreement and assesses whether there are seemingly realistic and clearly less restrictive alternatives available to achieve the claimed efficiencies.

Conflicts in the philosophy are related to the need to consider the EU's objective to promote economic integration.⁹⁴⁸ In Europe, licensing agreements which cause a division of territory between Member States are likely to be forbidden because of the single market objective.⁹⁴⁹ Moreover, the EU approach is very detailed, thereby reflecting the traditions of a code-based system of law.⁹⁵⁰ In the EU, characterizing parties as either competitors or non-competitors plays a bigger role than in the U.S. and, consequently, different substantive rules are applied depending on how the parties are classified. The IP Guidelines focus more on the nature of the license terms and whether the relationship

⁹⁴⁸ Haris Apostolopoulos, *The Copyright Misuse Doctrine on Computer Software: A Redundant Doctrine of U.S. Copyright Law or a Necessary Addition to E.U. Copyright Law?*, 24 J. Marshall J. Computer & Info. L. 571, 593 (2006).

⁹⁴⁹ Margaret Bloom, *The U.S. and EU Move towards Substantial Antitrust Convergence on Consumer Welfare Based Enforcement*, 19 Antitrust ABA 18, 20 (2005); Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 4.11 (2006).

⁹⁵⁰ *Id.*

between the parties is vertical or horizontal.⁹⁵¹ In the U.S., the focus is on inter-technology competition. As established by the Agencies, IP licensing arrangements may raise antitrust concerns when they affect competition that would have occurred in the absence of the license.⁹⁵² Such practices may cause substantive harm to competition by, for example, eliminating competition between substitute technologies or foreclosure effects.⁹⁵³ The same negative effects are equally recognized in the EU. On the contrary, intra-technology competition is not competition that would have occurred in the absence of the license⁹⁵⁴ and does not therefore raise antitrust issues in the U.S. Vertical restraints and the assessment of intra-technology competition play a crucial part in the EU antitrust analysis. This divergent approach is related to different attitudes within the U.S. and the EU concerning intra-brand competition and vertical restraints.⁹⁵⁵ Taking into account the EU objective of single market integration, there is a focus on restrictions on intra-technology competition not equally recognized in the U.S.⁹⁵⁶ In the EU preserving intra-technology competition is as important as safeguarding effective inter-technology competition.

The Commission's approach – that Article 101 is not infringed where there are four or more independently controlled technologies in addition to the technologies controlled by the parties to the agreement that may be substitutable for the licensed technology at a comparable cost to the user – can be equated with the U.S. Agencies' approach. The latter employ nearly the same wording in their IP Guidelines,⁹⁵⁷ by clearly stating that they will not challenge a restraint that is not facially anticompetitive and if there are four or more

⁹⁵¹ *Id.*

⁹⁵² IP Guidelines, *supra* note 99, § 3.1.

⁹⁵³ Richard J. Gilbert, *Converging Doctrines? U.S. and EU Antitrust Policy for the Licensing of Intellectual Property*, 19 Antitrust ABA 51, 52 (2004).

⁹⁵⁴ *Id.*

⁹⁵⁵ *Id.*

⁹⁵⁶ Margaret Bloom, *The U.S. and EU Move towards Substantial Antitrust Convergence on Consumer Welfare Based Enforcement*, 19 Antitrust ABA 18, 20 (2005).

⁹⁵⁷ See IP Guidelines, *supra* note 99, § 4.3.

independently controlled technologies in addition to the technologies controlled by the parties to the licensing arrangement that may be substitutable for the licensed technology at a comparable cost to the user.

The IP Guidelines in the U.S. cannot be considered as a legally binding act; therefore, the relevant case law must be examined as well. However, a discrepancy can be recognized with regard to some issues as there continues to be conflict between the federal circuits, as well as between the courts and the enforcement Agencies.⁹⁵⁸ Consequently, even though the IP Guidelines offer the government's perspective, they have not harmonized antitrust law applicable to intellectual property.⁹⁵⁹

Many commentators have underlined the EU's dual goals (market integration and effective competition) and used them as a basis to argue for the fundamental difference between EU and U.S. antitrust law.⁹⁶⁰ Taking into account the fact that U.S. antitrust law has only one objective, this reasoning makes sense, but this divergence does not necessarily influence the assessment of commercial practices.⁹⁶¹ One point where the influence is obvious is the antitrust analysis of vertical restraints. In both jurisdictions economic reasoning provides the necessary tools for the examination of the effectiveness of competition, and the same economic principles are thus applicable across the Atlantic.⁹⁶²

Summing up, one clear similarity is the basic notion of necessity to include economic consideration in any antitrust analysis. Although the consideration of procompetitive efficiencies under Article 101(3) TFEU resembles the rule of reason under Section 1 Sherman Act, it must be underlined that they are not identical. The U.S. approach appears

⁹⁵⁸ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 1-2 (3d ed. 2010).

⁹⁵⁹ *Id.* at 2.

⁹⁶⁰ Simon Bishop & Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* § 1-007 (3d ed. 2010).

⁹⁶¹ *Id.*

⁹⁶² *Id.*

much more flexible because an exemption from antitrust scrutiny in the EU is only granted after and conditioned upon the fulfillment of all four requirements clearly enumerated in Article 101(3) TFEU. There is also a notable difference regarding the burden of proof. Under U.S. antitrust law, the plaintiff must prove that the challenged practice harms competition in a relevant market.⁹⁶³ After having discharged this burden, the defendant can demonstrate that the conduct is justified by showing that its procompetitive effects outweigh the negative ones.⁹⁶⁴ Under EU law, once a practice is caught by Article 101(1) TFEU, the defendant must prove that all four conditions of Article 101(3) TFEU are fulfilled.⁹⁶⁵

VI. A selection of restraints in patent licenses and their compatibility with Article 101 TFEU and Section 1 Sherman Act

This section deals with various types of restraints that are commonly included in patent licensing agreements. The Commission's Technology Transfer Guidelines explain how it will likely treat certain types of restrictions.⁹⁶⁶ Under EU law the same principles are applied irrespective of the underlying IP, as long as it comes within the definition of technology transfer agreements pursuant to the TTBER. In the U.S., however, important principles have been developed by case law and may vary depending on the underlying IP. This part of the doctoral thesis shows the application of the general antitrust principles that have been elaborated in the previous chapters using patent licenses as an example. As explained below, in the EU it is important to distinguish between licensing between non-competitors and agreements between competitors. Moreover, with regard to the latter the Commission often differentiates, where appropriate, between reciprocal and non-reciprocal

⁹⁶³ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 51 (2010).

⁹⁶⁴ *Id.*

⁹⁶⁵ Regulation 1/2003, *supra* note 151, art 2.

⁹⁶⁶ Technology Transfer Guidelines, *supra* note 1, paras 153-203.

agreements.⁹⁶⁷ It further sets forth that no such distinction is required with regard to agreements between non-competitors because, when undertakings are neither actual nor potential competitors on a relevant technology market or on a market for products incorporating the licensed technology, a reciprocal license is really no different from two separate licenses.⁹⁶⁸ At this point it is also essential to recall that the Commission's method of categorization in either competitors or non-competitors depends on whether the parties would have been actual or potential competitors in the absence of the agreement. Thus, where the parties enter in a competitive relationship because of the agreement, it will still come within the more relaxed standard between non-competitors.

In the U.S., the IP Guidelines also contain a section on the application of general principles to various licensing restraints.⁹⁶⁹ The idea was to identify those arrangements likely to receive antitrust scrutiny, but the Agencies clearly state that this list is neither intended to be exhaustive nor to include all possible practices that could raise competitive concerns.⁹⁷⁰ Moreover, with regard to certain restrictions, case law has meanwhile developed in another direction; the IP Guidelines are therefore no longer up-to-date in specific cases.

Ten different categories of licensing restraints were selected and analyzed. This list, however, is not intended to be exhaustive. Rather, the general antitrust principles will be demonstrated using the most common forms of restrictions likely to raise antitrust issues across the Atlantic.

⁹⁶⁷ *Id.* para 154.

⁹⁶⁸ *Id.* para 154.

⁹⁶⁹ *Id.* § 5.

⁹⁷⁰ *Id.* § 5.0.

1. Exclusive licensing

There are two possibilities for license arrangements. First, they can be nonexclusive, thereby conveying solely the right not to be sued for an infringement. Second, they can be exclusive, including also the right to exclude others from exploiting the IP in the field covered by the license.⁹⁷¹

1.1. Exclusive licensing under Article 101 TFEU

Pursuant to European antitrust law, a patent licensing agreement is deemed to be exclusive if the licensee is the only one permitted to produce, on the basis of the licensed technology, within a given territory.⁹⁷² Thus, it grants protection from competition with other potential manufacturers of the licensed good within the licensed territory.⁹⁷³ At the same time, the licensor is obliged not to produce the product itself or to license to others within the given territory, even if the given territory covers the entire world.⁹⁷⁴ However, a licensor may also grant a sole license by simply agreeing not to license to third parties to produce within a given territory, while still retaining the right to exploit the technology itself.⁹⁷⁵

The amount of antitrust scrutiny attributed to exclusive licenses will usually depend on the competitive relationship of the parties.⁹⁷⁶ The Commission frequently divides exclusive licenses into two categories: agreements between competitors and agreements between non-competitors.⁹⁷⁷ This division is not only reflected in the hardcore list of Article 4 but

⁹⁷¹ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 409 (2003).

⁹⁷² Technology Transfer Guidelines, *supra* note 1, para 162.

⁹⁷³ Josef Drexl, *Research Handbook on Intellectual Property and Competition Law* 124 (2008).

⁹⁷⁴ Technology Transfer Guidelines, *supra* note 1, para 162.

⁹⁷⁵ *Id.*

⁹⁷⁶ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 6.

⁹⁷⁷ *Id.*

also in the Technology Transfer Guidelines.⁹⁷⁸ The Commission often differentiates its application of antitrust law depending on the competitive relationship of the parties.⁹⁷⁹ Thus, the first step in the antitrust analysis of exclusive patent licenses should be determining whether the parties are competitors.⁹⁸⁰ In order to determine the competitive relationship between parties, the Commission suggests examining whether the parties would have been actual or potential competitors in the absence of the agreement.⁹⁸¹ If, absent the agreement, the parties would not have been actual or potential competitors in any relevant market affected by the agreement, then they are deemed to be non-competitors.⁹⁸² Competing parties, on the other hand, would have competed in the relevant technology market and/or the relevant product market absent the agreement.⁹⁸³ In some cases, however, the parties become competitors as a result of the formation of the agreement. When this occurs, the Commission emphasizes that it will take into account the fact that the parties were non-competitors before finalizing the agreement.⁹⁸⁴ The advantage, then, is the application of the more relaxed standards of agreements between non-competitors, such as the market-share thresholds for the block exemption regulation and the list of hardcore restrictions of Article 4 TTBER.⁹⁸⁵

A. Reciprocal exclusive licenses between competitors

Reciprocal exclusive licensing between competitors, where both parties grant each other licenses concerning competing technologies or technologies that can be used for the

⁹⁷⁸ *Id.*

⁹⁷⁹ *Id.* at 6-7.

⁹⁸⁰ *Id.* at 7.

⁹⁸¹ Technology Transfer Guidelines, *supra* note 1, para 27.

⁹⁸² *Id.*

⁹⁸³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(j).

⁹⁸⁴ Technology Transfer Guidelines, *supra* note 1, para 31.

⁹⁸⁵ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 7.

production of competing products, falls under Article 4(1)(c) TTBER, which identifies market allocation between competitors as a hardcore restriction.⁹⁸⁶ As a result, such agreements do not qualify for block exemption and must be examined individually under Article 101 TFEU.⁹⁸⁷ Article 101(1) TFEU differentiates between restrictions of competition by object and restrictions of competition by effect.⁹⁸⁸ The first category restricts competition by its very nature.⁹⁸⁹ It encompasses restrictions that, in light of the objectives pursued by the EU competition rules, have such a high potential for negative effects on competition that demonstration of any actual effects on the market are unnecessary to find a violation.⁹⁹⁰ As all practices enumerated in the hardcore list of Article 4 TTBER constitute restrictions of competition by object, they are automatically captured by Article 101(1) TFEU.⁹⁹¹ The next step, then, is the assessment of a possible individual exemption under Article 101(3) TFEU.⁹⁹² Since they typically do not provide efficiencies and do not grant consumers a fair share of the resulting benefits, hardcore restrictions on competition usually do not fulfill the four conditions of Article 101(3) TFEU.⁹⁹³ Market allocation harms competition over prices and may lead to higher prices, to the disadvantage of consumers.⁹⁹⁴ It also reduces dynamic competition; the incentive to invent new products decreases when a party does not fear that its rival will invest

⁹⁸⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(c); *id.* art 1 para 1(c); Technology Transfer Guidelines, *supra* note 1, para 163.

⁹⁸⁷ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 7-8.

⁹⁸⁸ *Id.* at 8.

⁹⁸⁹ *Id.* at 8.

⁹⁹⁰ Technology Transfer Guidelines, *supra* note 1, para 14; Case C-49/92 *Commission v Anic Partecipazioni* [1999] ECR I-4125, para 99.

⁹⁹¹ Technology Transfer Guidelines, *supra* note 1, para 14.

⁹⁹² Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 8.

⁹⁹³ *Id.*

⁹⁹⁴ *Id.*

significantly in order to profit from new technologies.⁹⁹⁵ At the very least, the agreement will fail the indispensability test as there are clearly less restrictive means available than an allocation of the relevant market between the parties.⁹⁹⁶ Furthermore, agreements implementing market allocation schemes are reviewed with particular scrutiny as it is a core EU objective to create an EU-wide integrated internal market without frontiers.⁹⁹⁷ Thus, one can be confident that reciprocal exclusive licenses between competitors are likely to be forbidden under EU antitrust law.⁹⁹⁸

B. Reciprocal sole licenses between competitors

Reciprocal sole licensing between competitors receives a more favorable antitrust treatment because it is block exempted up to the combined market-share threshold of 20% of the parties involved.⁹⁹⁹ Under such an agreement, the parties license to each other their respective competing technologies, or technologies that can be used for the production of competing products, and mutually commit not to license them to third parties, but they still retain the right to use their technology themselves.¹⁰⁰⁰ The latter element will normally prevent market allocation because both parties continue to be a competitive force with regard to their own technology.¹⁰⁰¹

Above the market-share threshold, reciprocal sole licensing agreements are individually scrutinized under Article 101 TFEU, taking into consideration all aspects of the particular

⁹⁹⁵ *Id.*

⁹⁹⁶ *Id.*

⁹⁹⁷ TEU, *supra* note 19, art 3, paras 2-3.

⁹⁹⁸ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 8.

⁹⁹⁹ *Id.* at 9.

¹⁰⁰⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(c)(iii); Technology Transfer Guidelines, *supra* note 1, para 163.

¹⁰⁰¹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 9.

case.¹⁰⁰² An antitrust analysis should involve considerations of: the nature of the agreement, the market position of the parties, the market position of competitors, the market position of buyers of the licensed products, entry barriers, maturity of the market, and other factors.¹⁰⁰³ Moreover, the Commission emphasizes that the importance of individual factors depends on the configuration of all relevant factors and may vary from case to case.¹⁰⁰⁴ For instance, a high market share of the parties is usually a good indicator of market power but, when combined with low entry barriers, this fact may not always hold true.¹⁰⁰⁵ Consequently, firm rules on the importance of the individual factors cannot be established.¹⁰⁰⁶ This perfectly demonstrates the flexible, more economic approach, where antitrust assessment varies on a case-by-case basis.¹⁰⁰⁷ The other side of the coin is that such flexibility results in legal uncertainty and reduced predictability of antitrust enforcement.¹⁰⁰⁸ However, the Commission provides, as much as possible, guidance in its Technology Transfer Guidelines with respect to its enforcement practice in a prospective antitrust case.¹⁰⁰⁹ Naturally, it is impossible to capture all potential scenarios.¹⁰¹⁰ Since this system currently established in the EU is based on self-assessment, antitrust counselors must construe the different categories of licensing restraints in line with the general principles set forth in the Technology Transfer Guidelines by the Commission.¹⁰¹¹

For example, a reciprocal sole licensing agreement is likely to come within the scope of Article 101(1) TFEU when a party involved enjoys market power because, in the absence

¹⁰⁰² *Id.*

¹⁰⁰³ Technology Transfer Guidelines, *supra* note 1, para 132.

¹⁰⁰⁴ *Id.*

¹⁰⁰⁵ *Id.*

¹⁰⁰⁶ *Id.*

¹⁰⁰⁷ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 9.

¹⁰⁰⁸ *Id.*

¹⁰⁰⁹ *Id.* at 10.

¹⁰¹⁰ *Id.* at 10.

¹⁰¹¹ *Id.* at 10.

thereof, it is unlikely that the license will have the effect of a restriction on competition.¹⁰¹²

Consider a situation where the agreement does not profit from the block exemption regulation because the thresholds are slightly exceeded (e.g., Party A 10%, Party B 12%), and there are enough other market participants and no significant barriers to market entry.¹⁰¹³ In this scenario, it is unlikely that the Commission will challenge the license.¹⁰¹⁴

This example demonstrates exactly why there should not be any presumption that agreements exceeding the market-share thresholds of the TTBER are automatically captured by Article 101(1) TFEU.¹⁰¹⁵

Even if the parties have larger market shares and some market power, strong arguments in favor of an individual exemption can be asserted.¹⁰¹⁶ First, both parties can continue to use their patented technology and also use the other party's intellectual property.¹⁰¹⁷ Such use of each other's intellectual property can actually enhance competition and lead to a desirable combination of the assets of both parties.¹⁰¹⁸ Hence, the first condition of Article 101(3) TFEU is likely to be fulfilled as the license provides procompetitive efficiencies in the form of cost efficiencies¹⁰¹⁹ or qualitative efficiencies.¹⁰²⁰ In addition, these efficiencies are likely to be transferred to consumers because they may profit from a wider variety of products based on the same technology or from positively modified, or even cheaper, products.¹⁰²¹ A reciprocal sole licensing clause can be considered indispensable to attain

¹⁰¹² *Id.* at 10.

¹⁰¹³ *Id.* at 10.

¹⁰¹⁴ *Id.* at 10.

¹⁰¹⁵ Commission Regulation (EC) No 772/2004, *supra* note 17, preamble para 12.

¹⁰¹⁶ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 10.

¹⁰¹⁷ *Id.*

¹⁰¹⁸ *Id.*

¹⁰¹⁹ Article 101(3) Guidelines, *supra* note 645, paras 64-65.

¹⁰²⁰ *Id.* paras 69-71.

¹⁰²¹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 11.

the aforementioned procompetitive efficiencies due to the lack of a less restrictive means to provide each party with the use of the other party's technology and, at the same time, induce them to undertake the necessary investment in the license.¹⁰²² Reciprocal sole licensing constitutes a less restrictive form of cross-licensing than reciprocal exclusive licensing.¹⁰²³ A non-exclusive license will not suffice in most cases.¹⁰²⁴ A strong argument for indispensability is, therefore, that the parties may refrain from licensing if the other party is able to grant licenses to other market participants.¹⁰²⁵ The fourth condition of Article 101(3) TFEU presupposes an analysis of remaining competitive pressures on the market and the impact of the agreement on such sources of competition.¹⁰²⁶ Since both parties remain active and continue to produce based on the licensed technologies, there is no perceivable threat of an elimination of competition.¹⁰²⁷ This criterion will usually not be fulfilled unless competition no longer exists in a relevant market.¹⁰²⁸

However, critical situations identified by the Commission are instances where the parties have a significant degree of market power, because reciprocal sole licensing agreements may facilitate collusion by ensuring that the parties are the only sources of output in the market based on the licensed technologies.¹⁰²⁹ In this scenario, if neither party is allowed to license to other parties, then it is unlikely that the agreement will produce procompetitive efficiencies that will benefit consumers.¹⁰³⁰ On the contrary, the parties will be able to act

¹⁰²² *Id.*

¹⁰²³ *Id.*

¹⁰²⁴ *Id.*

¹⁰²⁵ *Id.*

¹⁰²⁶ Technology Transfer Guidelines, *supra* note 1, para 151.

¹⁰²⁷ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 11.

¹⁰²⁸ Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 3.38 (2006).

¹⁰²⁹ Technology Transfer Guidelines, *supra* note 1, para 163.

¹⁰³⁰ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 11-12.

independently and may control the market together, which could ultimately lead to unfavorable conditions for consumers in the form of higher prices or limited choices.¹⁰³¹ Once again, antitrust counselors face the problem of legal uncertainty due to the more economic approach because the Commission provides few clues as to what it considers to be a significant degree of market power.¹⁰³² In all cases, a detailed market analysis must be the first step in an investigation.¹⁰³³ Due to the procompetitive potential of reciprocal sole patent licenses, however, the Technology Transfer Guidelines¹⁰³⁴ should be construed as requiring high market shares and other unfavorable market conditions for competitors (e.g., entry barriers) in order to find the conditions of Article 101(3) TFEU to be unfulfilled.¹⁰³⁵ Antitrust issues may also arise when the package of technologies resulting from the cross-licenses creates a de facto industry standard to which third parties must have access in order to compete effectively in the market.¹⁰³⁶ The result of such an agreement is the creation of a closed standard reserved for the parties¹⁰³⁷ that causes substantial exclusionary effects.¹⁰³⁸ The Commission will assess these arrangements in line with the principles applied to technology pools,¹⁰³⁹ which are set forth separately in the Technology Transfer Guidelines.¹⁰⁴⁰ Consequently, parties will usually be required to license to third parties the technologies supporting such a standard on fair, reasonable, and non-

¹⁰³¹ *Id.* at 12.

¹⁰³² *Id.* at 12.

¹⁰³³ *Id.* at 12.

¹⁰³⁴ Technology Transfer Guidelines, *supra* note 1, para 163.

¹⁰³⁵ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 12.

¹⁰³⁶ Technology Transfer Guidelines, *supra* note 1, para 167.

¹⁰³⁷ *Id.*

¹⁰³⁸ *Id.*

¹⁰³⁹ *Id.*

¹⁰⁴⁰ *Id.* paras 210-235.

discriminatory terms, since licensing to third parties constitutes the only possible means to avoid a negative impact on competition.¹⁰⁴¹

C. Non-reciprocal exclusive licenses between competitors

Non-reciprocal exclusive licensing between competitors – where just one party grants the other a license, or the parties license technologies to each other that do not compete and cannot be used for the production of competing products – are also block exempted up to the combined market-share threshold of 20%.¹⁰⁴² If the threshold is exceeded, then the Commission will analyze potential anticompetitive effects, starting with the scope of the exclusive license.¹⁰⁴³ If the scope is worldwide, then the licensor is assumed to have exited the market altogether.¹⁰⁴⁴ If the exclusivity is limited to a particular territory, such as a Member State, then the agreement only requires that the licensor abstain from producing goods and services in the territory in question.¹⁰⁴⁵

The analysis under Article 101(1) TFEU, with respect to the latter type of agreement, concerns the competitive significance of the licensor.¹⁰⁴⁶ If the licensor's market position in the product market is already limited or if it lacks the capacity to effectively exploit the technology in the licensee's territory, then the agreement is not likely to trigger Article 101(1) TFEU.¹⁰⁴⁷ The reason for this conclusion is that such patent licenses do not restrict competition that would have existed in the absence of the agreement and, therefore, do not come within the scope of the proscription of Article 101(1) TFEU.¹⁰⁴⁸ For example,

¹⁰⁴¹ *Id.*

¹⁰⁴² Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(c)(ii); Technology Transfer Guidelines, *supra* note 1, para 164.

¹⁰⁴³ Technology Transfer Guidelines, *supra* note 1, para 164.

¹⁰⁴⁴ *Id.*

¹⁰⁴⁵ *Id.*

¹⁰⁴⁶ *Id.*

¹⁰⁴⁷ *Id.*

¹⁰⁴⁸ *Id.*

suppose a licensor, such as a research institute or small research-based company, and a licensee are competitors in the technology market.¹⁰⁴⁹ The licensor probably lacks the production and distribution assets to effectively market products that incorporate the licensed technology.¹⁰⁵⁰ According to the Commission, such a scenario is unlikely to infringe Article 101(1) TFEU.¹⁰⁵¹

Some authors consider exclusivity clauses as ancillary to the whole licensing agreement and, therefore, suggest that some forms do not trigger Article 101(1) TFEU at all.¹⁰⁵² The concept of ancillary restraints deals with any alleged restriction on competition that is directly related, necessary, and proportionate to the implementation of a main non-restrictive transaction.¹⁰⁵³ Restrictions can be considered as ancillary when they are necessary to resolve hold-up problems on either side of the agreement.¹⁰⁵⁴ This means that a contractual protection for either party is necessary to ensure that the technology transfer takes place or that the technology transferred is actually used.¹⁰⁵⁵ Consequently, restrictions in an agreement that do not have the object or effect of restricting competition and are directly related to and necessary for the implementation of the transaction in question also fall outside Article 101(1) TFEU.¹⁰⁵⁶ The main argument in favor of this conclusion deals with the risks borne by the licensee.¹⁰⁵⁷ The licensee takes the risk of investing capital in manufacturing premises and a distribution system, instead of engaging

¹⁰⁴⁹ *Id.*

¹⁰⁵⁰ *Id.*

¹⁰⁵¹ *Id.*

¹⁰⁵² Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 7.22 (2006).

¹⁰⁵³ Article 101(3) Guidelines, *supra* note 645, para 29.

¹⁰⁵⁴ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 5.15 (2006).

¹⁰⁵⁵ *Id.*

¹⁰⁵⁶ Article 101(3) Guidelines, *supra* note 645, para 29.

¹⁰⁵⁷ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 7.23 (2006).

in its own R&D program.¹⁰⁵⁸ In addition, licensing agreements often stipulate minimum royalty provisions or an upfront fee.¹⁰⁵⁹ As a result, unless there is some protection against competition from the licensor and other licensees in its territory, the licensee will have little incentive to take on the entrepreneurial burden of such risk.¹⁰⁶⁰

Despite the plausibility of this argument, it is questionable whether this position is compatible with the Commission's view on exclusivity clauses in patent licensing agreements in general.¹⁰⁶¹ The only instance described in the Technology Transfer Guidelines in which Article 101(1) TFEU does not apply is the case of a licensor lacking market power (see *supra*).

Nevertheless, the same reasoning may be asserted in an individual antitrust assessment of an exclusive patent license where the parties enjoy market power together and, as a result, have the ability to restrict competition within the meaning of Article 101(1) TFEU.¹⁰⁶² The prior argument serves to undermine the indispensability condition under Article 101(3) TFEU.¹⁰⁶³ An exclusive patent licensing agreement may produce procompetitive efficiencies where the licensee combines the licensor's technology with its own knowledge and assets, leading to improved products that are advantageous for consumers.¹⁰⁶⁴ Exclusivity can be indispensable when a license would not occur in its absence because the licensee is unwilling or unable to make significant investments in the production process due to fears of competition from a very strong licensor or other licensees.¹⁰⁶⁵ However, this argument should only be invoked if the licensee has its own valuable assets that can

¹⁰⁵⁸ *Id.*

¹⁰⁵⁹ *Id.*

¹⁰⁶⁰ *Id.*

¹⁰⁶¹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 15.

¹⁰⁶² *Id.*

¹⁰⁶³ *Id.*

¹⁰⁶⁴ *Id.*

¹⁰⁶⁵ *Id.*

combine with the licensor's to create a package that has significant benefits and could not be achieved otherwise.¹⁰⁶⁶ In these cases, the fourth condition of Article 101(3) TFEU will be particularly relevant, because an exclusivity clause can be problematic with regard to a prospective elimination of competition.¹⁰⁶⁷ Even though an exclusivity clause reduces intra-technology competition, this does not necessarily mean that competition no longer exists in the relevant markets as long as some degree of inter-technology competition, based on different technologies, continues to exist.¹⁰⁶⁸

By contrast, if the licensor is the only party enjoying market power, then it is questionable whether the agreement infringes Article 101(1) TFEU at all.¹⁰⁶⁹ In fact, such a case can enhance inter-technology competition as a licensee with a smaller portion of market share, rather than the stronger licensor, is now exclusively allowed to produce.¹⁰⁷⁰ If it comes within the scope of Article 101(1) TFEU by reducing intra-technology competition, then it creates procompetitive efficiencies as it leads to a dissemination of valuable technologies; as a result, consumers usually profit.¹⁰⁷¹ The exclusive license may also be indispensable in cases where the licensee is not willing to undertake significant investments to adapt his production facilities in order to produce under the license due to fears of competition from the strong licensor, who can use the same technology without royalty burdens.¹⁰⁷² As explained above, the fourth condition for exemption is also likely to be fulfilled in this situation.¹⁰⁷³

¹⁰⁶⁶ *Id.*

¹⁰⁶⁷ *Id.*

¹⁰⁶⁸ *Id.* at 15-16.

¹⁰⁶⁹ *Id.* at 16.

¹⁰⁷⁰ *Id.* at 16.

¹⁰⁷¹ *Id.* at 16.

¹⁰⁷² *Id.* at 16.

¹⁰⁷³ *Id.* at 16.

Applying the general principles of the antitrust assessment under Article 101 TFEU, the Commission will consider the market position of the licensee.¹⁰⁷⁴ If the licensee has market power, then the agreement is likely to come within the scope of Article 101(1) TFEU when the licensor grants the licensee an exclusive license.¹⁰⁷⁵ However, if the licensee is in a better position to efficiently exploit the technology, and is more willing or better able to take the significant investments for the production process, then the agreement may provide procompetitive efficiencies.¹⁰⁷⁶ As a result, consumers may also profit from the resulting newly developed products.¹⁰⁷⁷ However, the third condition might be problematic, especially with regard to the scope of the exclusive license.¹⁰⁷⁸ For instance, the parties may have to demonstrate that a worldwide scope was indispensable to attain certain efficiencies and a more limited scope of the license would not have sufficed to induce the licensee to invest in the patent license.¹⁰⁷⁹ The same arguments provided above may be asserted with regard to the fourth condition of Article 101(3) TFEU. Even though an exclusivity clause reduces intra-technology competition, this does not necessarily mean that competition no longer exists in the relevant markets so long as some degree of inter-technology competition, based on different technologies, continues to exist.¹⁰⁸⁰

The situation will be more problematic in the case of a dominant licensee that gains access to a competing technology as the Commission expressly acknowledges that, apart from the hardcore restriction of reciprocal exclusive licenses between competitors explained above, these situations are much more likely to raise antitrust concerns.¹⁰⁸¹ According to the Commission, such agreements are likely to trigger Article 101(1) TFEU and are unlikely to

¹⁰⁷⁴ *Id.* at 16.

¹⁰⁷⁵ *Id.* at 16.

¹⁰⁷⁶ *Id.* at 16.

¹⁰⁷⁷ *Id.* at 16.

¹⁰⁷⁸ *Id.* at 16.

¹⁰⁷⁹ *Id.* at 16-17.

¹⁰⁸⁰ *Id.* at 17.

¹⁰⁸¹ Technology Transfer Guidelines, *supra* note 1, para 166.

fulfill the conditions of Article 101(3) TFEU.¹⁰⁸² Nevertheless, a necessary condition for a finding of antitrust liability is difficult entry into the technology market.¹⁰⁸³ Moreover, the licensed technology must constitute a real source of competition on the market.¹⁰⁸⁴ In such circumstances, an exclusive license may foreclose third party licensees and allow the licensee to preserve its market power.¹⁰⁸⁵ Consequently, this paragraph should be construed to capture only extreme situations that involve a significant degree of market power.¹⁰⁸⁶ In these cases, exclusive patent licenses will not fulfill the conditions of Article 101(3) TFEU.¹⁰⁸⁷

D. Exclusive licensing between non-competitors

Exclusive licensing between non-competitors is covered by the block exemption regulation, which applies – provided that all requirements enumerated in the TTBER are met – up to the individual market-share thresholds of 30% for each party involved.¹⁰⁸⁸

Agreements between non-competitors that cannot profit from the TTBER because the conditions of its application are not met are – to the extent that they are caught by Article 101(1) – likely to fulfill the conditions of Article 101(3) TFEU.¹⁰⁸⁹ The Commission’s explanation for this effect is the fact that an exclusive license serves as a necessary inducement for the licensee to invest in the licensed technology and to bring the products to market in a timely manner.¹⁰⁹⁰ Especially in cases where the licensee must undertake

¹⁰⁸² *Id.*

¹⁰⁸³ *Id.*

¹⁰⁸⁴ *Id.*

¹⁰⁸⁵ *Id.*

¹⁰⁸⁶ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 17.

¹⁰⁸⁷ *Id.*

¹⁰⁸⁸ *Id.* at 18.

¹⁰⁸⁹ Technology Transfer Guidelines, *supra* note 1, para 165.

¹⁰⁹⁰ *Id.*

large investments to further develop the licensed technology, an intervention by competition authorities against the exclusivity would deprive the licensee of the fruits of its success after the licensee has made a commercial success of the licensed technology.¹⁰⁹¹

Moreover, the licensee would be discouraged from developing the licensed technology; allowing the licensor to grant licenses to other parties would be detrimental to competition, the dissemination of technology, and innovation in general.¹⁰⁹²

With regard to the second condition of Article 101(3) TFEU, one can presume that consumers will profit from it as they will receive a share of these qualitative efficiencies in the form of better products or products with novel features.¹⁰⁹³ These benefits may be especially linked to synergies that result from the combination of the licensor's technology with the licensee's assets.¹⁰⁹⁴ The patent licensing agreement may also be indispensable because the licensee would not otherwise have access to the licensor's exclusive intellectual property without the license.¹⁰⁹⁵ At the same time, there are no less restrictive means available that would provide the same procompetitive efficiencies as the licensee may refuse to develop new products or invest significantly if it fears competition from the licensor who has no royalty burdens.¹⁰⁹⁶ According to the Commission, there is no threat with regard to the elimination of competition.¹⁰⁹⁷ Hence, the Commission will intervene

¹⁰⁹¹ *Id.*

¹⁰⁹² *Id.*

¹⁰⁹³ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 18.

¹⁰⁹⁴ Article 101(3) Guidelines, *supra* note 645, para 71.

¹⁰⁹⁵ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 18-19.

¹⁰⁹⁶ *Id.* at 19.

¹⁰⁹⁷ Technology Transfer Guidelines, *supra* note 1, para 165.

against exclusive licensing in agreements between non-competitors, irrespective of the territorial scope of the license, only in exceptional circumstances.¹⁰⁹⁸

A special licensing agreement form is exclusive licensing with absolute territorial protection.¹⁰⁹⁹ The ECJ drew the distinction between open exclusive licenses and exclusive licenses with absolute territorial protection¹¹⁰⁰ in *Nungesser v. Commission (Maize Seed)*.¹¹⁰¹ The former does not protect the licensee from parallel importers.¹¹⁰² Absolute territorial protection granted to a licensee results, however, in a separation of national markets, which is contrary to the creation of a single market and Article 101 TFEU.¹¹⁰³ The ECJ held in *Nungesser v. Commission* that the grant of a license for plant breeder's rights over hybrid maize seeds, under which the licensor agreed not to compete with the licensee in his territory or appoint other licensees within the territory, did not necessarily restrict competition within the meaning of Article 101(1) TFEU.¹¹⁰⁴ Thus, there is no presumption that open exclusive licenses come within the scope of the antitrust prohibition.¹¹⁰⁵ The Court explicitly held that the application of the competition rules does not differ for plant breeder's rights and IP rights.¹¹⁰⁶ Therefore, the principles of this decision are equally important for antitrust cases involving patents and should be applied

¹⁰⁹⁸ *Id.*

¹⁰⁹⁹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 19.

¹¹⁰⁰ Josef Drexl, *Research Handbook on Intellectual Property and Competition Law* 14 (2008).

¹¹⁰¹ Case 258/78 *Nungesser v Commission* [1982] ECR 2015.

¹¹⁰² Josef Drexl, *Research Handbook on Intellectual Property and Competition Law* 14 (2008).

¹¹⁰³ *Id.*

¹¹⁰⁴ See Case 258/78 *Nungesser v Commission* [1982] ECR 2015, para 58 (This case concerned a licensing agreement between non-competitors.).

¹¹⁰⁵ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 19.

¹¹⁰⁶ Case 258/78 *Nungesser v Commission* [1982] ECR 2015, para 35.

to them.¹¹⁰⁷ Moreover, a dominant licensee that gains access to a competing technology raises the same antitrust issues in agreements between non-competitors (as explained above in the context of licenses between competitors) because, pursuant to the Technology Transfer Guidelines, the Commission identifies these situations as potential antitrust violations without any distinction regarding the competitive relationship between the parties.¹¹⁰⁸ Hence, the relevant provision in the Technology Transfer Guidelines should be construed to apply to all patent licensing agreements involving a dominant licensee.¹¹⁰⁹ As mentioned above, parties will fall within the more relaxed market-share thresholds applicable to agreements between non-competitors even if they become competitors as a result of the agreement.¹¹¹⁰ One presumes, then, that even if the parties were not competitors prior to the conclusion of the agreement, Article 101(1) TFEU is likely to be infringed if a dominant licensee gains access to a competing technology.¹¹¹¹ According to the Commission, such agreements are likely to be caught by Article 101(1) and are unlikely to fulfill the conditions of Article 101(3) TFEU.¹¹¹² However, necessary conditions for a finding of antitrust liability are: (1) a difficult entry into the technology market and (2) the licensed technology constitutes a real source of competition in the market.¹¹¹³ In such circumstances, an exclusive license may foreclose third party licensees and allow the licensee to preserve its market power.¹¹¹⁴

¹¹⁰⁷ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/tlfpapers/fina&baumgartner_wp11.pdf, 20.

¹¹⁰⁸ Technology Transfer Guidelines, *supra* note 1, para 166.

¹¹⁰⁹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/tlfpapers/fina&baumgartner_wp11.pdf, 20.

¹¹¹⁰ *Id.*

¹¹¹¹ Josef Drexler, *Research Handbook on Intellectual Property and Competition Law* 125 (2008).

¹¹¹² Technology Transfer Guidelines, *supra* note 1, para 166.

¹¹¹³ *Id.*

¹¹¹⁴ *Id.*

1.2. Exclusive licenses under Section 1 Sherman Act

Like in the EU, an exclusive patent license gives the licensee the exclusive status of being the only party that receives a license grant from the licensor.¹¹¹⁵ The Agencies' IP Guidelines define exclusive licensing agreements by stating that exclusivity provisions in licensing agreements restrict the licensor's right to license to others and possibly also to use the technology itself.¹¹¹⁶ The IP Guidelines do not expressly employ the term "sole licensing" for the first category; however, it can still be compared to sole licenses under the European definition. These licenses are also commonly referred to as licenses with partial or limited exclusivity under U.S. law.¹¹¹⁷ The Agencies' focus is on the actual practice and its effects, not on the formal terms of the arrangement. A license denominated as non-exclusive may nonetheless give rise to the same concerns posed by formal exclusivity.¹¹¹⁸ A non-exclusive license may have the effect of exclusive licensing if it is structured in a way that impedes the licensor from licensing to others or from using the technology itself.¹¹¹⁹

A. Legality of exclusive patent licenses

Unlike in the EU, Section 261 of the Patent Act¹¹²⁰ specifically authorizes the patentee to grant or convey an exclusive right to use its patent throughout the United States or any region therein.¹¹²¹ Courts have long acknowledged the patentee's right to grant exclusive

¹¹¹⁵ Robert W. Gomulkiewicz et al., *Licensing Intellectual Property: Law and Application* 174 (2008).

¹¹¹⁶ IP Guidelines, *supra* note 99, § 4.1.2.

¹¹¹⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 184 (2007); American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 103 (3d ed. 2010).

¹¹¹⁸ IP Guidelines, *supra* note 99, § 4.1.2.

¹¹¹⁹ *Id.*

¹¹²⁰ 35 U.S.C. § 261 (1988).

¹¹²¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 184 (2007).

licenses.¹¹²² Consequently, without additional aggravating circumstances, the formation of an exclusive patent license does not constitute a violation of U.S. antitrust law.¹¹²³ The rationale behind this assumption of legality is that exclusive licenses are usually no more of a threat to competition than the patent itself.¹¹²⁴ For instance, the court held in *United States v. Westinghouse Elec.* that the right to license a patent, exclusively or otherwise, or to refuse to license at all is “the untrammelled right” of the patentee.¹¹²⁵ This also includes the possibility of granting sole licenses, which have somewhat alleviated certain negative impacts on competition compared to pure exclusive licenses. For example, the court held in *Genentech, Inc. v. Eli Lilly & Co.*¹¹²⁶ that “the grant of an exclusive license is a lawful incident of the rights to exclude provided by the Patent Act.”¹¹²⁷

B. Potential antitrust issues in horizontal exclusive licenses

An exclusive license may raise antitrust concerns only if the licensees themselves, or the licensor and its licensees, are in a horizontal relationship,¹¹²⁸ which presupposes that they would have been actual or likely potential competitors in a relevant market in the absence of the license.¹¹²⁹ Yet, the grant of an exclusive license, even between competitors, may be

¹¹²² *Waterman v. Mackenzie*, 138 U.S. 252, 255 (1819); *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135-136 (1969).

¹¹²³ American Bar Association, *Intellectual Property and Antitrust Handbook* 184 (2007); American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 103 (3d ed. 2010); Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 25 (2008); *Virtue v. Creamery Package Mfg. Co.*, 227 U.S. 8, 37 (1913); *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1127 (D.C. Cir. 1981); *United States v. Westinghouse Elec.*, 648 F.2d 642, 647 (9th Cir. 1981); *Cataphote Corporation v. DeSoto Chemical Coatings, Inc.*, 450 F.2d 769, 774 (9th Cir. 1971).

¹¹²⁴ 670 F.2d at 1135.

¹¹²⁵ 648 F.2d at 647 (citing *Cataphote Corporation v. DeSoto Chemical Coatings, Inc.*, 450 F.2d 769, 774 (9th Cir. 1971)).

¹¹²⁶ *Genentech, Inc. v. Eli Lilly & Co.*, 998 F.2d 931 (Fed. Cir. 1993).

¹¹²⁷ 998 F.2d at 949.

¹¹²⁸ IP Guidelines, *supra* note 99, § 4.1.2.

¹¹²⁹ *Id.* § 3.3.

nothing more than the valid exercise of a statutory right,¹¹³⁰ unless there is further evidence of an anticompetitive conspiracy or other circumstances might support an antitrust claim.¹¹³¹ Thus, an additional element of conduct is required. One example of exclusive licensing that the Agencies enumerate as potentially giving rise to antitrust concerns is cross-licensing by parties collectively possessing market power.¹¹³² In such a case, the Agencies suggest a rule of reason analysis.¹¹³³

The latter usually takes into account that many potential licensees might be unwilling to undertake the expense necessary to develop and promote a product but for assurances against attempts by later licensees to exploit the early licensee's development and promotion. An exclusive license protects licensees against such "free rider" problems and thus serves the interests of both the patentee and the public by facilitating the more rapid and widespread use of new inventions.¹¹³⁴

In *Moraine Products v. ICI America, Inc.*, the court held that an exclusive licensing agreement between competitors is not per se forbidden under the antitrust laws and may be nothing more than the valid exercise of a statutory right unless there is further evidence of an anticompetitive conspiracy or of other circumstances that support an antitrust claim. In such a case, the rule of reason should be applied.¹¹³⁵ An example of this kind of case would be an agreement where the licensor does not retain the right to use its intellectual property

¹¹³⁰ *Levi Case Co. v. ATS Prods.*, 788 F. Supp. 428, 431-432 (N.D. Cal. 1992); American Bar Association, *Intellectual Property and Antitrust Handbook* 185 (2007).

¹¹³¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 186 (2007); *Smith Int'l v. Kennametal, Inc.*, 621 F. Supp. 79, 89-90 (N.D. Ohio 1985); *Bement & Sons v. Nat'l Harrow Co.*, 186 U.S. 70, 94-95 (1902).

¹¹³² IP Guidelines, *supra* note 99, § 4.1.2.

¹¹³³ *Id.* § 3.4.

¹¹³⁴ 670 F.2d at 1127.

¹¹³⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 186 (2007); *Moraine Prods. v. ICI Am.*, 538 F.2d 134, 143-145 (7th Cir. 1976) (rule of reason analysis of an exclusive license that precluded further licenses or sublicenses without consent of all parties).

and the licensee may not grant sublicenses.¹¹³⁶ A rule of reason analysis would involve, *inter alia*, a study of the consequences of the resulting conduct on the affected market before any imposition of antitrust sanctions.¹¹³⁷

Other decisions, such as *Baxter Int'l, Inc. v. Abbott Labs*,¹¹³⁸ have also held that the antitrust legality of exclusive licenses requires an analysis in line with the rule of reason. This view is shared by the U.S. antitrust enforcement Agencies.¹¹³⁹ In *Baxter International, Inc. v. Abbott Labs*, the court considered the exclusivity in a license as a lawful ancillary agreement designed to induce the licensee and its sublicensees to undertake the necessary investments to bring a new drug to market.¹¹⁴⁰ However, the U.S. notion of ancillary restraints differs from the one prevailing in the EU. Over the years, U.S. courts have drawn distinctions between naked restraints that had no purpose except to harm competition and agreements that were ancillary to a legitimate objective.¹¹⁴¹ A restraint is ancillary if its objectively intended purpose, or likely effect, is to lower prices or increase output as measured by quantity or quality.¹¹⁴² Nevertheless, ancillary restraints are not automatically legal; they receive rule of reason treatment.¹¹⁴³

Decisions in litigated cases that actually held exclusive licenses to be violations of the antitrust laws are rare.¹¹⁴⁴ In *United States v. Parker-Rust-Proof Co.*,¹¹⁴⁵ the court held that

¹¹³⁶ 538 F.2d at 138-145; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 103 (3d ed. 2010).

¹¹³⁷ 538 F.2d at 144.

¹¹³⁸ *Baxter Int'l, Inc. v. Abbott Labs*, 315 F. 3d 829 (7th Cir. 2003).

¹¹³⁹ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 25 (2008).

¹¹⁴⁰ 315 F.3d at 833.

¹¹⁴¹ *United States v. Addyston Pipe & Steel Co.*, 85 Fed. 271, 281-282 (6th Cir. 1898); Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 62 (2009).

¹¹⁴² 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.3 (2008).

¹¹⁴³ *Id.* Note the difference in contrast to the notion of ancillary restraints in the EU explained above.

¹¹⁴⁴ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 26 (2008).

¹¹⁴⁵ *United States v. Parker-Rust-Proof Co.*, 61 F. Supp. 805 (E.D. Mich. 1945).

the acquisition by a rust-proofing company of an exclusive license of all the rust-proofing patents of a competitor, accompanied by the resolution of patent infringement litigation between the parties by entry of an agreed order permanently enjoining the licensor from engaging in its rust-proofing process, unlawfully restrained competition.¹¹⁴⁶ Moreover, the court held that the consideration paid for the exclusive license bore no direct relationship to the value of the rights acquired.¹¹⁴⁷ Consequently, the agreement could only have been intended to eliminate a substantial competitor.¹¹⁴⁸

In *United States v. Singer Mfg. Co.*, the Supreme Court held that exclusive licensing among and between competitors,¹¹⁴⁹ as part of an agreement to prevent Japanese competition, constituted a violation of the Sherman Act.¹¹⁵⁰

In *United States v. Crown Zellerbach Corp.*,¹¹⁵¹ a horizontal territorial allocation agreement between two competitors that relied, in part, on an exclusive patent license was found to be a per se violation of the Sherman Act.¹¹⁵² One of the competitors, American Linen Supply Company (“ALSCO”), granted Crown Zellerbach an exclusive license to use and distribute ALSCO’s patented paper towel dispensers to customers located east of the Mississippi River, while reserving to itself the territory west of the Mississippi.¹¹⁵³ The arrangement also involved an exclusive dealing agreement that prohibited Crown Zellerbach from dealing in competitive products within its allocated territory.¹¹⁵⁴ The

¹¹⁴⁶ 61 F.Supp. at 812-813; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 26 (2008).

¹¹⁴⁷ *Id.*

¹¹⁴⁸ 61 F. Supp. at 813.

¹¹⁴⁹ *United States v. Singer Mfg. Co.*, 374 U.S. 174, 194 (1963) (The exclusive licensing scheme involved two of Singer’s competitors - Gegauf and Vigorelli, which were sole licensees.).

¹¹⁵⁰ 374 U.S. at 193-196.

¹¹⁵¹ *United States v. Crown Zellerbach Corp.*, 141 F. Supp. 118 (N.D. Ill. 1956).

¹¹⁵² Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 26 (2008).

¹¹⁵³ *Id.*; 141 F. Supp. at 123-124.

¹¹⁵⁴ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 26 (2008); 141 F. Supp. 118.

effect of the arrangement was to entirely eliminate Crown as a competitor in the west and to remove ALSCO as a competitor against Crown in sales to paper jobbers in the east.¹¹⁵⁵ On the basis of Section 261 of the Patent Act, the court held that a territorial protection granted under a license agreement was a valid exercise of ALSCO's patent rights.¹¹⁵⁶ However, the court also held that customer allocations are not immunized by patent law and, according to the controlling precedents, such allocations constituted a per se violation of the Sherman Act.¹¹⁵⁷ One must note, however, that this case involved a unique situation as the patent license was combined with exclusive dealing provisions, and it implemented a market allocation scheme.¹¹⁵⁸

Certain transfers of intellectual property rights are analyzed by applying the principles and standards used to analyze mergers, particularly those in the 1992 Horizontal Merger Guidelines. The Agencies will apply a merger analysis to an outright sale by an intellectual property owner of all of its rights to that intellectual property, and to a transaction in which a person obtains through grant, sale, or other transfer an exclusive license for intellectual property (i.e., a license that precludes all other persons, including the licensor, from using the licensed intellectual property). Such transactions may be assessed not only under Sections 1 and 2 of the Sherman Act, but also under Section 7 of the Clayton Act¹¹⁵⁹ because patents are considered assets for the purpose of this provision.¹¹⁶⁰ Section 7 of the Clayton Act generally governs stock and asset acquisitions and prohibits mergers if "in any

¹¹⁵⁵ *Id.*

¹¹⁵⁶ 141 F. Supp. at 127.

¹¹⁵⁷ *Id.* at 128-129.

¹¹⁵⁸ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 28.

¹¹⁵⁹ IP Guidelines, *supra* 99, § 5.7.

¹¹⁶⁰ Sharon K. Sandeen, American Bar Association, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 272 (2d ed. 2009); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1205 (2d Cir. 1981); *Telectronics Proprietary, Ltd. v. Medtronic, Inc.*, 687 F. Supp. 832, 844 (S.D.N.Y. 1988); *United States v. Lever Bros. Co.*, 216 F. Supp. 887, 889 (S.D.N.Y. 1963).

line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.”¹¹⁶¹ However, as this work focuses on the antitrust analysis with regard to the general core antitrust prohibitions across the Atlantic, it cannot deal with the extensive field of merger analysis. Further details with regard to the applicable principles in merger cases may be obtained from the 2010 Horizontal Merger Guidelines.¹¹⁶² They outline the Agencies’ principal analytical techniques, practices, and the enforcement policy with respect to mergers and acquisitions involving actual or potential competitors.¹¹⁶³ Mergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise.¹¹⁶⁴ A merger can enhance market power simply by eliminating competition between the merging parties or by increasing the risk of coordinated, accommodating, or interdependent behavior among rivals.¹¹⁶⁵ In addition, the Premerger Notification Office of the Federal Trade Commission takes the position that an exclusive license is also an acquisition of an “asset” within the meaning of the Hart-Scott-Rodino Premerger Notification Act of 1976 (HSR Act).¹¹⁶⁶ The latter requires parties entering into a merger or merger-like transaction that meets certain statutory transaction-thresholds to file a notification with the enforcement Agencies and to wait a prescribed time before executing the transaction. This gives the Agencies time for evaluation and, if necessary, intervention, avoiding the need to reverse a merger or acquisition after the fact.¹¹⁶⁷ If the consideration paid for the license is a one-time payment, the amount of that payment is the “acquisition price” within the meaning of

¹¹⁶¹ 15 U.S.C. § 18 (1914).

¹¹⁶² 2010 Horizontal Merger Guidelines, *supra* note 395, available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf>.

¹¹⁶³ *Id.* § 1.

¹¹⁶⁴ *Id.* § 1.

¹¹⁶⁵ *Id.* § 1.

¹¹⁶⁶ 15 U.S.C. § 18(a) (1976); Sharon K. Sandeen, American Bar Association, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 272-273 (2d ed. 2009).

¹¹⁶⁷ *Id.*

the Premerger Notification Rules.¹¹⁶⁸ If, however, the consideration for the license is a series of royalty payments extending into the future, the acquirer must calculate the aggregate gross amount of the expected royalty payment that it reasonably expects to pay and must treat the gross amount of royalties as the acquisition price.¹¹⁶⁹ Again, this topic exceeds the focus of this doctoral thesis.¹¹⁷⁰

1.3. EU and U.S. law compared

Both legal systems provide the possibility of entering into exclusive licensing agreements.¹¹⁷¹ In addition, both systems distinguish between exclusive licenses and sole licenses, recognizing that the latter are less likely to raise antitrust concerns.¹¹⁷² The Commission differentiates between various categories of exclusive patent licensing agreements by evaluating the competitive relationship of the parties or the reciprocal or non-reciprocal nature of the arrangement.¹¹⁷³ This practice reflects the continental European tradition of code-based rules; it should be seen as an attempt to provide far-reaching guidance by capturing as many scenarios as possible.¹¹⁷⁴

One can conclude that the legal situation in the U.S. accords exclusive licenses a more favorable treatment than in the EU.¹¹⁷⁵ In the U.S., exclusive licenses are usually presumed to be legal.¹¹⁷⁶ This presumption can be traced to the clear wording of Section 216 of the Patent Act, which considers grants of exclusive licenses to be a lawful exercise of the

¹¹⁶⁸ 16 C.F.R § 801.10(b).

¹¹⁶⁹ *Id.*

¹¹⁷⁰ For further information on the assessment of patent licenses in the context of merger analysis consult American Bar Association, *Intellectual Property and Antitrust Handbook* 409ff (2007).

¹¹⁷¹ Siegfried Fina & Anna Maria Baumgartner, A Comparative Antitrust Analysis of Exclusivity Clauses in Patent Licenses Under Article 101 TFEU and Section 1 Sherman Act, TTLF Working Paper No. 11, http://www.law.stanford.edu/program/centers/ttlf/papers/fina&baumgartner_wp11.pdf, 28.

¹¹⁷² *Id.*

¹¹⁷³ *Id.*

¹¹⁷⁴ *Id.* at 29.

¹¹⁷⁵ *Id.* at 29.

¹¹⁷⁶ *Id.* at 29.

exclusive rights conferred under patent law.¹¹⁷⁷ No comparable presumption of legality exists in the EU, where patent law is principally governed by the national laws of the Member States.¹¹⁷⁸ The only agreements in the U.S. that may raise antitrust issues with respect to exclusive patent licenses are agreements where the parties involved interact in a horizontal relationship. Still, without additional aggravating circumstances, even exclusive licenses between competitors do not raise antitrust problems.¹¹⁷⁹

Under EU law, exclusive licenses between competitors, provided that they are not reciprocal, are block exempted from Article 101 TFEU.¹¹⁸⁰ Above the thresholds, the agreements do not come within Article 101(1) TFEU if the licensor lacks market power. In such a case, the legal situation mirrors that in the U.S.¹¹⁸¹ Other scenarios may be individually exempted under Article 101(3) TFEU after a detailed analysis.¹¹⁸² Although the outcome may be the same in these cases, the antitrust situation in the EU is less favorable as the burden of proof rests on the parties to demonstrate that the four conditions for an individual exemption are fulfilled.¹¹⁸³ Moreover, the EU approach seems to be stricter by alleging that agreements involving a dominant licensee are unlikely to fulfill the conditions of Article 101(3) TFEU and are therefore likely to be forbidden under the general antitrust prohibition.¹¹⁸⁴

In the U.S., patent licenses will not be prohibited simply because they contain an exclusivity clause.¹¹⁸⁵ Whenever other anticompetitive effects (apart from per se forbidden practices) are established in the U.S., the Agencies and courts apply the rule of reason in

¹¹⁷⁷ *Id.* at 29.

¹¹⁷⁸ *Id.* at 29.

¹¹⁷⁹ *Id.* at 29.

¹¹⁸⁰ *Id.* at 29.

¹¹⁸¹ *Id.* at 29.

¹¹⁸² *Id.* at 29.

¹¹⁸³ *Id.* at 29.

¹¹⁸⁴ *Id.* at 29.

¹¹⁸⁵ *Id.* at 29.

the assessments.¹¹⁸⁶ As a result, the final outcome varies in each case depending on its circumstances.¹¹⁸⁷ Hence, without additional aggravating circumstances, exclusive licenses will not be considered a violation of antitrust laws in the U.S. and are also likely to be upheld in the course of the rule of reason analysis.¹¹⁸⁸ However, when per se forbidden practices, such as customer or market allocation, are implemented through an exclusive licensing scheme, courts do not hesitate to find these agreements to be per se illegal under Section 1 of the Sherman Act.¹¹⁸⁹ In the market allocation context, EU law postulates a similar treatment by denominating reciprocal exclusive licenses between competitors as hardcore restrictions.¹¹⁹⁰ Unlike in the U.S., EU antitrust law does not acknowledge per se forbidden practices.¹¹⁹¹ Even though hardcore restrictions can be individually exempted under Article 101(3) TFEU in theory, this is unlikely to occur in practice due to their great potential for competitive harm under EU antitrust law.¹¹⁹² Thus, a perceivable similarity between the two regimes is the prohibition of exclusive horizontal licenses that implement market allocation schemes.¹¹⁹³

Reciprocal sole licensing between competitors, by contrast, profits from the block exemption regulation and, when above the market-share thresholds, is still likely to be individually exempted.¹¹⁹⁴ However, Article 101(3) TFEU is unlikely to come into play for agreements that facilitate collusion by ensuring that the parties are the only sources of output in the market based on the licensed technology.¹¹⁹⁵ It is questionable whether, under

¹¹⁸⁶ *Id.* at 29-30.

¹¹⁸⁷ *Id.* at 30.

¹¹⁸⁸ *Id.* at 30.

¹¹⁸⁹ *Id.* at 30.

¹¹⁹⁰ *Id.* at 30.

¹¹⁹¹ *Id.* at 30.

¹¹⁹² *Id.* at 30.

¹¹⁹³ *Id.* at 30.

¹¹⁹⁴ *Id.* at 30.

¹¹⁹⁵ *Id.* at 30.

U.S. law, such an agreement would raise the same antitrust issues.¹¹⁹⁶ Despite the general presumption of legality, potential anticompetitive effects may be subject to a rule of reason analysis where the outcome will depend on the specific circumstances of the case.¹¹⁹⁷

Under U.S. law, purely vertical exclusive licenses do not raise antitrust issues and, therefore, are not challenged.¹¹⁹⁸ This is a good example of how the EU and U.S. diverge in their approach to vertical restraints.¹¹⁹⁹ Under EU law, exclusive licenses can also raise antitrust issues if they are formed between non-competitors.¹²⁰⁰ However, the ultimate result will be the same as in the U.S. because exclusive licensing agreements between non-competitors either profit from the block exemption regulation or, if market-share thresholds are exceeded, can fulfill the conditions of Article 101(3) TFEU.¹²⁰¹ Nevertheless, it is clear that the legal situation in the EU accords a less favorable treatment than in the U.S. because these agreements are deemed lawful only after a detailed assessment under Article 101(3) TFEU where the burden of proof rests on the parties that have employed such a provision.¹²⁰² Moreover, in the case of a dominant licensee, the Commission clearly states that the agreement will likely trigger the prohibition of Article 101(1) TFEU.¹²⁰³

In sum, the basic notions across the Atlantic are clearly the same when it comes to an antitrust assessment of exclusive patent licenses in either the EU or the U.S.¹²⁰⁴ Both systems of antitrust law endorse economic considerations in the evaluation of pro- and

¹¹⁹⁶ *Id.* at 30.

¹¹⁹⁷ *Id.* at 30.

¹¹⁹⁸ *Id.* at 31.

¹¹⁹⁹ *Id.* at 31.

¹²⁰⁰ *Id.* at 31.

¹²⁰¹ *Id.* at 31.

¹²⁰² *Id.* at 31.

¹²⁰³ *Id.* at 31.

¹²⁰⁴ *Id.* at 31.

anticompetitive effects.¹²⁰⁵ Both consider patent licensing as potentially procompetitive, and there is a general convergence of the practices that are most likely to raise antitrust issues in exclusive licenses.¹²⁰⁶ The remaining differences, especially in the assessment of vertical restraints, are linked to the comparison of two distinct legal bodies with different objectives: the EU as a supranational organization and the United States as a federal state.¹²⁰⁷

2. Sales restrictions

2.1. Sales restrictions under Article 101 TFEU

According to EU antitrust law, the term “sales restrictions” refers to restrictions on the sale of products incorporating the licensed technology into a given territory (territorial sales restrictions) or to a given customer group (customer restrictions).¹²⁰⁸ The Commission deals jointly with both categories in its Technology Transfer Guidelines and applies the same antitrust principles without any distinction. In this context, a customer restriction presupposes that specific customer groups are identified and that the parties are restricted in selling to such identified groups.¹²⁰⁹ The Commission distinguishes further in Article 4 TTBER between active and passive sales, two expressions defined in the Commission’s Guidelines on Vertical Restraints.¹²¹⁰ Active sales describe the practice of actively approaching individual customers, or an exclusive customer group, inside another distributor’s exclusive territory by, for instance, direct mail or visits, and to actively approach customers or a customer group in a specific territory allocated exclusively to

¹²⁰⁵ *Id.* at 31.

¹²⁰⁶ *Id.* at 31.

¹²⁰⁷ *Id.* at 31.

¹²⁰⁸ Technology Transfer Guidelines, *supra* note 1, para 161.

¹²⁰⁹ *Id.* para 180.

¹²¹⁰ Guidelines on Vertical Restraints, *supra* note 294; New Guidelines on Vertical Restraints, *supra* note 294.

another distributor through advertisement in media or other promotions specifically targeted at those customers or customer groups in that territory.¹²¹¹ Another example would be the establishment of a warehouse or distribution outlet in another distributor's exclusive territory.¹²¹² On the other hand, the term passive sale refers to the act of responding to unsolicited requests from individual customers, including the delivery of goods or services to these customers.¹²¹³ In addition, general advertising or promotion in media or on the internet that reaches customers in other distributors' exclusive territories or customer groups, but which is also a reasonable way to reach customers outside those territories (for example, in non-exclusive territories or in one's own territory) are also qualified as passive sales.¹²¹⁴ Given these definitions, the conclusion can be drawn that a restriction in a licensing agreement concerning passive sales is more extensive than those on active sales and is, therefore, reviewed with particular antitrust scrutiny. As an initial step, an important distinction is to be made between licensing between competitors and between non-competitors.¹²¹⁵

A. Reciprocal agreements between competitors

Restrictions on active and passive sales by one or both parties in a reciprocal agreement¹²¹⁶ between competitors, and thus where the parties license each other competing technologies or technologies that can be used for the production of competing products, constitute hardcore restrictions of competition under Article 4(1)(c) TTBER. Consequently, such agreements do not qualify for block exemption and must be examined individually.

¹²¹¹ Guidelines on Vertical Restraints, *supra* note 294, para 50; New Guidelines on Vertical Restraints, *supra* note 294, para 51.

¹²¹² *Id.*

¹²¹³ *Id.*

¹²¹⁴ *Id.*

¹²¹⁵ *Id.* para 168.

¹²¹⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1 (c).

Furthermore, the Commission underlines in its Technology Transfer Guidelines that sales restrictions on either party in a reciprocal agreement between competitors are caught by Article 101(1) TFEU and unlikely to fulfill the conditions of Article 101(3) TFEU.¹²¹⁷ Such restrictions are generally qualified as market sharing since they prevent the affected party from selling actively or passively into territories or to customer groups which it actually served or could realistically have served in the absence of the agreement.¹²¹⁸ Because of the EU's single market objective, market sharing is considered as a restriction of competition by object. It is unlikely to produce efficiencies and it is particularly unlikely that consumers will profit thereof. Rather, consumers will experience negative developments (e.g., price increases) because viable competition among competitors is impaired.

B. Non-reciprocal agreements between competitors

In the case of non-reciprocal agreements between competitors (agreements where just one undertaking grants the other a license or where two undertakings grant each other licenses concerning non-competing technologies or technologies which cannot be used for the production of competing products¹²¹⁹), the block exemption applies up to the combined market share of 20% to restrictions on active and passive sales by the licensee or the licensor into the exclusive territory, or to the exclusive customer group reserved for the other party.¹²²⁰

Above this market-share threshold sales restrictions between licensor and licensee are caught by Article 101(1) TFEU when one or both parties have a significant degree of

¹²¹⁷ Technology Transfer Guidelines, *supra* note 1, para 169.

¹²¹⁸ *Id.*

¹²¹⁹ Commission Regulation (EC) 772/2004, *supra* note 17, art 1 para 1(d).

¹²²⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(c)(iv); Technology Transfer Guidelines, *supra* note 1, para 170.

market power.¹²²¹ If this is not the case, then there is no appreciable impact on competition. However, if the parties enjoy market power, their actions will lead to appreciable effects on competition and come within the scope of Article 101(1) TFEU. Such restrictions, however, may be indispensable for the dissemination of valuable technologies and therefore fulfill the conditions of Article 101(3) TFEU – for example, where the licensor has a relatively weak market position in the territory where it exploits the technology itself.¹²²² In such circumstances, restrictions on active sales in particular may be indispensable to induce the licensor to grant the license in the first place.¹²²³ In the absence of the restraints, the licensor would risk facing active competition in its main area of activity¹²²⁴ and decide rather not to license at all. Similarly, restrictions on active sales by the licensor may be indispensable, in particular where the licensee has a relatively weak market position in the territory allocated to it and must make significant investments in order to efficiently exploit the licensed technology.¹²²⁵ Without anything more there will normally be no elimination of competition since at least passive sales are still possible. The block exemption also covers restrictions on active sales into the territory or to the customer group allocated by the licensor to another licensee who was not a competitor of the licensor at the time it concluded the license agreement with the licensor.¹²²⁶ It is a condition, however, that the agreement between the parties in question be non-reciprocal.¹²²⁷ Hence, it must involve just one undertaking that grants the other a license, or two undertakings granting each other licenses concerning non-competing technologies or

¹²²¹ Technology Transfer Guidelines, *supra* note 1, para 170.

¹²²² *Id.*

¹²²³ *Id.*

¹²²⁴ *Id.*

¹²²⁵ *Id.*

¹²²⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(c)(v); Technology Transfer Guidelines, *supra* note 1, para 171.

¹²²⁷ *Id.*

technologies which cannot be used for the production of competing products.¹²²⁸ Above the combined market-share threshold of 20%, such active sales restrictions are likely to be caught by Article 101(1) TFEU when the parties have a significant degree of market power.¹²²⁹ A procompetitive efficiency that may be asserted is the combination of the licensor's and licensee's technology and assets that may result in new or better products, meaning consumers are likely to profit thereof. Furthermore, the restraint is likely to be indispensable within the meaning of Article 101(3) TFEU for the period of time required for the protected licensee to penetrate a new market and to establish a market presence in the allocated territory or vis-à-vis the allocated customer group.¹²³⁰ In this case there is also no threat of an elimination of competition and, hence, it may be individually exempted. This protection against active sales allows the licensee to overcome the asymmetry it faces because some licensees are already established on the market.¹²³¹ However, restrictions on passive sales by licensees into a territory or to a customer group allocated to another licensee are hardcore restrictions under Article 4(1)(c) of the TTBER¹²³² because they are qualified as market allocation agreements. Any agreements separating the internal market into national territories are reviewed with particular skepticism.

C. Agreements between non-competitors

In the case of agreements between non-competitors, sales restrictions between the licensor and a licensee (with regard to an exclusive territory or to an exclusive customer group reserved for the licensor) are block exempted up to the individual market-share thresholds

¹²²⁸ Commission Regulation (EC) No 772/2004, *supra* note 17, art 1 para 1(d).

¹²²⁹ Technology Transfer Guidelines, *supra* note 1, para 171.

¹²³⁰ *Id.*

¹²³¹ *Id.*

¹²³² *Id.*; Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1 (c).

of 30%.¹²³³ Above these market-share thresholds, restrictions on active and passive sales by licensees to territories or customer groups reserved for the licensor do not come within the scope of Article 101(1) TFEU where, on the basis of objective factors, the conclusion can be drawn that without the sales restrictions licensing would not take place.¹²³⁴ A technology owner cannot normally be expected to create direct competition with itself on the basis of its own technology.¹²³⁵ It is recalled that the classification of competitors or non-competitors turns on whether the parties would have been competitors without the agreement. Consequently, if the parties become competitors as a result of the agreement, the patent license is subject to the more relaxed standard applicable to non-competitors.

In other cases sales restrictions on the licensee may be caught by Article 101(1) TFEU, both where the licensor individually has a significant degree of market power and in the case of a cumulative effect of similar agreements concluded by licensors which together hold a strong position on the market.¹²³⁶ It can be assumed that in such cases Article 101(3) TFEU will not be fulfilled.

Sales restrictions on the licensor, when caught by Article 101(1) TFEU, are likely to fulfill the conditions of Article 101(3) TFEU unless there are no real alternatives to the licensor's technology on the market or such alternatives are licensed by the licensee from third parties.¹²³⁷ Such restrictions, in particular restrictions on active sales, are likely to be indispensable within the meaning of Article 101(3) TFEU in order to induce the licensee to invest in the production, marketing, and sale of the products incorporating the licensed

¹²³³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 2 (b) (i); Technology Transfer Guidelines, *supra* note 1, para 172.

¹²³⁴ Technology Transfer Guidelines, *supra* note 1, para 172.

¹²³⁵ *Id.*

¹²³⁶ *Id.*

¹²³⁷ *Id.* para 173.

technology.¹²³⁸ It is likely that the licensee's incentive to invest would be significantly reduced if it faced direct competition from the licensor whose production costs are not burdened by royalty payments, possibly leading to sub-optimal levels of investment.¹²³⁹

As far as restrictions on sales between licensees in agreements between non-competitors are concerned, the TTBER block exempts restrictions on active sales between territories or customer groups.¹²⁴⁰ Above these market-share thresholds, restrictions on active sales between licensees' territories and customer groups limit intra-technology competition and are likely to be caught by Article 101(1) TFEU when the individual licensee has a significant degree of market power.¹²⁴¹ Such restrictions may, however, fulfill the conditions of Article 101(3) TFEU where they are necessary to prevent free riding and to motivate the licensee to undertake the investment necessary for efficient exploitation of the licensed technology inside its territory and to promote sales of the licensed product.¹²⁴² Such a procompetitive efficiency may consist in a cost reduction or a quality improvement which may be transferred to consumers. It may also be indispensable, or there may be no threat of an elimination of competition as passive sales may still be conducted.

Notably, restrictions on passive sales into an exclusive territory or to an exclusive customer group allocated by the licensor to another licensee are covered by the hardcore list of Article 4(2)(b) TTBER, when they exceed two years from the date on which the licensee benefiting from the restrictions first put the product incorporating the licensed technology on the market inside its exclusive territory.¹²⁴³ They may be necessary to induce the licensee to invest in the exploitation and commercialization of the technology. Other

¹²³⁸ *Id.* para 173.

¹²³⁹ *Id.* para 173.

¹²⁴⁰ *Id.* para 174.

¹²⁴¹ *Id.* para 174.

¹²⁴² *Id.* para 174.

¹²⁴³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 2 (b) (ii) (*argumentum e contrario*).

licensees may have already gained a lead and the two year period helps the licensee to keep up with them. It is probable that consumers will also profit from the procompetitive efficiencies produced by the license. Consequently, the agreements are either block exempted up to the individual market shares of 30% of each party and above the thresholds likely to be individually exempted. Passive sales restrictions exceeding this two-year period are unlikely to fulfill the conditions of Article 101(3) TFEU.¹²⁴⁴ They will especially fail the indispensability test.

2.2. Sales restrictions under Section 1 Sherman Act

A. Territorial sales restrictions

Under U.S. law a territorial restriction also limits the geographic area in which one or more parties can sell products.¹²⁴⁵ In *Ethyl Gasoline Corp. v. United States*,¹²⁴⁶ the Supreme Court recognized the right of a licensor to restrict the grant of a license to a particular geographic area.¹²⁴⁷ License restrictions have also been upheld that permitted licensees to sell patented products only to designated customers (customer restrictions).¹²⁴⁸

The IP Guidelines recognize that customer and territorial restrictions in licensing agreements can have procompetitive effects by enabling the owner to exploit its IP as efficiently as possible.¹²⁴⁹ The IP Guidelines also state, however, that they can be put to anticompetitive uses, such as when they are employed to facilitate market-division among firms that would be competitors in the absence of the license restrictions.¹²⁵⁰ Thus, territorial restrictions in licenses have been struck down where the licensing agreement

¹²⁴⁴ Technology Transfer Guidelines, *supra* note 1, para 174.

¹²⁴⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 170 (2007).

¹²⁴⁶ *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436 (1940).

¹²⁴⁷ 309 U.S. at 456.

¹²⁴⁸ *In re Yarn Processing Patent Validity Litig.*, 541 F. 2d 1127, 1135 (5th Cir. 1976).

¹²⁴⁹ IP Guidelines, *supra* note 99, § 2.3 and example 1.

¹²⁵⁰ *Id.* § 3.1.

itself was seen by the courts as a pretext for implementing a market division scheme between competitors.¹²⁵¹ They have also been declared incompatible with antitrust law where there are several licensees and the restrictions are seen as being demanded by the licensees themselves as a way to avoid competition with each other.¹²⁵² Consistent with this approach, courts have also held that customer and territorial restrictions in licenses constitute a violation of antitrust law when they form part of a broader anticompetitive agreement among undertakings that would have been horizontal competitors absent the license restrictions¹²⁵³ (see, e.g., *United States v. Nat'l Lead Co.*¹²⁵⁴ and *Crown Zellerbach Corp.*¹²⁵⁵). Therefore, horizontal territorial restraints – those concluded between competitors – are usually qualified as per se unlawful¹²⁵⁶ unless they are ancillary to an efficiency-enhancing integration of economic activity.¹²⁵⁷ A restraint is ancillary if its objectively intended purpose or likely effect leads to lower prices or increased output in terms of quantity or quality.¹²⁵⁸ Nevertheless, ancillary restraints are not automatically legal; they receive rule of reason treatment,¹²⁵⁹ implying that their legality can only be determined after a thorough evaluation of anticompetitive and procompetitive benefits. The

¹²⁵¹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 264 (2d ed. 2009); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 438 (2003); *Timken Roller Bearing Co. v. U.S.*, 341 U.S. 593, 597-598 (1951).

¹²⁵² Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 264-265 (2d ed. 2009); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 438-439 (2003); *Intl. Wood Processors v. Power Dry, Inc.*, 792 F.2d 416, 429 (4th Cir. 1986).

¹²⁵³ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 35 (2008).

¹²⁵⁴ *United States v. Nat'l Lead Co.*, 63 F. Supp. 513, 517 and 523 (S.D.N.Y. 1945), *aff'd* 332 U.S. 319, 367 (1947) (patent pool).

¹²⁵⁵ *United States v. Crown Zellerbach Corp.*, 141 F. Supp. 118, 129 (N.D. Ill. 1956).

¹²⁵⁶ *United States v. Topco Assocs.*, 405 U.S. 596, 608 (1972) (case concerned trademarks); *United States v. Sealy, Inc.*, 388 U.S. 350, 354 (1967); *Timken Roller Bearing Co. v. United States*, 341 U.S. 593, 598 (1951); *Palmer v. BRG of Ga.*, 498 U.S. 46, 49-50 (1990).

¹²⁵⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 170 (2007); *Rothery Storage & Van Co. v. Atlas Van Lines*, 792 F.2d 210, 229 (D.C. Cir. 1986).

¹²⁵⁸ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.3 (2008).

¹²⁵⁹ *Id.*

U.S. notion differs considerably from the one prevailing in the EU, where ancillary restraints are considered lawful because they serve as a necessary precondition for the implementation of a non-restrictive agreement and are therefore not captured by the general antitrust prohibition of Article 101(1) TFEU.

The Agencies demonstrate their antitrust assessment in the following example. Gamma, which manufactures Product X using its patented process, offers a license for its process technology to every other manufacturer of Product X, whereas each of these licensees competes world-wide with Gamma in the manufacture and sale of X.¹²⁶⁰ Gamma's patented process technology does not represent an economic improvement over the available existing technologies.¹²⁶¹ Indeed, although most manufacturers accept licenses from Gamma, none of the licensees actually uses the licensed technology.¹²⁶² The licenses provide that each manufacturer has an exclusive right to sell Product X manufactured using the licensed technology in a designated geographic area and that no manufacturer may sell Product X, however manufactured, outside the designated territory.¹²⁶³

The manufacturers of Product X are in a horizontal relationship in the goods market for Product X. Any manufacturers of Product X controlling technologies that are substitutable at comparable cost for Gamma's process are also horizontal competitors of Gamma in the relevant technology market.¹²⁶⁴ The licensees of Gamma's process technology are technically also in a vertical relationship in relation to Gamma, although that is not significant in this example because they do not actually use Gamma's technology.¹²⁶⁵ The licensing arrangement restricts competition in the relevant goods market among

¹²⁶⁰ IP Guidelines, *supra* note 99, example 7.

¹²⁶¹ *Id.*

¹²⁶² *Id.*

¹²⁶³ *Id.*

¹²⁶⁴ *Id.*

¹²⁶⁵ *Id.*

manufacturers of Product X by requiring each manufacturer to limit its sales to an exclusive territory.¹²⁶⁶ Thus, competition among entities that would be competitors without the licensing arrangement is restricted.¹²⁶⁷ Based on the above facts, the licensing arrangement does not involve a useful transfer of technology, and thus it is unlikely that the restraint on sales outside the designated territories contributes to an efficiency-enhancing integration of economic activity.¹²⁶⁸ Consequently, the evaluating agency would likely challenge the arrangement under the per se rule as a horizontal territorial market allocation scheme and view the intellectual property aspects of the arrangement as a sham intended to cloak its true nature.¹²⁶⁹ If the licensing agreement could be expected to contribute to an efficiency-enhancing integration of economic activity (as might be the case if the licensed technology were an advance over existing processes and used by the licensees), the agency would analyze the arrangement under the rule of reason applying the analytical framework described in this section.¹²⁷⁰

Vertical territorial restrictions, on the other hand, are always subject to the rule of reason, and often upheld as lawful means to provide incentives for licensees to promote and service the technology.¹²⁷¹ Section 261 of the Patent Act provides express statutory authority for a patentee to “grant and convey an exclusive right under his application for patent, or patents, to the whole or any specified part of the United States.”¹²⁷² Some courts have relied on this statutory provision and broad language in earlier court decisions to suggest that vertical territorial restraints in patent license agreements do not violate the

¹²⁶⁶ *Id.*

¹²⁶⁷ *Id.*

¹²⁶⁸ *Id.*

¹²⁶⁹ *Id.*

¹²⁷⁰ *Id.*

¹²⁷¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 170 (2007); *Cont'l T.V. v. GTE Sylvania Inc.*, 433 U.S. 36, 54-55 (1977); *Atari Games Corp. v. Nintendo of Am.*, 897 F.2d 1572, 1578 (Fed. Cir. 1990).

¹²⁷² 35 U.S.C. § 261 (1988).

Sherman Act as a matter of law.¹²⁷³ This may be too wide, but whenever such restraints are subject to antitrust scrutiny, the rule of reason is the appropriate measure for antitrust analysis.¹²⁷⁴ According to the D.C. Circuit, for instance, territorial restraints on the sale of non-patented products imposed in a licensing agreement concerning a process patent are assessed under the rule of reason.¹²⁷⁵ Vertical restraints in license agreements employed by the patentee as part of its unilaterally imposed licensing scheme to maximize its profits have been upheld under the rule of reason.¹²⁷⁶ On the contrary, they have been successfully challenged when the restraints were imposed at the request of licensees to limit competition with other licensees,¹²⁷⁷ which makes it a horizontal restriction.

The IP Guidelines demonstrate procompetitive vertical territorial restrictions in the following example:¹²⁷⁸ A firm develops a new patented technology and then decides to license it, but incorporates field of use¹²⁷⁹ and territorial restrictions into its licenses.¹²⁸⁰ As a result, some licensees may use the technology only in their small businesses, while others may use it in connection with the management of large-scale corporations.¹²⁸¹ The licenses are also restricted by territory, so that licensees may use and sell the technology only in

¹²⁷³ American Bar Association, *Intellectual Property and Antitrust Handbook* 172 (2007); *Miller Insituform v. Insituform of N. Am.*, 605 F. Supp. 1125, 1130-1131 (M.D. Tenn. 1985), *aff'd*, 830 F.2d 606 (6th Cir. 1987); *Brownell v. Ketcham Wire & Manufacturing Co.*, 211 F.2d 121, 129-130 (9th Cir. 1954); *United States v. Parker-Rust-Proof Co.*, 61 F. Supp. 805, 812 (E.D. Mich. 1945); *Becton, Dickinson & Co. v. Eisele & Co.*, 86 F.2d 267, 269 (6th Cir. 1936).

¹²⁷⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 172-173 (2007); *Atari Games Corp. v. Nintendo of Am.* 897 F.2d 1572, 1578 (Fed. Cir. 1990).

¹²⁷⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 173 (2007); *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1133-1135 (D.C. Cir. 1981).

¹²⁷⁶ *United States v. CIBA Geigy Corp.*, 508 F. Supp. 1118, 1149 (D.N.J. 1976).

¹²⁷⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 173 (2007); *Int'l Wood Processors v. Power Dry*, 792 F.2d 416, 429 (4th Cir. 1986); *Mannington Mills v. Congoleum Indus.*, 610 F.2d 1059, 1071-1073 (3d Cir. 1979) ("the risk that the patentee's power is being used to assist in the policing of a horizontal agreement among licensees is sharply increased"); *United States v. Crown Zellerbach Corp.*, 141 F. Supp. 118, 129 (N.D. III. 1956).

¹²⁷⁸ IP Guidelines, *supra* note 99, example 1.

¹²⁷⁹ See Section 3 below for a detailed analysis of field of use restrictions.

¹²⁸⁰ IP Guidelines, *supra* note 99, example 1; Makan Delrahim, *Fall 2004 Antitrust Symposium: The New European Antitrust Regime: Implications for Multinationals: Remark: The Long and Winding Road: Convergence in the Application of Antitrust to Intellectual Property*, 13 Geo. Mason L. Rev. 259, 264 (2005).

¹²⁸¹ *Id.*

certain parts of the U.S. and in certain foreign countries.¹²⁸² Nothing in the licenses prevents the licensees from developing, using, or selling their own patented technology.¹²⁸³ In the U.S., these kinds of territorial and field of use restrictions are generally considered as procompetitive.¹²⁸⁴ Competitive harm is unlikely in this case because the licensing agreement does not impede competition among firms that were actual or potential competitors, and because nothing prevented the licensees from using other technologies or creating their own.¹²⁸⁵ Consequently, a purely vertical nature of restraints typically does not raise antitrust issues and, if so, are usually upheld after an analysis under the rule of reason.

B. Customer Restrictions

In so far as customer restrictions are involved, they are generally viewed as per se unlawful in the horizontal context, unless ancillary to an efficiency-enhancing integration of economic activity.¹²⁸⁶ As vertical restraints in a patent license, however, customer restrictions are generally subject to the rule of reason, and are often seen as having valid procompetitive justifications in the context of an IP owner maximizing the value and utilization of its IP.¹²⁸⁷ Consequently, territorial and customer restrictions are treated the same.

¹²⁸² *Id.*

¹²⁸³ *Id.*

¹²⁸⁴ *Id.*

¹²⁸⁵ *Id.*

¹²⁸⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 175 (2007); *Rothery Storage & Van Co. v. Atlas Van Lines*, 792 F.2d 210, 229 (D.C. Cir. 1986); *United States v. Topco Assocs.*, 405 U.S. 596, 611-612 (1972).

¹²⁸⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 175 (2007); IP Guidelines, *supra* note 99, §§ 2.3, 3.4 and 4.1.1; *In re Yarn Processing Patent Validity Litig.*, 541 F.2d 1127, 1135 (5th Cir. 1976); *Westinghouse Elec. & Mfg. v. Cutting & Washington Radio Corp.*, 294 F. 671, 672-673 (2d Cir. 1923).

2.3. EU and U.S. law compared

In EU antitrust law, territorial and customer restrictions are treated alike. The same is true for the U.S., where territorial sales restrictions do not receive different treatment from customer restrictions, meaning they are governed by the same antitrust principles. Accordingly, sales restrictions are problematic and likely to be forbidden in the EU and in the U.S. whenever they cause market allocation between competitors. This is a good example demonstrating that agreements between competitors are more likely to raise antitrust issues. In the EU, reciprocal agreements between competitors imposing sales restrictions are qualified as hardcore restrictions because they cause such market allocation. Consequently they are unlikely to be exempted under Article 101(3) TFEU and thus impermissible under Article 101(1) TFEU.

In the U.S., customer and territorial restrictions in licenses constitute a violation of antitrust law when they form part of broader anticompetitive agreement among undertakings that would have been horizontal competitors in the absence of the license restrictions. Hence, they typically constitute per se violations of antitrust law in the horizontal context unless ancillary, requiring its objectively intended purpose or likely effect to lead to lower prices or increased output in terms of quantity or quality. In such a case they are subject to a rule of reason analysis where the outcome depends on the circumstances of the particular case. The rule of reason assessment in the U.S. may be compared to the legal situation in the EU regarding sales restrictions in non-reciprocal licenses between competitors where the individual analysis under Article 101(3) TFEU bears a certain resemblance. However, the block exemption regulation has the advantage of a clearly established safe harbor and therefore provides certainty for the undertakings that come within its scope with their license agreements. Again, the EU approach is regulated in far more detail. It accords

agreements between competitors different treatment depending on their reciprocal or non-reciprocal nature. The latter category is block exempted along with patent licenses between non-competitors implementing sales restrictions. Above the market-share thresholds, they are likely to fulfill the conditions of Article 101(3) TFEU.

The only exception is a restriction of passive sales between licensees in agreements between non-competitors, where the Commission explicitly acknowledges that they contribute to a separation of territories. The same concerns are raised when dealing with agreements between non-competitors, though the amount of attributed antitrust scrutiny is a little smaller because the requirements of an individual exemption are likely to be fulfilled if the restriction is imposed for two years or less. On the contrary, both legal systems recognize the procompetitive benefits of sales restrictions in the vertical context and might consider them as compatible with the antitrust laws after an examination of all the case-specific facts.

3. Field of use restrictions

3.1. Field of use restrictions under Article 101 TFEU

Under a field of use restriction, the license is either limited to one or more technical fields of application or one or more product markets.¹²⁸⁸ There are many cases in which the same technology can be used to manufacture different products or can be incorporated into products belonging to different product markets.¹²⁸⁹ A new patented molding technology may, for instance, be used to make plastic bottles and plastic glasses, each product belonging to a separate product market.¹²⁹⁰ However, a single product market may

¹²⁸⁸ Technology Transfer Guidelines, *supra* note 1, para 179.

¹²⁸⁹ *Id.*

¹²⁹⁰ *Id.*

encompass several technical fields of use.¹²⁹¹ Accordingly, a new patented engine technology can be employed in four cylinder and six cylinder engines.¹²⁹² Similarly, a technology to make chipsets may be used to produce chipsets with up to four CPUs and more than four CPUs.¹²⁹³ A license limiting the use of the licensed technology to produce four cylinder engines or only in the production of plastic glasses incorporates a field of use restriction.¹²⁹⁴

To distinguish field of use restrictions from exclusive licenses, one should notice that the first category limits the exploitation of the licensed technology by the licensee to one or more particular fields of use without limiting the licensor's ability to exploit the licensed technology.¹²⁹⁵ Moreover, a field of use restriction does not contain any information on whether others, including the licensor, are allowed to produce within the specified field of use. It only concerns the licensee and its ability to produce within a particular licensed field of use. However, as with territories, these fields of use can be allocated to the licensee under an exclusive or sole license and thereby restrict the licensor's ability to exploit its own technology by preventing it from exploiting it itself, including by way of licensing to others (exclusive licenses), or simply by preventing it from licensing to third parties (sole licenses).¹²⁹⁶ The Commission clearly states that whenever field of use restrictions are combined with exclusive or sole licenses, the principles regarding the latter category applies.¹²⁹⁷ In particular, for licensing between competitors, this means that reciprocal exclusive licensing constitutes a hardcore restriction under Article 4(1)(c).¹²⁹⁸

¹²⁹¹ *Id.*

¹²⁹² *Id.*

¹²⁹³ *Id.*

¹²⁹⁴ *Id.*

¹²⁹⁵ Technology Transfer Guidelines, *supra* note 1, para 181.

¹²⁹⁶ *Id.*

¹²⁹⁷ *Id.*

¹²⁹⁸ *Id.*

In so far as field of use restrictions are combined with sole or exclusive licenses between non-competitors, the licensor is normally entitled to grant them, even though such restrictions limit intra-technology competition between licensees in the same way as exclusive licensing and must be analyzed accordingly¹²⁹⁹ (for further details, see *supra*).

Given that field of use restrictions are block exempted and that certain customer restrictions are hardcore restrictions under Articles 4(1)(c) and 4(2)(b) of the TTBER, it is equally important to distinguish between the two categories of restraints. The fact that a technical field of use may correspond to certain groups of customers within a product market does not imply that the restraint is to be classified as a customer restriction.¹³⁰⁰ For instance, the fact that certain customers buy predominantly or exclusively chipsets with more than four CPUs does not imply that a license limited to chipsets with up to four CPUs constitutes a customer restriction.¹³⁰¹ On the contrary, the field of use must be defined objectively by reference to identified and meaningful technical characteristics of the licensed product.¹³⁰²

A. Agreements between competitors

Field of use restrictions on licensees in agreements between actual or potential competitors are block exempted up to the market-share threshold of 20%.¹³⁰³ It is acknowledged that field of use restrictions can have procompetitive effects because they may encourage the licensor to license its technology for applications that fall outside its main area of focus.¹³⁰⁴ In these areas, it is thus not interested in manufacturing itself with his technology. A

¹²⁹⁹ *Id.* para 185.

¹³⁰⁰ *Id.* para 180.

¹³⁰¹ *Id.* para 180.

¹³⁰² *Id.* para 180.

¹³⁰³ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1 (c) (i); Technology Transfer Guidelines, *supra* note 1, para 183.

¹³⁰⁴ Technology Transfer Guidelines, *supra* note 1, para 182.

procompetitive efficiency of a field of use restriction may thus consist in the dissemination of technology resulting in ultimate qualitative or cost efficiencies for consumers as they can profit from new or improved products. On the other hand, if in such a situation the licensor could not prevent licensees from operating in those other fields where it exploits the technology itself, or in fields where the value of the technology is not yet well established, it may not be willing to grant a license, or would at least charge a higher royalty.¹³⁰⁵ It may therefore be argued that a field of use restriction is indispensable to achieve the above-named efficiencies. Moreover, in certain sectors licensing often occurs to ensure design freedom by preventing infringement claims.¹³⁰⁶ Within the scope of the license the licensee is able to develop its own technology without fearing infringement claims by the licensor.¹³⁰⁷ This can be considered as yet another factor leading to the previously explained procompetitive efficiencies that may be alleged in the course of an individual analysis under Article 101(3) TFEU.

On the contrary, field of use restrictions can also raise antitrust concerns when they bear the risk that the licensee ceases to be a competitive force outside the licensed field of use.¹³⁰⁸ Here, the Commission distinguishes between cross-licensing between competitors where the agreement provides for asymmetrical field of use restrictions and those cross-licensing agreements encompassing symmetrical field of use restrictions, whereas the first category is regarded as particularly problematic.¹³⁰⁹

In the case of an asymmetrical field of use restriction in a cross-licensing agreement, one party is permitted to use the licensed technology within one product market or technical field of use, while the other party is allowed to use the other licensed technology within

¹³⁰⁵ *Id.*

¹³⁰⁶ *Id.*

¹³⁰⁷ *Id.*

¹³⁰⁸ Technology Transfer Guidelines, *supra* note 1, para 183.

¹³⁰⁹ *Id.*

another product market or technical field of use.¹³¹⁰ When the licensee's production facility, which is tooled up to use the licensed technology, is also used to produce with its own technology products outside the licensed field of use, the agreement is likely to be caught by Article 101(1) TFEU when its effect is a reduction of the licensee's output outside the licensed field of use (because it is not able to produce all technologies at the same time with the same productions facilities).¹³¹¹

The Commission does not provide any hints with regard to the subsequent analysis under Article 101(3) TFEU, which should take place in any event. We cannot conclude from the mere fact that the Commission considers asymmetrical field of use restrictions to be caught by Article 101(1) TFEU that it will subsequently prohibit them. Normally, the Commission explicitly underlines when the requirements of Article 101(3) TFEU are unlikely to be fulfilled. In the absence of a similar provision in this context, the Technology Transfer Guidelines should be construed in a way that the Commission will consider an analysis under Article 101(3) TFEU as potentially successful. Indeed, several arguments can be asserted for an individual exemption. First, asymmetrical field of use restriction may provide procompetitive efficiencies as a result of a significantly better exploitation of the licensed patent by the licensee. Consequently, consumers may profit from new or improved products. However, the indispensability condition must be examined carefully and the parties must argue why this restriction was necessary to induce either party to grant the license. In the course of an assessment under the fourth condition, it will be necessary to take into account the amount of inter-technology competition. There is no threat of an elimination of competition if the parties face sufficient competition from other technologies and products based thereon in the licensed field of use. Finally, it should be

¹³¹⁰ *Id.*

¹³¹¹ *Id.*

underlined that an individual analysis of the circumstances of the individual case will be essential. However, an individual exemption of such asymmetrical field of use restriction will, in most cases, not be possible because of a lack of the indispensability condition.

In contrast, symmetrical field of use restrictions, whereby the parties license each other's technologies to use within the same field(s) of use, are unlikely to be caught by Article 101(1) TFEU because they will probably not restrict competition that would have existed in the absence of the agreement.¹³¹² Indeed, such agreements will clearly enhance competition as each party actually gains a competitor who is from now on producing on the basis of each party's technology in a certain licensed field of use. Moreover, agreements merely enabling the licensee to develop and exploit its own technology within the scope of the license without fearing infringement claims by the licensor are also unlikely to be caught by Article 101(1) TFEU.¹³¹³ Without the agreement the licensee risked infringement claims outside the scope of the licensed field of use and being precautionous, so in this context such restraints do not restrict competition that would have existed in the absence of the agreement, but rather enhance it.¹³¹⁴

The Commission warns, however, that if the licensee, without business justification, scales back or terminates its activities in the area outside the licensed field of use, this may be an indication of an underlying market sharing arrangement amounting to a hardcore restriction under Article 4(1)(c) of the TTBER,¹³¹⁵ which does not fulfill the conditions for an individual exemption. It can be concluded that the situations most likely to raise antitrust concerns occur in cross-licensing constellations between competitors.

¹³¹² *Id.*

¹³¹³ *Id.*

¹³¹⁴ *Id.*

¹³¹⁵ *Id.*

B. Agreements between non-competitors

Field of use clauses restricting licensee and licensor in agreements between non-competitors are block exempted up to the individual market-share thresholds of 30%.¹³¹⁶ The Commission views them as non-restrictive or even efficiency enhancing¹³¹⁷ as they promote the dissemination of new technology by offering the licensor an incentive to license for exploitation in fields in which it does not want to exploit the technology itself.¹³¹⁸ Furthermore, if the licensor could not prevent licensees from operating in fields where it exploits the technology itself, this would clearly lead to the creation of a disincentive for the licensor to license.¹³¹⁹ Summing up, field of use restrictions between non-competitors are not caught by Article 101(1) TFEU.

3.2. Field of use restrictions under Section 1 Sherman Act

The Agencies acknowledge in its IP Guidelines that field of use, territorial, and other limitations on intellectual property licenses may serve procompetitive ends by allowing the licensor to exploit its property as efficiently and effectively as possible.¹³²⁰ Moreover, they incentivize the licensee to invest in the commercialization and distribution of products embodying the licensed intellectual property and to develop additional applications for the licensed property.¹³²¹ The restrictions may do so, for example, by protecting the licensee against free-riding on the licensee's investments by other licensees or by the licensor.¹³²² In addition, the licensor has more incentive to license when it is protected from competition

¹³¹⁶ *Id.* para 184; Commission Regulation (EC) No 772/2004, *supra* note 17, art 2.

¹³¹⁷ *Id.* para 184.

¹³¹⁸ *Id.* para 184.

¹³¹⁹ *Id.* para 184.

¹³²⁰ IP Guidelines, *supra* note 99, § 2.3.

¹³²¹ *Id.*

¹³²² *Id.*

in its own technology in a market niche that it prefers to keep to itself.¹³²³ In the U.S., it is recognized that a licensor might grant, for example, a license to one licensee only for customer applications of a technology and grant a license to another licensee limited to industrial application of the same invention.¹³²⁴ As the court put it in *Mallinckrodt, Inc. v. Mediapart, Inc.*, “The practice of granting licenses for restricted use is an old one...So far as it appears, its legality has never been questioned.”¹³²⁵

The Agencies provide the following example in its IP guidelines: X Inc. develops a new patented medical device to conduct a specific, complicated medical examination.¹³²⁶ The program has wide application in the health field. X Inc. licenses the program and imposes both field of use and territorial limitations.¹³²⁷ Some of X Inc.’s licenses permit use only in hospitals, others only in group medical practices.¹³²⁸ All of X Inc.’s licenses allow use only in specified parts of the United States and in specified foreign countries.¹³²⁹ The licenses contain no provisions that would prevent or discourage licensees from developing, using, or selling any other program, or from competing in any other good or service other than in the use of the licensed program.¹³³⁰ None of the licensees are actual or likely competitors of X Inc. in the sale of the patented medical device.¹³³¹

According to the Agencies, the key competitive issue raised by the described patent license is whether it harms competition among entities that would have been actual or potential competitors without the agreement.¹³³² Such harm could occur if, for example, the licenses anticompetitively foreclose access to competing technologies, prevent licensees from

¹³²³ *Id.*

¹³²⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 175-176 (2007).

¹³²⁵ *Mallinckrodt, Inc. v. Mediapart, Inc.*, 976 F.2d 700, 705 (1992).

¹³²⁶ IP Guidelines, *supra* note 99, example 1.

¹³²⁷ *Id.*

¹³²⁸ *Id.*

¹³²⁹ *Id.*

¹³³⁰ *Id.*

¹³³¹ *Id.*

¹³³² *Id.*

developing their own competing technologies, or facilitate market allocation regarding any product or service supplied by the licensees.¹³³³ In this hypothetical, there is a lack of any provisions to that effect and the arrangement is thus merely a subdivision of the licensor's intellectual property among different fields of use and territories.¹³³⁴ The Agencies would therefore be unlikely to object to this arrangement.¹³³⁵

Consequently, in the U.S., field of use restrictions in licensing agreements are typically considered as lawful unless the restraint goes beyond the scope of the patent grant,¹³³⁶ which is considered to have anticompetitive effects and consequently leads to an analysis under the rule of reason.¹³³⁷ The application of these principles results in most field of use restrictions being upheld against antitrust challenges.¹³³⁸

The same conclusion can be drawn after a further analysis of the relevant case law. In 1938, the Supreme Court confirmed the legality of field of use restrictions in patent licenses in *General Talking Pictures v. Western Electric* by categorizing them as proper exploitation of the patents, rather than improper attempts to extend the patent monopoly.¹³³⁹ It relied on previous decisions when stating that patent owners may grant licenses extending to all users or limited to use in a defined field.¹³⁴⁰ The case involved American Telephone & Telegraph Co., which owned patents for inventions in vacuum tube amplifiers that could be used both in motion picture exhibition equipment and in private

¹³³³ *Id.*

¹³³⁴ *Id.*

¹³³⁵ *Id.*

¹³³⁶ *General Talking Pictures Corp. v. Western Electric Co.*, 304 U.S. 175, 181 (1938); *United States v. Westinghouse Electric Corp.*, 471 F. Supp. 532, 541 (N.D. Cal. 1978), *aff'd* 648 F.2d 642 (9th Cir. 1981).

¹³³⁷ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 264 (2d ed. 2009).

¹³³⁸ *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1128 and 1138.

¹³³⁹ *General Talking Pictures Corp. v. Western Electric Co.*, 304 U.S. 175 (1938); American Bar Association, *Intellectual Property and Antitrust Handbook* 176 (2007).

¹³⁴⁰ 304 U.S. at 181.

radio reception equipment.¹³⁴¹ The license agreement in question contained a field of use clause allowing the licensee to practice the patent only in equipment for noncommercial use, relating to radio broadcast reception, radio amateur reception, and radio experimental reception, while others were licensed to use the patent in equipment used commercially, namely for talking picture equipment for theatres.¹³⁴²

Courts have generally followed *General Talking Pictures* in rejecting antitrust challenges to field of use restraints in license agreements.¹³⁴³ In *Ethyl Gasoline*,¹³⁴⁴ the Court acknowledged that “the patentee may grant licenses to make, use or vend, restricted in point of space or time, or with any other restriction upon the exercise of the granted privilege, save only that by attaching a condition to his license he may not enlarge his monopoly and thus acquire some other which the statute and the patent together did not give”.¹³⁴⁵ It held, too, that the critical question in evaluating field of use restrictions in patent licenses was whether they exceeded the exclusionary scope of the patent.

In *United States v. Westinghouse Electric Corp.*, the Ninth Circuit concluded that the patent owner’s right to shut out all competition based on its patented technology by not licensing at all must necessarily include the lesser right to restrict the exercise of the granted privilege.¹³⁴⁶ Other court decisions have also held that field of use restrictions are

¹³⁴¹ 304 U.S. at 176.

¹³⁴² 304 U.S. at 179.

¹³⁴³ American Bar Association, *Intellectual Property and Antitrust Handbook* 176 (2007); *B. Braun Med. v. Abbot Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997); *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1133 (D.C. Cir. 1981); *Automatic Radio Mfg. v. Hazeltine Research*, 176 F.2d 799, 802-803 (1st Cir. 1949), *aff’d*, 339 U.S. 827 (1950); *Turner Glass Corp. v. Hartford-Empire Co.*, 173 F.2d 49, 53 (7th Cir. 1949); *United States v. CIBA Geigy Corp.*, 508 F. Supp. 1118, 1149-1151 (D.N.J. 1976); *Bela Seating Co. v. Poloron Prods.*, 297 F. Supp. 489, 503-504 and 509-510 (N.D.Ill. 1968), *aff’d*, 438 F.2d 733 (7th Cir. 1971); *Benger Lab. v. R.K. Laros Co.*, 209 F. Supp. 639, 648-649 (E.D. Pa. 1962), *aff’d per curiam*, 317 F.2d 455 (3d Cir. 1963).

¹³⁴⁴ *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436.

¹³⁴⁵ 309 U.S. at 456.

¹³⁴⁶ *United States v. Westinghouse Elec. Corp.*, 471 F. Supp. 532, 541 (N.D. Cal. 1978), *aff’d*, 648 F.2d 642 (9th Cir. 1981).

valid as long as they do not go beyond the scope of the patent grant¹³⁴⁷ (e.g., by imposing restrictions upon product use after they are sold¹³⁴⁸), or concern sales of an unpatented product manufactured using a process patent,¹³⁴⁹ in which case they will be analyzed under the rule of reason.¹³⁵⁰

In *Mallinckrodt, Inc. v. Medipart, Inc.*, the Federal Circuit examined Supreme Court jurisprudence authorizing licensing restrictions on sale or use.¹³⁵¹ It concluded that whenever an anticompetitive effect is alleged in the context of vertical non-price restrictions (*inter alia*, with regard to field of use restrictions), it should be analyzed in accordance with the rule of reason.¹³⁵² It was held, “Should the restriction be found to be reasonably within the patent grant, meaning that it relates to subject matter within the scope of the patent claims, that ends the inquiry. However, should such inquiry lead to the conclusion that there are anticompetitive effects extending beyond the patentee’s statutory right to exclude, these effects do not automatically impeach the restriction. Anticompetitive effects that are not *per se* violations of law are reviewed in accordance with the rule of reason.”¹³⁵³

In *Monsanto Co. v. McFarling*,¹³⁵⁴ the Federal Circuit concluded that the Sherman Act did not prevent a patentee holding exclusive rights over genetically-engineered soybean seeds from restricting the use of the seeds to the field of growing crops for harvest and sale and proscribing retention of second generation seeds for replanting.¹³⁵⁵ Because Monsanto’s patents covered the seed grown from the seeds sold, the use restrictions were within the

¹³⁴⁷ *Id.*

¹³⁴⁸ *United States v. Ciba Geigy Corp.*, 508 F. Supp. 1118, 1147 (D.N.J. 1976).

¹³⁴⁹ *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122,1133 (D.C. Cir. 1981).

¹³⁵⁰ *Va. Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 869 (Fed. Cir. 1997); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 439 (2003).

¹³⁵¹ *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992).

¹³⁵² 976 F.2d at 708; American Bar Association, *Intellectual Property and Antitrust Handbook* 177 (2007).

¹³⁵³ *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992).

¹³⁵⁴ *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1352 (Fed. Cir. 2004).

¹³⁵⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 178 (2007).

scope of Monsanto's patents and, accordingly, were lawful field of use restraints.¹³⁵⁶ In *B. Braun Medical v. Abbott Laboratories*, the court affirmed the application of the rule of reason to field of use restrictions,¹³⁵⁷ and that they are generally upheld.¹³⁵⁸

3.3. EU and U.S. law compared

In the EU and in the U.S. the same definition of field of use restrictions is prevalent. They are not very likely to raise significant antitrust issues since EU and U.S. law underline their competition enhancing effects. Under EU law, they are block exempted up to the market-share thresholds of 20% and 30%, depending on the competitive relationship of the parties. In both legal systems, field of use restrictions serve as an important incentive for the licensee to invest in a costly production and marketing process. At the same time they may be indispensable with regard to the dissemination of valuable technologies and allow for synergies that result in an improvement of products for consumers or even in the development of new products that otherwise would not have taken place. A convergence of EU and U.S. antitrust law is the perception that field of use restrictions may be necessary to induce the licensor to grant a license in the first place because it may not be willing to do so without the possibility of reserving some fields of use to itself, where it prefers to exploit its technology. Field of use restrictions also foster the dissemination of technologies to those fields where the licensor either did not want or could not use the technology itself – for instance, because it lacks the necessary financial resources. Consequently, field of use restrictions are often upheld under the rule of reason and unlikely to be forbidden under Article 101(1) because they tend to fulfill the conditions of

¹³⁵⁶ *Id.*

¹³⁵⁷ *B. Braun Med. v. Abbot Labs.*, 124 F.3d 1419; American Bar Association, *Intellectual Property and Antitrust Handbook* 177-178 (2007).

¹³⁵⁸ 124 F.3d at 1426.

Article 101(3) TFEU. However, the situation in the U.S. seems to be slightly more favorable because, even in the horizontal context, field of use restrictions are not incompatible with antitrust law. In the EU, asymmetrical field of use restrictions may raise antitrust issues and may be prohibited under Article 101(1) TFEU unless they are individually exempted, which will depend on the circumstances of the case under examination, but is rare. Field of use restrictions are also likely to be forbidden in the EU where they are employed as a means for disguised market sharing which can be recognized when the parties scale back their production without business justification. Naked restrictions, such as a market allocation arrangement, amount to a per se forbidden practice and are therefore equally forbidden under Section 1 Sherman Act. Apart from these extreme scenarios, field of use restrictions are usually challenged only when they extend in some way beyond the scope of the patent grant, but even then they are often upheld as reasonable restraints.

4. Price restrictions

Price restrictions in a patent licensing agreement restrict the price at which the product incorporating the licensed technology can be sold.¹³⁵⁹

4.1. Price restrictions under Article 101 TFEU

A. General prohibition in all patent licensing agreements

Irrespective of whether the agreement is concluded between competitors or non-competitors, restrictions on price constitute hardcore restrictions of competition¹³⁶⁰ and do not qualify for a block exemption. Apart from one exception explained below under

¹³⁵⁹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 263 (2d ed. 2009).

¹³⁶⁰ Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(a) and para 2(a).

Section 4.2.B, it is immaterial whether the agreement concerns fixed, minimum, maximum, or recommended prices.¹³⁶¹

It is recalled that Article 101(1) TFEU differentiates between restrictions of competition by object and restrictions by effect. Restrictions of competition by object restrict competition by their very nature. These are restrictions which, in light of the objectives pursued by the EU competition rules, have such a high potential for negative effects on competition that it is not necessary to demonstrate any actual effects on the market.¹³⁶² Restrictions covered by the list of hardcore restrictions contained in Article 4 TTBER are restrictive by their very object.¹³⁶³ An individual antitrust analysis therefore leads to the first conclusion that restrictions on price constitute a restriction of competition by object and come within the scope of Article 101(1) TFEU. The next step is always to check whether the four necessary conditions for an individual exemption under Article 101(3) TFEU are fulfilled. Since the behavior at issue is classified as a hardcore restriction, it is unlikely to fulfill the requirements of Article 101(3) TFEU¹³⁶⁴ and is therefore practically forbidden under EU antitrust law. The Commission laid down the presumption that agreements containing hardcore restrictions of competition are prohibited by Article 101 TFEU.¹³⁶⁵

The Technology Transfer Guidelines demonstrate various examples of price fixing in the context of agreements between competitors. Price fixing can occur in a direct agreement on the exact price to be charged or on a price list with certain allowed maximum rebates.¹³⁶⁶

Price fixing can also be implemented indirectly by creating disincentives to deviate from

¹³⁶¹ Technology Transfer Guidelines, *supra* note 1, para 79.

¹³⁶² *Id.* para 14; Case C-49/92 *Commission v Anic Partecipazioni* [1999] ECR I-4125, para 99; Joined Cases 56 and 58/64 *Consten and Grundig v Commission* [1966] ECR 299; Case T-168/01 *Glaxo-Smith-Kline Services v Commission* [2006] ECR II-2969, para 111, affirmed in Case C-501/06P *Glaxo-Smith-Kline Services v Commission* [2009] I-9291.

¹³⁶³ Technology Transfer Guidelines, *supra* note 1, para 14.

¹³⁶⁴ *Id.* para 75.

¹³⁶⁵ *Id.* para 37.

¹³⁶⁶ *Id.* para 79.

an agreed price level, for example, by stipulating that the royalty rate will increase if product prices are reduced below a certain level.¹³⁶⁷ Such clauses will have the same effect as direct price restrictions, but an obligation on the licensee to pay a certain minimum royalty does not in itself amount to price fixing.¹³⁶⁸

Other indirect means include agreements fixing the margin, fixing the maximum level of discounts, linking the sales price to the sales prices of competitors, threats, intimidation, warnings, penalties, or contract terminations in relation to observance of a given price level.¹³⁶⁹ In addition, the effectiveness of price fixing can be increased when it is combined with measures to identify price cutting, for instance through the implementation of a price monitoring system, or the obligation of licensees to report price deviations.¹³⁷⁰ However, the provision of a list of recommended prices to, or the imposition of a maximum price on, the licensee by the licensor is not considered in itself as leading to fixed or minimum selling prices.¹³⁷¹

B. Exception for maximum resale price maintenance between non-competitors

The only exception to this general rule is laid down in Article 4(2)(a) TTBER with regard to licensing agreements between non-competitors, where the licensor may impose a maximum or recommended sale price as long as it does not amount to a fixed or minimum sale price as a result of pressure from, or incentives offered by, any of the parties. These restraints therefore come within the scope of the TTBER and can be block exempted if all other requirements of the regulation are fulfilled. Thus, agreements between two parties

¹³⁶⁷ *Id.* para 79.

¹³⁶⁸ *Id.* para 79.

¹³⁶⁹ Technology Transfer Guidelines, *supra* note 1, para 97.

¹³⁷⁰ *Id.*

¹³⁷¹ *Id.*

permitting the production of contract products not exceeding the individual market share of 30% of each party are automatically valid.

The Commission's Guidelines on Vertical Restraints¹³⁷² can be consulted in addition to the Technology Transfer Guidelines for further guidance for an individual analysis of resale price maintenance cases (as price restrictions are typically referred to in the vertical context) that do not constitute a hardcore restriction, but do not qualify either for a block exemption, for example, because the market-share thresholds are exceeded. One possible competition risk linked to maximum and recommended prices is that they will function as a focal point for the resellers and may be followed by most or all of them.¹³⁷³ The second competition risk is the related facilitation of collusion between suppliers,¹³⁷⁴ in which case such a restriction comes within the scope of Article 101(1) TFEU. An important element in the analysis of anticompetitive effects, however, is the market position of the supplier.¹³⁷⁵ The stronger it is, the higher the risk that a maximum or recommended price will lead to a more or less uniform application of that price level by the resellers because they may, as stated, use it as a focal point.¹³⁷⁶ They will find it difficult to deviate from a price proposed by such an important supplier on the market.¹³⁷⁷ Therefore, under such circumstances the practice of imposing a maximum resale price or recommending a resale price may infringe Article 101(1) TFEU if it leads to a uniform price level.¹³⁷⁸ In my opinion, the same principles are likely to be applied by the Commission in a prospective antitrust case involving a licensing agreement. It will largely depend on the market position of the licensor. The stronger it is, the higher the risk that maximum prices will serve as a focal

¹³⁷² New Guidelines on Vertical Restraints, *supra* note 286.

¹³⁷³ *Id.* para 227.

¹³⁷⁴ *Id.* para 227

¹³⁷⁵ *Id.* para 228.

¹³⁷⁶ *Id.* para 228.

¹³⁷⁷ *Id.* para 228.

¹³⁷⁸ *Id.* para 228.

point causing a uniform price level and a restriction of competition. The second step would be to assess a possible application of Article 101(3) TFEU. One might argue that a procompetitive efficiency for consumers would be that prices cannot exceed a certain margin. But this argument alone will likely not suffice for a claim of procompetitive efficiencies. If such maximum prices really function as a focal point due to the licensor's strong market position, they are, to my mind, problematic from an antitrust perspective and not likely to fulfill all conditions for Article 101(3) TFEU.

On the other hand, the Commission explicitly acknowledges in its Guidelines on Vertical Restraints that efficiency consisting in avoiding double marginalization is particularly relevant and must be taken into account as well in the course of the antitrust analysis.¹³⁷⁹

The fact that a retailer may not gain all the benefits of its action taken to improve sales, because the manufacturer reaps some of them, is referred to as “vertical externality issue”.¹³⁸⁰ For every extra unit a retailer sells by lowering its resale price or by increasing its sales effort, the manufacturer benefits if its wholesale price exceeds its marginal production costs.¹³⁸¹ Thus, there may be a positive externality bestowed on the manufacturer by such retailer's actions, and from the manufacturer's perspective the retailer may be pricing too high and/or making too little sales efforts.¹³⁸² The negative externality of too high pricing by the retailer is sometimes called the “double marginalization problem,” and it can be avoided by imposing a maximum resale price on the retailer.¹³⁸³ Accordingly, the same principles may be asserted in favor of the application of maximum sale prices in patent licenses. The vertical externality issue may be asserted as procompetitive efficiency as it induces the licensee to actually license more

¹³⁷⁹ *Id.* para 229.

¹³⁸⁰ *Id.* para 107f.

¹³⁸¹ *Id.* para 107f.

¹³⁸² *Id.* para 107f.

¹³⁸³ *Id.* para 107f.

and the consumer will profit from a wider variety of choice or lower prices. Hence, the second condition of Article 101(3) TFEU will also be fulfilled. The provision stipulating maximum resale prices is also indispensable because there is no less restrictive means to produce the efficiencies. Lastly, there is no risk of an elimination of competition. Maximum resale prices may also help to ensure that the brand in question competes more forcefully with other brands, including own label products, distributed by the same distributor.¹³⁸⁴

4.2. Price restrictions under Section 1 Sherman Act

A. Horizontal restraints

In general, horizontal and vertical price fixing (resale price maintenance) agreements must be distinguished. According to the Agencies' IP Guidelines, naked price fixing among horizontal competitors constitutes a per se unlawful practice.¹³⁸⁵ Hence, they treat such practices as antitrust violations without any examination of potential procompetitive efficiencies. However, a controversial precedent with regard to a horizontal agreement was established long ago by the Supreme Court's 1926 opinion in *United States v. General Electric*.¹³⁸⁶ This case dealt with a single license granted by General Electric to Westinghouse Company with regard to its patents covering electric light bulb components and manufacturing processes.¹³⁸⁷ The license provided that Westinghouse would sell the light bulbs it manufactured under the license at whatever prices and terms General Electric established for its own light bulb sales.¹³⁸⁸ The Supreme Court held that the antitrust laws

¹³⁸⁴ *Id.* para 229.

¹³⁸⁵ IP Guidelines, *supra* note 99, § 3.4.

¹³⁸⁶ *United States v. General Electric Co.*, 272 U.S. 476 (1926).

¹³⁸⁷ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 30 (2008).

¹³⁸⁸ *Id.*

did not prohibit a licensor from setting the minimum price at which its competitor-licensee sold patented products that it manufactured pursuant to the license.¹³⁸⁹ The Court reasoned that a patentee could choose to grant a license to make and use, without granting a license to sell, but when it decides to grant a license to sell, and at the same time continues to sell the patented product itself, the price at which its licensee sells will necessarily affect the price at which it can sell its own patented goods.¹³⁹⁰ The Court therefore found it appropriate to allow the licensor to prohibit the licensee from undercutting its own prices and argued that one of the valuable elements of the exclusive right of a patentee is to acquire profit by the price at which the article is sold, and the price at which its licensee sells necessarily affects the price at which it can sell its own patented goods.¹³⁹¹ Consequently, the restraint on the licensee's sale price was not unlawful as long as the restriction applied only to the first sale of the patented article.¹³⁹²

The *General Electric* decision has been widely criticized, and it has been argued that it constitutes a significant deterrent to innovation in situations where alternative technologies could readily be developed but where collusion is more profitable.¹³⁹³ Additionally, it allegedly creates a disincentive for firms to challenge the validity of intellectual property rights of dubious validity.¹³⁹⁴ Nevertheless, the *General Electric* case has never been overruled, and was actually reaffirmed in 1965.¹³⁹⁵

The Supreme Court and lower courts, however, have substantially limited the decision's reach to its facts, namely to situations where a patent holder licenses a single licensee to

¹³⁸⁹ *Id.*

¹³⁹⁰ *United States v. General Electric Co.*, 272 U.S. 476, 490 (1926).

¹³⁹¹ 272 U.S. at 490.

¹³⁹² American Bar Association, *Intellectual Property and Antitrust Handbook* 164 (2007); *United States v. General Electric*, 272 U.S. 476, 490-491 (1926).

¹³⁹³ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 31.1 (2006).

¹³⁹⁴ *Id.*

¹³⁹⁵ *United States v. Huck Mfg. Co.*, 227 F. Supp. 791, 804 (1964), *aff'd*, 382 U.S. 197 (1965).

manufacture and sell patented products in competition with itself.¹³⁹⁶ Accordingly, the rule is only applicable to price restrictions for the patented product itself, meaning that price fixing of non-patented products remains per se unlawful even if such items are produced through patented technology.¹³⁹⁷

Moreover, it was held in *Ethyl Gasoline Corp. v. United States* that *General Electric* does not permit the licensor to set resale prices to be charged for patented products by licensees who purchase from intermediate licensees.¹³⁹⁸ In this case, the holder of the patent for lead additives for the improvement of the performance of gasoline in automotive engines imposed strict controls on refiners licensed under the patents, and on jobbers who purchased from refiners and sold to the public.¹³⁹⁹ The patent laws did not shield this conduct from the antitrust laws, as the patentee effectively aimed at controlling the price of a commodity after the sale from the licensed refiners to the licensed jobbers.¹⁴⁰⁰ Consequently, under U.S. law a patent owner was entitled to fix prices at which the licensees can sell products manufactured under the license, but its possibilities to decide on the pricing after the first sale of a patented product was limited.¹⁴⁰¹

In *United States v. Univis Lens*,¹⁴⁰² the licensor sold patented bifocal lens blanks to licensees, which used the blanks in the production of finished eyeglass lenses.¹⁴⁰³ The licensor's practice of setting resale prices to be charged for patented products by licensees

¹³⁹⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 165 (2007); Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 31 (2008).

¹³⁹⁷ Sharon K. Sandeen, American Bar Association, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 264 (2d ed. 2009); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 440 (2003).

¹³⁹⁸ *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 452 (1940).

¹³⁹⁹ 309 U.S. 445-446; American Bar Association, *Intellectual Property and Antitrust Handbook* 165 (2007).

¹⁴⁰⁰ *Id.*; 309 U.S. at 452.

¹⁴⁰¹ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 73 (2009).

¹⁴⁰² *United States v. Univis Lens Co.*, 316 U.S. 241 (1942).

¹⁴⁰³ 316 U.S. at 243-244; American Bar Association, *Intellectual Property and Antitrust Handbook* 165 (2007).

who purchase directly from the licensor was qualified as an antitrust law violation because, as the Court held, with the first sale of the patented lens blanks by charging a royalty, the patentee lost any right to fix a price imposed by others for the finished lenses in the downstream licensing scheme.¹⁴⁰⁴

In *Line Material*,¹⁴⁰⁵ Southern and Line owned complementary, blocking patents, both of which were necessary to manufacture a component that protected certain electric devices from short circuits. The two firms granted each other royalty-free cross-licenses, thus enabling each of them to manufacture the complete device without infringing the patent held by the other party.¹⁴⁰⁶ The action arose when the two firms stated their willingness to license and sublicense the patents to others, but only if the latter agreed to charge a price at least as high as that charged for the product by Line.¹⁴⁰⁷ The Supreme Court prohibited competitors from entering into a cross-license of blocking patents by way of which one of them was able to set prices to be charged by the licensee and the sublicensee-manufacturers of patented products under both patents, and consequently refused to extend the ruling of *General Electric* (which only dealt with a single patentee) to this scenario and condemned these practices as per se unlawful.¹⁴⁰⁸ Moreover, it also constitutes an antitrust law violation for licensors to effect an industry-wide price-fixing conspiracy by entering into identical price-setting licenses with all competing manufacturers, so that the licensor effectively sets industry-wide resale prices.¹⁴⁰⁹

¹⁴⁰⁴ 316 U.S. at 250-251; American Bar Association, *Intellectual Property and Antitrust Handbook* 165 (2007).

¹⁴⁰⁵ *United States v. Line Material Co.*, 333 U.S. 287 (1948).

¹⁴⁰⁶ *Id.*; 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 31.2 (2006).

¹⁴⁰⁷ *Id.*; 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 31.2 (2006).

¹⁴⁰⁸ 333 U.S. at 314-315; American Bar Association, *Intellectual Property and Antitrust Handbook* 166 (2007).

¹⁴⁰⁹ *United States v. U.S. Gypsum Co.*, 333 U.S. 364, 389 (1948); *United States v. New Wrinkle, Inc.*, 342 U.S. 371, 379 (1952).

Nor does the *General Electric* rule offer any protection with regard to attempts of price fixing of unpatented goods that might be produced by using the patented processes or machinery. The courts have consistently refused to extend *General Electric* to situations where a patent covered a process or machine (or part thereof) for making a good, but not the good itself.¹⁴¹⁰ On the contrary, *General Electric* is limited to cases where the patentee licenses a manufacturer to manufacture the patented product, whereas the patent covers all or a significant proportion of the resulting product (which was the case because General Electric's technology covered a sufficiently large portion of the Westinghouse light bulb).¹⁴¹¹ However, *General Electric* did not authorize a rule of reason treatment for price fixing arrangements. Rather, it created an immunity for restraints that fall within its domain, and generally left all other agreements not meeting its requirements as being qualified as naked price fixing between competitors and consequently subject to per se condemnation.¹⁴¹² The Court's ruling in *General Electric* is limited in so far as it provides no protection where a licensing arrangement is shown to have the true purpose of fixing prices among competitors, with the exploitation of patents being merely incidental to this purpose, as it would amount to per se illegal horizontal price fixing.¹⁴¹³

Outside the narrow scope of the *General Electric* rule, horizontal price fixing agreements are seen critically under U.S. antitrust law. Unless the restraint is ancillary, hence reasonably necessary to achieve an efficiency-enhancing integration of economic activity, the Agencies and courts will likely challenge such a restraint under the per se rule.¹⁴¹⁴

Price-restricted licenses can be ancillary restraints when necessary to encourage the kind of

¹⁴¹⁰ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 31.3c (2006).

¹⁴¹¹ *Id.* at § 31.3d (2003).

¹⁴¹² *Id.* at § 31.4 (2003).

¹⁴¹³ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 440 (2003).

¹⁴¹⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 168 (2007).

co-production that licensing furthers and are presumptively reasonable under the circumstances. In such cases the appropriate course is to apply the rule of reason.¹⁴¹⁵ This will, to my mind, rarely (if ever) be the case.

B. Vertical restraints

In the vertical context, the Agencies adopted a rigid approach towards resale price maintenance in their IP Guidelines by qualifying them as per se illegal, which reflected the relevant case law in 1995.¹⁴¹⁶ They stated that resale price maintenance is illegal when “commodities have passed into the channels of trade and are owned by dealers.”¹⁴¹⁷ Thus, initially it was held per se illegal for a licensor of an intellectual property right in a product to fix a licensee’s resale price of that product.¹⁴¹⁸

This prohibition also captured minimum resale price maintenance, which refers to the practice of controlling the minimum price at which dealers (licensees) must sell their patented products, and which was equally considered per se illegal in the U.S., in order to prevent coordination that aims at controlling downstream prices.¹⁴¹⁹ The per se condemnation of minimum resale price maintenance was established by the 1911 precedent of *Dr. Miles Medical Co. v. John D. Park & Sons Co.*¹⁴²⁰

Interestingly, maximum resale price maintenance was also prohibited under the initially strict approach. However, this previously negative view towards maximum resale price

¹⁴¹⁵ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 31.6 (2009).

¹⁴¹⁶ IP Guidelines, *supra* note 99, § 5.2.

¹⁴¹⁷ *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 408 (1911); IP Guidelines, *supra* note 99, § 5.2.

¹⁴¹⁸ *United States v. Univis Lens Co.*, 316 U.S. 241, 252-253 (1942); *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 452-453 (1940); IP Guidelines, *supra* note 99, § 5.2.

¹⁴¹⁹ Makan Delrahim, *Fall 2004 Antitrust Symposium: The New European Antitrust Regime: Implications for Multinationals: Remark: The Long and Winding Road: Convergence in the Application of Antitrust to Intellectual Property*, 13 Geo. Mason L. Rev. 259, 267 (2005).

¹⁴²⁰ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 74 (2009).

maintenance shifted very soon due to the argumentation that consumers can actually benefit from this type of restraint because it keeps licensees in a given territory from charging a monopoly price and prices down for consumers.¹⁴²¹ Therefore, in the 1997 decision of *State Oil Co. v. Khan*,¹⁴²² the Supreme Court declared that the rule of reason analysis is the appropriate method to be applied to maximum resale price maintenance to effectively identify those situations in which vertical maximum price fixing amounts to anticompetitive conduct.¹⁴²³

Ten years later, in 2007, the Supreme Court's decision in *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*¹⁴²⁴ overturned the nearly century-old precedent of *Dr. Miles Medical Co. v. John D. Park & Sons Co.*,¹⁴²⁵ and also brought minimum resale price maintenance out of the per se category, as it declared the rule of reason analysis applicable to this type of restraint.¹⁴²⁶ The per se proscription was criticized from an economic perspective.¹⁴²⁷ In *Leegin*, the Court established that the per se rule should be limited only to those practices that would always or almost always tend to restrict competition and decrease output.¹⁴²⁸ It relied on contemporary economic analysis and theory when it observed that resale price maintenance can often generate procompetitive effects, including broader consumer choices and investment in service and advertising.¹⁴²⁹ Other probable benefits are the promotion of interbrand competition (competition among manufacturers

¹⁴²¹ *Id.*

¹⁴²² *State Oil Co. v. Khan*, 522 U.S. 3 (1997).

¹⁴²³ 522 U.S. at 18; Makan Delrahim, *Fall 2004 Antitrust Symposium: The New European Antitrust Regime: Implications for Multinationals: Remark: The Long and Winding Road: Convergence in the Application of Antitrust to Intellectual Property*, 13 *Geo. Mason L. Rev.* 259, 267 (2005).

¹⁴²⁴ *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007).

¹⁴²⁵ *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

¹⁴²⁶ 551 U.S. at 899; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 48 (3d ed. 2010); Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 55 (2010).

¹⁴²⁷ *Id.*

¹⁴²⁸ 551 U.S. at 886; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 53 (3d ed. 2010).

¹⁴²⁹ 551 U.S. at 889-890; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 53 (3d ed. 2010).

selling different brands of the same type of product) by reducing intrabrand competition (competition among retailers selling the same brand).¹⁴³⁰ The Court took into account that absent vertical price restraints, the retail services that enhance interbrand competition might be underprovided because “discounting retailers can free ride on retailers who furnish services and then capture some of the increased demand those services generate.”¹⁴³¹ Consumers might learn about the benefits of a product from a retailer that invests in fine showrooms, offers product demonstrations, or hires and trains knowledgeable employees.¹⁴³² If the consumer can then buy the product from a retailer that discounts because it has not spent capital providing those services, the high service retailer will lose sales to the discounter, forcing it to cut back its services at the expense of consumers.¹⁴³³ Minimum resale price maintenance alleviates this problem because it prevents the discounter from undercutting the service provider and, with price competition decreased, the manufacturer’s retailers compete among themselves over services.¹⁴³⁴ Even though the *Leegin* case did not concern patents, presumably its holding applies to cases involving patents as well.¹⁴³⁵ Consequently, the approach contained in the IP Guidelines is no longer reliable guidance as to the federal enforcement Agencies’ views on resale price maintenance in the context of intellectual property licensing.¹⁴³⁶ If a non-manufacturing patentee licenses its technology to a manufacturing licensee, and stipulates the price that the licensee must charge for the finished product produced under the license, the agreement considered alone is purely vertical because it does not eliminate any competition between

¹⁴³⁰ 551 U.S. at 890.

¹⁴³¹ 551 U.S. at 890.

¹⁴³² 551 U.S. at 890-891.

¹⁴³³ 551 U.S. at 891.

¹⁴³⁴ *Id.*

¹⁴³⁵ American Bar Association, *Antitrust Counterattack in Intellectual Property Litigation Handbook* 125 (2010).

¹⁴³⁶ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 92 (3d ed. 2010).

the licensor and the licensee.¹⁴³⁷ Any potential anticompetitive effects will be assessed under the rule of reason.

4.3. EU and U.S. law compared

Summing up, it can be concluded that direct and indirect price fixing between competitors and non-competitors is qualified as hardcore restrictions in the EU. They come within the scope of Article 101(1) TFEU, and an individual exemption under Article 101(3) TFEU will hardly ever be possible. On the contrary, the antitrust treatment in the U.S. appears to be much more relaxed. Although price restrictions in the horizontal context constitute per se forbidden practices, minor exceptions are permissible under the *General Electric* rule. The difference between EU and U.S. antitrust law becomes particularly evident with respect to resale price maintenance in the vertical context. According to U.S. law, such price restrictions, irrespective of whether they concern minimum or maximum prices, will be reviewed under the rule of reason, and actually may often be upheld if the procompetitive benefits outweigh the alleged negative effects. In the EU, on the other hand, resale price maintenance is also qualified as a hardcore restriction likely to be forbidden under Article 101(1) TFEU. The sole exception is vertical maximum price fixing between non-competitors, which comes within the scope of the TTBER and is block exempted if the regulation's requirements are met. Maximum price fixing agreements that cannot profit from the block exemption, for example because the market-share thresholds are exceeded, are subject to individual assessment under Article 101(3) TFEU. They are likely to fulfill the requirements unless they set maximum prices that function as a focal point – usually the case where the licensor has a strong market position. So any other

¹⁴³⁷ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 30.2.

restrictions on the price are treated harshly under EU antitrust law. This strict approach to minimum resale price maintenance in the EU has been criticized due to the potential procompetitive benefits of such a practice. It would guarantee licensees margins and may encourage them to provide better service.¹⁴³⁸ This could attract additional customers for that product, enhancing inter-technology competition.¹⁴³⁹ Moreover, it provides an incentive to invest in the promotion of the products at issue. Advertising and additional service are expensive.¹⁴⁴⁰ Without a minimum price restriction, others could undercut the price without providing the additional services.¹⁴⁴¹ This would result in the licensee stopping to produce and to sell with the technology in question or refusing to license it in the first place. However, resale price maintenance can also lead to anticompetitive effects that are harmful to consumers.¹⁴⁴² It may, for example, serve as a means to facilitate a licensee's or licensor's cartel where powerful licensees force a licensor to restrain the resale price.¹⁴⁴³ On the contrary, another good argument raised in favor of resale price maintenance is the fact that an IP owner can set the price at which products embodying his IP are sold in the case of his wholly-owned subsidiaries.¹⁴⁴⁴ So why not allow it to do so when it outsources production and distribution to a third party by way of licensing because the prohibition to do so discourages loose cooperation and encourages unitary business.¹⁴⁴⁵ In light of all these aspects, it is worth rethinking the strict EU approach regarding

¹⁴³⁸ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 75 (2009).

¹⁴³⁹ Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 88-89 (2010).

¹⁴⁴⁰ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 75 (2009).

¹⁴⁴¹ *Id.*

¹⁴⁴² *Id.*

¹⁴⁴³ *Id.*

¹⁴⁴⁴ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 81 (2009).

¹⁴⁴⁵ *Id.*

minimum resale price maintenance. A better solution may be an exclusion of this category of restraints from the list of hardcore restrictions.

5. Royalty obligations

License agreements usually bear royalties, which can be stipulated in various forms, for instance, as a paid-up license, where a fixed sum constitutes the royalty to be paid in a lump sum or over a period of time according to a payment schedule.¹⁴⁴⁶ The other possibility is running royalty obligations, which provide for periodic payments based on the licensee's sales.¹⁴⁴⁷ The Commission also acknowledges this distinction by stating that royalty obligations can be embellished as lump sum payments, as a percentage of the selling price, or a fixed amount for each product incorporating the licensed technology.¹⁴⁴⁸ Royalties may be determined based on forecasted sales, which can, however, be sometimes difficult to predict.¹⁴⁴⁹ Such a method will, therefore, usually be chosen for short license terms.¹⁴⁵⁰ On the other hand, in the case of running royalties, the need to forecast future sales volumes and prices is obviated because the patent owner gets an agreed percentage of it.¹⁴⁵¹

5.1. Royalty obligations under Article 101 TFEU

The Commission lays down the principle that licensor and licensee are in principle free to determine the royalty payable by the licensee and its mode of payment without being caught by Article 101(1) TFEU, whereas this principle applies irrespective of whether the

¹⁴⁴⁶ Alexander I. Poltorak & Paul J. Lerner, *Essentials of Licensing Intellectual Property* 99 (2003).

¹⁴⁴⁷ *Id.* at 101.

¹⁴⁴⁸ Technology Transfer Guidelines, *supra* note 1, para 156.

¹⁴⁴⁹ Alexander I. Poltorak & Paul J. Lerner, *Essentials of Licensing Intellectual Property* 100 (2003).

¹⁴⁵⁰ *Id.*

¹⁴⁵¹ *Id.* at 101.

agreement is formed between competitors or non-competitors.¹⁴⁵² The Commission especially enumerates obligations to pay minimum royalties among the practices that are not restrictive of competition.¹⁴⁵³ Moreover, where the licensed technology relates to an input incorporated into a final product, it is as a general rule not restrictive of competition that royalties are calculated on the basis of the price of the final product provided, of course, that it incorporates the licensed technology.¹⁴⁵⁴ Furthermore, notwithstanding the fact that the block exemption only applies as long as the technology is valid and in force, the parties can normally agree to extend royalty obligations beyond the period of validity of the licensed intellectual property rights without risking a violation of Article 101(1) TFEU.¹⁴⁵⁵ The reasoning behind this approach is that, after the IP rights in question expire, third parties can legally exploit the technology and compete with the parties to the agreement.¹⁴⁵⁶ According to the Commission, this actual and potential competition will normally suffice to ensure that such a royalty obligation does not have appreciable anticompetitive effects.¹⁴⁵⁷

A. Royalty obligations between competitors

However, where royalty obligations in licensing agreements between competitors are misappropriated and used for disguised price fixing, they necessarily constitute a hardcore restriction under Article 4(1)(a) TTBER. A method in this context includes competitors imposing reciprocal running royalties in circumstances where the license is a sham, meaning that its purpose is the prevention of an integration of complementary technologies

¹⁴⁵² Technology Transfer Guidelines, *supra* note 1, para 156.

¹⁴⁵³ *Id.* para 155(e).

¹⁴⁵⁴ *Id.* para 156.

¹⁴⁵⁵ *Id.* para 159.

¹⁴⁵⁶ *Id.*

¹⁴⁵⁷ *Id.*

without having any procompetitive aim.¹⁴⁵⁸ The Commission further explains that when royalties are calculated on the basis of individual product sales, the amount of the royalty has a direct impact on the marginal cost of the product and, consequently, a direct impact on product prices.¹⁴⁵⁹ Competitors can misuse cross-licensing with reciprocal running royalties in order to co-ordinate prices on downstream product markets.¹⁴⁶⁰ However, the Commission will only consider cross-licenses with reciprocal running royalties as price fixing where the contract lacks any procompetitive purpose and therefore does not constitute a bona fide licensing arrangement.¹⁴⁶¹ This is the case where the agreement neither creates any value nor has any valid business justification.¹⁴⁶² The Commission remains silent on what circumstances will suffice in order to grant an individual exemption on the basis of Article 101(3) TFEU. It may be difficult in these cases, in my opinion, to prove a bona fide license; the parties therefore risk an antitrust challenge if they impose reciprocal running royalties. This is alarming since cross-licenses between competitors are common. However, the Commission emphasizes that the agreement must lack any procompetitive purpose. Consequently, it may be sufficient if the parties can assert qualitative efficiencies or cost efficiencies, usually resulting from a combination of the licensor's and the licensee's assets or technologies, thereby leading to optimal production conditions and improved products for consumers.

Another scenario, according to Article 4(1)(a) TTBER, where royalties are classified as hardcore restrictions between competitors is where they extend to products manufactured solely with the licensee's own technology.¹⁴⁶³ Hence, agreements containing royalty

¹⁴⁵⁸ *Id.* para 157.

¹⁴⁵⁹ *Id.* para 80.

¹⁴⁶⁰ *Id.* para 80.

¹⁴⁶¹ *Id.* para 80.

¹⁴⁶² *Id.* para 80.

¹⁴⁶³ *Id.* para 157.

stipulations calculated on the basis of all product sales, irrespective of whether the licensed technology is used, are particularly problematic from an antitrust standpoint.¹⁴⁶⁴ Such agreements are also caught by Article 4(1)(d) TTBER, according to which the licensee must not be restricted in its ability to use its own technology.¹⁴⁶⁵ Moreover, they restrict competition because the costs of using the licensee's own competing technology are increased, which automatically impairs competition that would have existed absent the agreement.¹⁴⁶⁶ In this respect, it does not matter whether the agreement is reciprocal or non-reciprocal.¹⁴⁶⁷ On rare occasions, however, agreements stipulating that royalties calculated on the basis of all product sales can fulfill the conditions of Article 101(3) TFEU. It is a precondition, however, that it can be concluded on the basis of objective factors that the restriction is indispensable for procompetitive licensing to take place.¹⁴⁶⁸ This is the case whenever it would be impossible or unduly difficult to calculate and monitor the royalty payable by the licensee without the restraint, for example, when the licensor's technology leaves no visible trace on the final product and practicable alternative monitoring methods are unavailable.¹⁴⁶⁹

Besides, other varieties of royalty obligations that restrict competition between competitors are block exempted up to the market-share threshold of 20%.¹⁴⁷⁰ When the market-share threshold is exceeded, agreements where competitors cross-license and impose clearly disproportionate running royalties compared to the market value of the license may be caught by Article 101(1) TFEU in the course of an individual antitrust assessment, in

¹⁴⁶⁴ *Id.* para 81.

¹⁴⁶⁵ *Id.* para 81.

¹⁴⁶⁶ *Id.* para 81; Case 193/83 *Windsurfing International v Commission* [1986] ECR 611, para 67.

¹⁴⁶⁷ Technology Transfer Guidelines, *supra* note 1, para 81.

¹⁴⁶⁸ *Id.*

¹⁴⁶⁹ *Id.*

¹⁴⁷⁰ *Id.* para 158.

particular where such royalties significantly impact market prices.¹⁴⁷¹ It seems as if the Commission would refer in this context to constellations where a price fixing agreement cannot be proven. However, in an analysis of possible disproportionality, account must be taken of the royalties paid by other licensees on the product market for the same or substitute technologies.¹⁴⁷² If the royalties are found to be disproportionate after a comparative assessment, Article 101(1) TFEU is restricted and it is unlikely, according to the Commission, that the conditions of Article 101(3) TFEU are fulfilled.¹⁴⁷³ Since such agreements lead to higher prices, the individual exemption will fail, above all, the second condition because efficiencies conveyed to consumers are unlikely to occur. The difficulty in this respect will be the determination of disproportionate royalties. Of course, a comparison is possible with regard to other licensees by the same licensors. However, it will be tricky to actually compare the royalties to the ones that licensors of substitute technologies charge since licensing agreements are usually confidential and, therefore, access to information concerning the royalties payable will often be not easy, or even impossible.

Another constellation in agreements between competitors where Article 101(1) TFEU is likely to apply is the implementation of reciprocal running royalties per unit that increase as output increases.¹⁴⁷⁴ If the parties have a significant degree of market power, these provisions may have the same effect as output limitations.¹⁴⁷⁵ It is interesting that the Commission does not seem to consider them as hardcore restrictions since this scenario is mentioned in the same paragraph of the Technology Transfer Guidelines, where it first underlines that restrictive royalty obligations are block exempted up to 20%. Dogmatically,

¹⁴⁷¹ *Id.* para 158.

¹⁴⁷² *Id.* para 158.

¹⁴⁷³ *Id.* para 158.

¹⁴⁷⁴ *Id.* para 158.

¹⁴⁷⁵ *Id.* para 158.

I would categorize them as hardcore restrictions because, clearly, these are output restrictions in the form of disguised royalties. If they are imposed between competitors, they should be captured by Article 4(1)(b) TTBER. However, the Commission usually denominates practices that constitute hardcore restrictions as such in its Technology Transfer Guidelines. The Commission states at another point that the object and likely effect of an agreement between competitors involving reciprocal output limitations is to reduce output in the market.¹⁴⁷⁶ Furthermore, the same is true of contracts which reduce the incentive of the parties to expand output, for example by reciprocal obligations to make payments to each other if a certain level of output is exceeded.¹⁴⁷⁷ This constellation also covers, in my opinion, the situation described above. Increased royalties as a consequence of increased output can definitely be considered as a payment that reduces the incentive to expand output. Therefore, such obligations should not be employed in a license agreement as individual exemption under Article 101(3) TFEU may fail.

B. Royalty obligations between non-competitors

Agreements formed between non-competitors come within the scope of the block exemption when they include royalties calculated on the basis of (a) products produced with the licensed technology and (b) products manufactured with technologies licensed from third parties.¹⁴⁷⁸ Hence they are block exempted if the individual market shares of the parties of 30% are not exceeded.¹⁴⁷⁹ Although such provisions may facilitate the metering of royalties, they may at the same time lead to foreclosure by increasing the costs of using third party inputs and, consequently, can have similar effects as a non-compete

¹⁴⁷⁶ *Id.* para 82.

¹⁴⁷⁷ *Id.* para 82.

¹⁴⁷⁸ *Id.* para 160.

¹⁴⁷⁹ *Id.* para 160.

obligation.¹⁴⁸⁰ If royalties are paid not just on products manufactured with the licensed technology but also extend to products produced with third party technology, then the royalties will increase the cost of the latter products and thereby reduce demand for third party technology.¹⁴⁸¹ Such practices harm competition. Outside the scope of the block exemption it must therefore be examined whether the restriction has foreclosure effects.¹⁴⁸² For that purpose it is useful to orient oneself to the analytical framework provided in detail below in the context of non-compete obligations.¹⁴⁸³ In the case of appreciable foreclosure effects, agreements containing such royalty obligations are caught by Article 101(1) TFEU and unlikely to fulfill the conditions of Article 101(3) TFEU, unless there is no other practical solution for the calculation and monitoring royalty payments.¹⁴⁸⁴

5.2. Royalty obligations under Section 1 Sherman Act

The Agencies' IP Guidelines do not mention any antitrust issues in the context of royalties in patent licenses, but also in the U.S., it is settled law that a licensor may charge whatever royalty rate the market will bear.¹⁴⁸⁵ According to the Supreme Court's ruling in *Brulotte v. Thys Co.*, "a patent empowers the owner to extract royalties as high as he can negotiate with the leverage of that monopoly."¹⁴⁸⁶ The court explained in *American Photocopy Equipment Co. v. Rovico, Inc.*¹⁴⁸⁷ the rationale for this rule with the fact that, where the

¹⁴⁸⁰ *Id.* para 160.

¹⁴⁸¹ *Id.* para 160.

¹⁴⁸² *Id.* para 160.

¹⁴⁸³ *Id.* para 160.

¹⁴⁸⁴ *Id.* para 160.

¹⁴⁸⁵ *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964); *W.L. Gore & Assocs., Inc. v. Carlisle Corp.*, 529 F. 2d 614, 622-623 (3d Cir. 1976); *Carter-Wallace, Inc. v. United States*, 449 F.2d 1374, 1383 (Ct. Cl. 1971); *LaSalle St. Press, Inc. v. McCormick & Henderson, Inc.*, 445 F.2d 84, 95 (7th Cir. 1971); *United States v. Telectronics Proprietary, Ltd.*, 607 F. Supp 753, 755 (D. Colo. 1983); *E.I. du Pont de Nemours & Co. v. Shell Oil Co.*, 498 A.2d 1108, 1116 (Del. 1985).

¹⁴⁸⁶ *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964).

¹⁴⁸⁷ *American Photocopy Equipment Co. v. Rovico, Inc.*, 257 F. Supp. 192, 199 (N.D. Ill. 1966), *aff'd*, 384 F.2d 813 (7th Cir. 1967).

licensor is free not to license at all, competition cannot be restrained by charging high royalties; licensing should therefore be encouraged as it is an alternative to monopoly, which would otherwise be present.¹⁴⁸⁸ Accordingly, the court stated: “We cannot assume that there exist restrictions against ‘unreasonably high royalties’, absent any proof of favoritism or conspiracy to fix prices, neither of which has been inferred, much less proven herein. Where a patentee is certainly free not to license at all, we fail to see how competition is restrained by charging high royalties. Indeed, such licensing, if not beyond the scope of the patent grant, should be encouraged under anti-trust principles, as an alternative to monopoly, which would otherwise be present. The free competitive market place has built-in controls such as supply and demands to limit the royalties charged by a prospective licensor. There is no indication that further controls are justified.”¹⁴⁸⁹ Consequently, a licensee cannot prevail in an antitrust claim by merely alleging that the licensor charged an excessively high royalty rate¹⁴⁹⁰ without special evidence to establish anticompetitive effects (e.g., limiting competition with an affiliate of the licensor in downstream markets).¹⁴⁹¹ An argument in favor of high royalties is that they can be procompetitive by leading to high profits, which in return attract and incentivize investment and innovation, and thereby competition.¹⁴⁹²

It was held that a licensor may not charge discriminatory royalties, meaning different royalty amounts to different licensees,¹⁴⁹³ but such a rule was criticized.¹⁴⁹⁴ In the 1960s, a

¹⁴⁸⁸ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 44 (2008).

¹⁴⁸⁹ 257 F. Supp. at 199.

¹⁴⁹⁰ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 44 (2008).

¹⁴⁹¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 218-219 (2007).

¹⁴⁹² Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 79 (2010).

¹⁴⁹³ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 44-45 (2008).

series of cases challenged discriminatory royalties charged by a Gulf Coast manufacturer of shrimp peeling machines who set different royalties for different licensees.¹⁴⁹⁵ The Fifth Circuit stated that the practice was discriminatory and anticompetitive in its effect and the refusal of an equal treatment substantially and unjustifiably injured competition in the shrimp canning industry.¹⁴⁹⁶ Thus it was found unlawful to limit competition with an affiliate of the licensor in a downstream market.¹⁴⁹⁷ However, the courts refused in subsequent cases to interpret previous decisions in a way which would imply that discriminatory royalties alone are sufficient to establish an antitrust violation.¹⁴⁹⁸

Courts deciding discriminatory royalty cases focus on the underlying rationale for charging disparate royalty rates.¹⁴⁹⁹ In *Bela Seating Co. v. Poloron Products, Inc.*,¹⁵⁰⁰ for example, the licensor justified higher royalty rates with the argument that it regretted its previous decisions to charge lower royalties, explaining that the royalty rate offered by the licensor was less than 7% of the price that the licensee charged for its products.¹⁵⁰¹ Accordingly, the court considered these claims a rational basis upon which Bela could refuse to grant Poloron a license on the same terms as the other licensee without triggering any discrimination that offends antitrust law.¹⁵⁰² Similarly, in *La Salle Street Press, Inc. v. McCormick & Henderson, Inc.* the court found no discrimination violating the antitrust laws with regard to deviating royalties because the licensor directly competed with the

¹⁴⁹⁴ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 437 (2003).

¹⁴⁹⁵ *LaPeyre v. FTC*, 366 F.2d 117 (5th Cir. 1966); Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 44 (2008).

¹⁴⁹⁶ *Id.* at 45.

¹⁴⁹⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 219 (2007).

¹⁴⁹⁸ *Id.*

¹⁴⁹⁹ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 45-46 (2008).

¹⁵⁰⁰ *Bela Seating Co. v. Poloron Products, Inc.*, 297 F. Supp. 489 (N.D. Ill. 1968), *aff'd*, 438 F.2d 733 (7th Cir. 1971).

¹⁵⁰¹ 297 F. Supp. at 503.

¹⁵⁰² 297 F. Supp. at 509; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 45-46 (2008).

licensee in the Chicago area, while the prior licensees were New York and California companies that did not.¹⁵⁰³

Moreover, in *Akzo N.V. v. International Trade Commission*, royalties that varied by end use were not found to be per se unlawful and no anticompetitive effects were established necessary for a finding of a violation of the antitrust laws because the court held that royalties varying for different uses had procompetitive effects as they increased the volume of patented materials sold.¹⁵⁰⁴ Furthermore, it was established in *USM Corp. v. SPS Technologies* that the plaintiff had made no effort to prove the elements of any antitrust violation with regard to discriminatory royalties.¹⁵⁰⁵

Royalty requirements raise antitrust issues when they are considered as expanding the patent grant in some way.¹⁵⁰⁶ In *Brulotte* the Court declared postexpiration royalties as per se unlawful, based on the limited duration of the patent right, as set forth in the Constitution and the Patent Act.¹⁵⁰⁷ Nevertheless, such provisions are more likely to constitute patent misuse as opposed to an antitrust violation.¹⁵⁰⁸ In general, it can be concluded that unless there is evidence of either price fixing between competitors or predatory pricing in the product market, royalties will not be challenged under the antitrust laws, irrespective of their amount.¹⁵⁰⁹

¹⁵⁰³ *La Salle Street Press, Inc. v. McCormick & Henderson, Inc.*, 445 F.2d at 95-96; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 46 (March 2008).

¹⁵⁰⁴ *Akzo N.V. v. International Trade Commission*, 808 F.2d 1471, 1489 (Fed. Cir. 1986); American Bar Association, *Intellectual Property and Antitrust Handbook* 219 (2007).

¹⁵⁰⁵ *USM Corp. v. SPS Technologies*, 694 F.2d 505, 512 (7th Cir. 1982); American Bar Association, *Intellectual Property and Antitrust Handbook* 219-220 (2007).

¹⁵⁰⁶ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 437 (2003).

¹⁵⁰⁷ *Id.*; *Brulotte v. Thys Co.*, 379 U.S. 29, 30-34 (1964) (citing U.S. CONST. art. I, § 8, and 35 U.S.C. § 154); American Bar Association, *Intellectual Property and Antitrust Handbook* 212 (2007).

¹⁵⁰⁸ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 265 (2d ed. 2009); *Schreiber v. Dolby Labs, Inc.*, 293 F.3d 1014, 1017-1018 (7th Cir. 2002), *cert. denied*, 537 U.S. 1109 (2003).

¹⁵⁰⁹ Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 79 (2010).

In *Palmer v. BRG of Georgia*,¹⁵¹⁰ Harcourt Brace Jovanovich Legal and Professional Publications (“HBJ”) granted BRG of Georgia, Inc. (“BRG”) an exclusive license to market HBJ’s bar review materials in Georgia and agreed not to compete with BRG in this territory. BRG agreed not to compete with HBJ outside the state of Georgia.¹⁵¹¹ The parties agreed upon a royalty of \$100 per student enrolled by BRG and 40% of all revenues over \$350.¹⁵¹² Immediately after their agreement, the price of BRG’s course was increased from \$150 to over \$400.¹⁵¹³ The Court held that the revenue sharing formula coupled with the price increase indicated that the agreement was concluded for the purpose and with the effect of raising the price of the bar review course.¹⁵¹⁴ It referred to prior decisions and underlined that under the Sherman Act, a combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity in interstate or foreign commerce is illegal per se.¹⁵¹⁵ Now even though this case did not directly concern IP protected by a patent, it still serves as a good example of forbidden price fixing by employing royalties. It can be assumed that the Court would have reached a similar conclusion if the intellectual property at issue had been a patent instead of copyright.

5.3. EU and U.S. law compared

In the EU and the U.S. the basic notions are the same: the parties are in principle free to determine their royalties whether they are competitors or not. Moreover, they have also free choice regarding the payment form and can therefore stipulate a lump sum payment or

¹⁵¹⁰ *Palmer v. BRG of Ga.*, 498 U.S. 46 (1990).

¹⁵¹¹ 498 U.S. at 47.

¹⁵¹² *Id.*

¹⁵¹³ *Id.*

¹⁵¹⁴ 498 U.S. at 49.

¹⁵¹⁵ 498 U.S. at 48.

running royalties. In the EU, minimum royalty obligations and royalties calculated on the basis of the price of a final product incorporating the licensed technology as an input are not restrictive within the meaning of Article 101(1) TFEU. The same notion is applied with regard to post-expiration royalties which do not raise antitrust issues in the EU. On the contrary, in the U.S. post-expiration royalties are judged as per se unlawful, though this is rather an act of patent misuse than an antitrust violation.

Market participants that are competitors should be careful not to use reciprocal running royalties as a means of disguised price fixing; the Commission is well aware of this possibility. In the U.S., such practices may also amount to per se forbidden price fixing. Furthermore, royalties between competitors extending to products manufactured with the licensee's own technology – for instance, where they are calculated on the basis of all product sales irrespective of whether the licensed technology is used – are also considered as hardcore restrictions except where it is difficult to calculate and monitor the royalty payable by the licensee. Hence, in these rare scenarios, individual exemption under Article 101(3) TFEU seems possible. All other restrictive royalty obligations between competitors are block exempted up to the combined market-share threshold of 20%. Cross-license agreements stipulating reciprocal running royalties between competitors may be problematic if they are clearly disproportionate compared to the value of the licensed technology. In these cases, Article 101(3) TFEU is unlikely to be fulfilled. Reciprocal royalties with the effect of limiting output (e.g., that foresee an increase as output increases) raise similar antitrust issues as they can be considered as disguised output restrictions. On the other hand, restrictive royalty obligations in agreements between non-competitors are covered by the block exemption up to the individual market shares of 30%. Above the market-share thresholds, they may be forbidden if they have significant

foreclosure effects (e.g., if royalties are calculated on the basis of the licensee's total sales), irrespective of whether the licensor's technology is used, and Article 101(3) TFEU is unlikely to be fulfilled. In the U.S., the licensor is in principle free to charge whatever royalty it likes. Only disguised horizontal price fixing schemes are forbidden as incompatible with antitrust law. U.S. courts have dealt with discriminatory royalties but rarely if ever found an antitrust violation. This is roughly consistent with the legal situation in the EU where discriminatory royalties have not been considered to raise antitrust issues.

6. Output restrictions

6.1. Output restrictions under Article 101 TFEU

An output restriction is a limitation on how much a party may produce and sell.¹⁵¹⁶

A. Reciprocal output restrictions between competitors

Reciprocal output restrictions in license agreements between competitors, where two undertakings grant each other, in the same or separate contracts, licenses for competing technologies or for technologies, which can be used for the production of competing products, constitute hardcore restrictions covered by Article 4(1)(b) TTBER. They do not profit from the block exemption regulation and are to be examined individually under Article 101 TFEU. They are considered restrictions of competition by object and unlikely to fulfill the conditions of an individual exemption provided for in Article 101(3) TFEU. Consequently, they are likely to be forbidden under EU antitrust law.

¹⁵¹⁶ Technology Transfer Guidelines, *supra* note 1, para 82.

B. Non-reciprocal output restrictions between competitors

The hardcore list does not cover output restrictions imposed on the licensee in a non-reciprocal agreement between competitors where only one undertaking grants another undertaking a license, or where two undertakings grant each other licenses which do not concern competing technologies and cannot be used for the production of competing products.¹⁵¹⁷ Moreover, the hardcore list does not cover either output restrictions on just one of the licensees in a reciprocal agreement.¹⁵¹⁸ Consequently, such restrictions are block exempted up to the parties' combined market-share threshold of 20%.¹⁵¹⁹

Above this threshold, output restrictions are subject to an individual antitrust analysis. They may impair competition and hence come within the scope of Article 101(1) TFEU where the parties have significant market power.¹⁵²⁰ However, the conditions of an individual exemption under Article 101(3) TFEU are likely to be fulfilled in cases where the licensor's technology is substantially better than the licensee's technology and the output limitation significantly exceeds the output of the licensee prior to the conclusion of the agreement.¹⁵²¹ In such a case, the effect of the output restriction is limited, even in markets where demand is growing.¹⁵²² In the course of an analysis under Article 101(3) TFEU, we must take into consideration the fact that output restrictions can be necessary to induce the licensor to disseminate its technology as widely as possible.¹⁵²³ If, for example, a licensor cannot limit the license to a particular production site with a specific capacity (a site license), it may be reluctant to grant the license to its competitors in the first place.¹⁵²⁴

Consequently, in scenarios where the patent license leads to a real integration of

¹⁵¹⁷ *Id.* para 175; Commission Regulation (EC) No 772/2004, *supra* note 17, art 4 para 1(b).

¹⁵¹⁸ *Id.* para 175.

¹⁵¹⁹ *Id.* para 175.

¹⁵²⁰ *Id.* para 175.

¹⁵²¹ *Id.* para 175.

¹⁵²² *Id.* para 175.

¹⁵²³ *Id.* para 175.

¹⁵²⁴ *Id.* para 175.

complementary assets, output restrictions qualify for individual exemption under Article 101(3) TFEU.¹⁵²⁵ In particular, the above can be considered relevant in relation to the indispensability of the restriction to promote procompetitive efficiencies that are transferred to consumers, such as qualitative improvements resulting from the combination of the licensor's technology with the licensee's assets. The Commission only generally indicates that the conditions of Article 101(3) TFEU (including the indispensability test and the requirement of the absence of an elimination of competition) are likely to be fulfilled, which is, however, unlikely in cases where the parties enjoy substantial market power.¹⁵²⁶ The latter can be seen in particular with reference to the characteristic of indispensability, which will, I believe, depend on the circumstances of the case and the market position of the parties and may not be given if market power is involved. Especially in the case of a vigorous output restriction, the Commission may challenge the restraint when the mentioned procompetitive efficiencies could be achieved through less restrictive means.¹⁵²⁷ Output restrictions do not raise particular issues, in my opinion, with regard to the "no-elimination of competition" requirement since they only restrict output but do not prevent the licensee from being a source of competition on the market.

C. Output restrictions in agreements between non-competitors

Output restrictions in license agreements between non-competitors are block exempted up to the individual market-share thresholds of 30% of each party. Above these limits, the main anticompetitive risk resulting from output restrictions on licensees in agreements between non-competitors is reduced intra-technology competition between licensees.¹⁵²⁸ In

¹⁵²⁵ *Id.* para 175.

¹⁵²⁶ *Id.* para 175.

¹⁵²⁷ *Id.* para 175.

¹⁵²⁸ *Id.* para 176.

the course of an analysis of the significance of such anticompetitive effects, account must be taken of the market position of the licensor and the licensees and the extent to which the output limitation prevents the licensee from satisfying demand for the products incorporating the licensed technology.¹⁵²⁹ When output restrictions are combined with exclusive territories or exclusive customer groups, such restrictive effects are increased because it is likely that the agreement serves to allocate markets.¹⁵³⁰

On the other hand, as far as contracts between non-competitors are concerned, the related effects of output limitations imposed on the licensee can be a promotion of the dissemination of technology,¹⁵³¹ which leads to procompetitive efficiencies. As a supplier of technology, the licensor should normally be free to determine the output produced with the licensed technology by the licensee because, otherwise, the licensor may refuse to license in the first place, which would have a negative impact on the dissemination of new technology.¹⁵³² The latter is particularly likely in cases where the licensor is also a producer because the licensees' output may find its way back into the licensor's main area of operation and thus have a direct impact on these activities.¹⁵³³ The fact that an output restriction incentivizes the dissemination of technologies may cause procompetitive efficiencies resulting, for example, from the combination of the licensor's technology with the licensee's assets, thereby enabling new or better products to the ultimate benefit of consumers. Normally the restriction will be indispensable for the achievement of these efficiencies as the licensor may not license at all without them. Lastly, there is no threat of an elimination of competition. On the contrary, it is less likely that output restrictions are necessary to ensure dissemination of the licensor's technology when they are combined

¹⁵²⁹ *Id.* para 176.

¹⁵³⁰ *Id.* para 177.

¹⁵³¹ *Id.* para 178.

¹⁵³² *Id.* para 178.

¹⁵³³ *Id.* para 178.

with sales restrictions on the licensee prohibiting it from selling into a territory or customer group reserved for the licensor,¹⁵³⁴ as in this case the indispensability condition is probably not fulfilled.

6.2. Output restrictions under Section 1 Sherman Act

A. Horizontal output restrictions

According to U.S. antitrust law, horizontal output and supply restrictions fall under the per se proscription of Section 1 Sherman Act.¹⁵³⁵ Often cartels function better with agreements limiting output than with those setting the price because output may be easier controlled by other cartel members and therefore making it harder for individual cartel members to “cheat” on the cartel agreement.¹⁵³⁶ Consequently, unless a horizontal output restriction is reasonably necessary to achieve an efficiency-enhancing integration of economic activity, the Agencies will challenge it under the per se rule.¹⁵³⁷ This view is consistent with the relevant case law, where output or quantity restrictions in cross-licenses between competitors are qualified as per se unlawful, as established by the Supreme Court in *Hartford Empire v. United States*.¹⁵³⁸ Outside the context of patent licenses, horizontal agreements limiting output are treated harshly under the antitrust laws.¹⁵³⁹

¹⁵³⁴ *Id.* para 178.

¹⁵³⁵ IP Guidelines, *supra* note 99, §§ 3.4, 5.1; *FTC v. Superior Court Trial Lawyers Ass’n*, 493 U.S. 411, 423 (1990).

¹⁵³⁶ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 32.1 (2006).

¹⁵³⁷ IP Guidelines, *supra* note 99, § 3.4; American Bar Association, *Intellectual Property and Antitrust Handbook* 168 (2007).

¹⁵³⁸ *Hartford Empire v. United States*, 323 U.S. 386, 398 and 434 (1945), American Bar Association, *Intellectual Property and Antitrust Handbook* 169 (2007).

¹⁵³⁹ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 33 (2008).

B. Vertical output restrictions

On the contrary, vertical output restraints or quantity limitations in license agreements are assessed under the rule of reason, and generally upheld as reasonable restraints.¹⁵⁴⁰ Few antitrust decisions have addressed quantity restrictions.¹⁵⁴¹ However, courts have generally held that quantity restrictions in patent licenses are lawful.¹⁵⁴² Whether output restrictions constitute antitrust violations depends on the nature of the patent (product, process, or device) and on the scope of the exclusionary power of the patent.¹⁵⁴³ Accordingly, if the patent covers the licensed product and invests the licensor with the power to exclude others from making, using, or selling it, a clause in the license restricting the licensee's output is likely to be upheld in a prospective antitrust case.¹⁵⁴⁴ On the contrary, if the patent does not confer such a complete power to exclude from production of the product, the antitrust outcome will be less predictable.¹⁵⁴⁵

There are several possible explanations for the procompetitive approach towards output restrictions in the vertical context. First, it may be asserted that – as in the sale of any other property – sellers are generally free to sell as little or as much as they want.¹⁵⁴⁶ Moreover, a license may be used by the manufacturing patentee to balance shortfalls in its own capacity, and may wish to license only with regard to output that it cannot produce.¹⁵⁴⁷ Third, a basic logical argument is that when the patentee is entitled not to license at all, the

¹⁵⁴⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 169 (2007); *Atari Games Corp. v. Nintendo of Am.*, 897 F.2d 1572, 1578 (Fed. Cir. 1990); *United States v. Parker-Rust-Proof Co.*, 61 F. Supp. 805, 812 (E.D. Mich. 1945); *Ethyl Corp. v. Hercules Powder Co.*, 232 F. Supp. 453, 460 (D. Del. 1963).

¹⁵⁴¹ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 440 (2003).

¹⁵⁴² *Id.* at 440-441.

¹⁵⁴³ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 32 (2008).

¹⁵⁴⁴ *Id.*

¹⁵⁴⁵ *Id.* at 32-33.

¹⁵⁴⁶ 2 Herbert Hovenkamp et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 32.1 (2006).

¹⁵⁴⁷ *Id.*

decision to license but to limit output does not give the patentee greater control over market output than an absolute refusal to license.¹⁵⁴⁸ Still, reasonable quantity restrictions can serve as incentives to enter into cross-licensing agreements.¹⁵⁴⁹ An example demonstrating the difference between vertical and horizontal output restrictions is the following: A nonmanufacturing patentee licenses its technology to three manufacturing licensees, and stipulates the number of units that each can produce.¹⁵⁵⁰ In the absence of any agreement among the three licensees, this agreement can be characterized as purely vertical and should be treated as such. However, if the three licensees agreed with each other to limit output and elicited the aid of the patentee in enforcing this output limitation via a patent license, the restraint would be horizontal.¹⁵⁵¹ Consequently, whether the relevant antitrust agreement is horizontal or vertical depends on whether the licensees have agreed with each other.¹⁵⁵²

6.3. EU and U.S. law compared

According to EU antitrust law, reciprocal output restrictions between competitors constitute hardcore restrictions and are likely to be forbidden because they do not fulfill the conditions of an individual exemption under Article 101(3) TFEU. A comparative analysis under U.S. antitrust law delivers the same results as horizontal output restrictions in cross-licenses are per se forbidden under Section 1 Sherman Act. Again, under EU law, no per se category exists and, therefore, one could assert that the situation is slightly more preferable because undertakings could theoretically put forward conditions for an individual

¹⁵⁴⁸ *Id.*
¹⁵⁴⁹ *Id.*
¹⁵⁵⁰ *Id.*
¹⁵⁵¹ *Id.*
¹⁵⁵² *Id.*

exemption; however, it is unlikely that all four requirements of Article 101(3) TFEU would be fulfilled in the case of such restrictions of competition by object.

Non-reciprocal agreements between competitors are block exempted up to 20%, and above this market-share threshold are likely to fulfill the conditions of Article 101(3) TFEU unless substantial market power is involved. Agreements between non-competitors are equally block exempted up to the individual market shares of 30%.

Agreements that do not qualify for block exemption must be carefully examined under Article 101(3) TFEU as their evaluation will depend on the circumstances of the case. The related risk is reduced intra-technology competition between licensees; however, procompetitive efficiencies, consisting of the dissemination of technology, are equally recognized. Output restrictions are similarly perceived in the U.S., where it is argued that the licensor should be free to determine how much is produced with its technology. This can play a role in particular where it chooses to license only for shortcomings in its own production. Output restrictions are likely to be upheld in the EU, unless they are combined with other restrictions. This situation is consistent with the legal situation in the U.S. because output restrictions in pure vertical licenses are assessed under the rule of reason, and often upheld.

7. Non-compete obligations in the EU and exclusive dealing provisions in the U.S.

7.1. Non-compete obligations under Article 101 TFEU

Non-compete obligations in the context of patent licenses forbid the licensee to use third party technologies which compete with the licensed technology.¹⁵⁵³ However, when such a provision covers a product or an additional technology supplied by the licensor, the

¹⁵⁵³ Technology Transfer Guidelines, *supra* note 1, para 196.

obligation is dealt with in the preceding section on tying. The reason for the imposition of non-compete obligations is to assure the licensor that its technology will not be used for the benefit of its competitors after having been transferred to the licensee.¹⁵⁵⁴

The TTBER exempts non-compete obligations both in the case of agreements between competitors and non-competitors up to the market-share thresholds of 20% and 30% respectively.¹⁵⁵⁵ Agreements that do not meet the requirements of the block exemption regulation must be carefully and individually examined. The main competitive risk related to non-compete obligations is foreclosure of third party technologies, which reduces competitive pressure on royalties charged by the licensor and thereby reduces competition between the incumbent technologies by limiting the possibilities for licensees to substitute between competing technologies.¹⁵⁵⁶ Besides, non-compete clauses can also facilitate collusion between licensors in the case of cumulative use.¹⁵⁵⁷ The Commission argues in the Technology Transfer Guidelines that the lower market-share threshold of 20% of both parties together is justified by the fact that cross-licensing between competitors where both agree not to use third party technologies may facilitate collusion between them on the product market.¹⁵⁵⁸ In agreements between non-competitors, the usual individual market-share threshold of 30% of each party applies.¹⁵⁵⁹

Above the market-share thresholds, the core question is whether the agreement forecloses competition on the market. The notion of foreclosure captures situations arising where a substantial part of potential licensees are already tied to one or, in the case of cumulative effects, more sources of technology and are prevented from exploiting competing

¹⁵⁵⁴ Tu Thanh Nguyen, *Competition Law, Technology Transfer and the TRIPS Agreement: Implications for Developing Countries* 103 (2010).

¹⁵⁵⁵ Commission Regulation (EC) No 772/2004, *supra* note 17, art 2; Technology Transfer Guidelines, *supra* note 1, para 197.

¹⁵⁵⁶ Technology Transfer Guidelines, *supra* note 1, para 198.

¹⁵⁵⁷ *Id.*

¹⁵⁵⁸ *Id.*

¹⁵⁵⁹ Commission Regulation (EC) No 772/2004, *supra* note 17, art 3 para 2.

technologies.¹⁵⁶⁰ Apart from agreements formed by a single licensor with a significant degree of market power, foreclosure effects can also be linked to agreements concluded by several licensors which cause a cumulative effect, even where each individual agreement or network of agreements is covered by the TTBER.¹⁵⁶¹ In the latter case, however, a serious cumulative effect is unlikely to occur as long as less than 50% of the market is tied.¹⁵⁶² This is consistent with Article 7(1) TTBER, which provides that the Commission can – pursuant to Article 1a of Regulation No 19/65/EEC¹⁵⁶³ – declare by regulation that, where parallel networks of similar technology transfer agreements cover more than 50% of a relevant market, the TTBER does not apply to technology transfer agreements containing specific restraints relating to that market. However, such a regulation may not become applicable earlier than six months from its adoption.¹⁵⁶⁴

Above the market-share threshold, significant foreclosure is likely to arise when, in addition, there are relatively high barriers to entry for new licensees.¹⁵⁶⁵ Low barriers to entry are necessary for new licensees to be able to enter the market and exploit commercially attractive technologies held by third parties in order to represent a real alternative to incumbent licensees.¹⁵⁶⁶ Whether such a real possibility for entry and expansion by third parties exists also depends on the extent to which distributors are tied to licensees by non-compete obligations because third party technologies only have a real possibility of entry if they have access to the necessary production and distribution assets.¹⁵⁶⁷ In assessing foreclosure effects at the distribution level, the Commission will

¹⁵⁶⁰ *Id.* para 199.

¹⁵⁶¹ *Id.* para 199.

¹⁵⁶² *Id.* para 199.

¹⁵⁶³ Regulation No 19/65/EEC, *supra* note 159, art 1a.

¹⁵⁶⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, art 7 para 2.

¹⁵⁶⁵ *Id.* para 199.

¹⁵⁶⁶ Technology Transfer Guidelines, *supra* note 1, para 199.

¹⁵⁶⁷ *Id.*

apply the analytical framework set out in the Guidelines on Vertical Restraints.¹⁵⁶⁸ Accordingly, when the licensor has a significant degree of market power, obligations on licensees to obtain the technology only from the licensor can cause substantial foreclosure effects.¹⁵⁶⁹ The stronger the licensor's market position, the higher the risk of foreclosing competing technologies.¹⁵⁷⁰ It can occur even without covering a substantial part of the market, for instance, where such practices are imposed on undertakings that are most likely to license competing technologies.¹⁵⁷¹ The risk of foreclosure is also imminent in the case of only a limited number of potential licensees and where the license concerns a technology which serves the licensees as an input for their own use.¹⁵⁷² Such a scenario results in high entry barriers for a new licensor.¹⁵⁷³ On the contrary, foreclosure may be less likely where the technology is used to manufacture a product which is then sold to third parties.¹⁵⁷⁴

If non-compete obligations lead to significant foreclosure effects, they clearly have the effect of restricting competition and are therefore caught by Article 101(1) TFEU. In the consideration of likely procompetitive efficiencies, account should be taken of the fact that they may contribute to the dissemination of important technologies. They may serve as an incentive for the licensor to grant the license in the first place. In addition, consumers can also enjoy the advantages as the combination of the licensor's and the licensee's technologies or assets may result in more effective production methods and improved products. Moreover, the licensee may also be in a better position to produce and

¹⁵⁶⁸ *Id.*

¹⁵⁶⁹ *Id.* para 200.

¹⁵⁷⁰ *Id.* para 200.

¹⁵⁷¹ *Id.* para 200.

¹⁵⁷² *Id.* para 200.

¹⁵⁷³ *Id.* para 200.

¹⁵⁷⁴ *Id.* para 200.

commercialize the patented invention, for example where the licensor lacks the necessary production assets.

The Commission underlines that such non-compete obligations may promote dissemination of technology because they reduce the risk of potential misappropriation of the licensed technology.¹⁵⁷⁵ The Commission especially refers to this problem in the context of know-how by arguing that, if a licensee is entitled to license competing technologies from third parties, there is a particular risk that the licensed know-how would be used in the exploitation of competing technologies, and thus ultimately benefits competitors.¹⁵⁷⁶ It is questionable in my opinion whether this argument can also be asserted in the context of patent licenses. It will probably be irrelevant since the licensor has anyway the possibility to sue for infringement in case of unauthorized use of its patented invention. However, the fear of misappropriation may play a role if the licensor is rather small and lacks the assets to afford a costly infringement action. In these cases it may be contended that it is necessary for the licensor to take precautions for the dissemination of the technology to take place.

Another point put forward by the Commission is that the monitoring of royalty payments is more difficult when a licensee also exploits competing technologies because it creates a disincentive to licensing.¹⁵⁷⁷ This can be particularly relevant if the licensor is in the position to produce the patented product itself and has the choice to abstain from licensing at all. Furthermore, non-compete obligations, possibly in combination with an exclusive territory, may ensure that the licensee has an incentive to invest in and exploit the licensed technology effectively.¹⁵⁷⁸ Nevertheless, in cases where the agreement is caught by Article

¹⁵⁷⁵ *Id.* para 201.

¹⁵⁷⁶ *Id.* para 201.

¹⁵⁷⁷ *Id.* para 201.

¹⁵⁷⁸ *Id.* para 202.

101(1) TFEU because of an appreciable foreclosure effect, it may be necessary in order to benefit from Article 101(3) TFEU to choose a less restrictive alternative, for instance, to impose minimum output or royalty obligations, which normally have less potential for foreclosure of competing technologies.¹⁵⁷⁹

Moreover, where the licensor undertakes significant client specific investments, for instance in training and adapting the licensed technology to the licensee's needs, non-compete obligations may be useful to induce the licensor to undertake the investment and to avoid hold-up problems.¹⁵⁸⁰ However, the Commission asserts that under normal circumstances, the licensor will be able to charge directly for such investments by means of a lump sum payment, which implies that less restrictive alternatives are available.¹⁵⁸¹ Consequently, the individual exemption will fail because of the lack of indispensability of non-compete obligations. So only in rare scenarios will Article 101(3) TFEU be fulfilled if an agreement is caught by Article 101(1) TFEU and exceeds the market-share thresholds of the TTBER.

7.2. Exclusive dealing provisions in the U.S.

In the U.S., the term “exclusive dealing” is employed instead of “non-compete obligations.” It refers to the practice of preventing the licensee from licensing, selling, distributing, or using competing technologies.¹⁵⁸² Exclusivity can result from an explicit exclusive dealing term in the license or by other provisions having the same effect, such as compensation terms or other economic incentives.¹⁵⁸³ Therefore, even if a license does not explicitly contain an exclusive dealing provision, it may have the same effect if it is drafted

¹⁵⁷⁹ *Id.* para 202.

¹⁵⁸⁰ *Id.* para 203.

¹⁵⁸¹ *Id.* para 203.

¹⁵⁸² IP Guidelines, *supra* note 99, § 5.4.

¹⁵⁸³ *Id.* § 4.1.2.

in a way that it significantly increases the licensee's cost when it uses competing technologies.¹⁵⁸⁴ The Agencies will mainly focus on the actual practice and its effects, not on the formal terms of the agreement.¹⁵⁸⁵ A license not denominated as an exclusive dealing arrangement can still raise the same antitrust issues as a formal provision.¹⁵⁸⁶ In the analysis of exclusive dealing provisions in patent licenses, the same principles apply as in exclusive dealing agreements outside the patent context,¹⁵⁸⁷ which means that the rule of reason is the appropriate standard.¹⁵⁸⁸

The major anticompetitive risk associated with exclusive dealing is foreclosure effects with regard to rival competition and the resulting impairment of competition.¹⁵⁸⁹ The negative influence on rival entry, existence, or expandability automatically leads to an anticompetitive increase of the market power of the foreclosing undertaking.¹⁵⁹⁰ Rivals are forced to cover their now higher costs by charging higher prices than they would otherwise have.¹⁵⁹¹ In extreme situations these higher prices will be unsustainable, rival entry will be deterred, and rivals will be eliminated after all.¹⁵⁹²

Apart from this particular scenario, in less critical cases exclusive dealing provisions may still worsen the choices on the market for consumers and contribute to a situation where rivals are less likely to restrict the defendant's market power than without the obligation.¹⁵⁹³ Foreclosure effects can be particularly problematic in markets where competition by innovation is crucial because it denies rivals economies of scale in

¹⁵⁸⁴ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 261 (2d ed. 2009).

¹⁵⁸⁵ IP Guidelines, *supra* note 99, § 4.1.2.

¹⁵⁸⁶ *Id.*

¹⁵⁸⁷ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 29 (2008).

¹⁵⁸⁸ IP Guidelines, *supra* note 99, § 5.4.

¹⁵⁸⁹ Einer Elhauge, *United States Antitrust Law and Economics* 316 (2008).

¹⁵⁹⁰ *Id.*

¹⁵⁹¹ *Id.* at 316-317.

¹⁵⁹² *Id.* at 317.

¹⁵⁹³ *Id.* at 317.

recouping investments in research.¹⁵⁹⁴ Consequently, successful innovations will have a smaller remuneration than they otherwise would have, which discourages efficient investments in research and development.¹⁵⁹⁵

To determine whether an exclusive dealing obligation tends to reduce competition in a relevant market, the Agencies consider the extent to which it anticompetitively influences the exploitation and development of, or otherwise constrains competition among, competing technologies by foreclosure, and then balances it against the amount to which it promotes the exploitation and development of the licensor's technology.¹⁵⁹⁶ The Agencies clearly recognize that exclusive dealing may anticompetitively foreclose access to, or increase competitors' costs of obtaining, important inputs, or facilitate coordination to raise price or reduce output.¹⁵⁹⁷ Moreover, the likelihood that such anticompetitive effects will occur is related, *inter alia*, to the degree of foreclosure in the relevant market, the duration of the exclusive dealing arrangement, and other characteristics of the input and output markets, such as concentration, difficulty of entry, and the responsiveness of supply and demand to changes in price in the relevant markets.¹⁵⁹⁸ On the other hand, a positive effect may consist, for example, in the fact that a licensing agreement preventing the licensee from dealing in other technologies may encourage the licensee to develop and market the licensed technology more intensively.¹⁵⁹⁹

The Agencies explain their strategies with the following example: NewCo, the inventor and manufacturer of a new patented flat panel display technology, but lacking the capability to bring a flat panel display product to market, grants BigCo an exclusive license

¹⁵⁹⁴ *Id.* at 317.

¹⁵⁹⁵ *Id.* at 317.

¹⁵⁹⁶ *Id.* at 317.

¹⁵⁹⁷ IP Guidelines, *supra* note 99, § 4.1.2.

¹⁵⁹⁸ Einer Elhauge, *United States Antitrust Law and Economics* 317 (2008).

¹⁵⁹⁹ IP Guidelines, *supra* note 99, § 4.1.2.

to sell a product embodying NewCo's technology.¹⁶⁰⁰ BigCo does not currently sell, and is not developing (or likely to develop) a product that would compete with the product embodying the new technology and does not control rights to another display technology.¹⁶⁰¹ Several firms offer competing displays, BigCo accounts for only a small proportion of the outlets for distribution of display products, and entry into the manufacture and distribution of display products is relatively easy.¹⁶⁰² Demand for the new technology is uncertain and successful market penetration will require considerable promotional effort.¹⁶⁰³ The license contains an exclusive dealing restriction preventing BigCo from selling products that compete with the product embodying the licensed technology.¹⁶⁰⁴ According to the Agencies, this example illustrates both types of exclusivity in a licensing agreement.¹⁶⁰⁵ The license is exclusive as it restricts the right of the licensor to grant other licenses.¹⁶⁰⁶ In addition, the license has an exclusive dealing component because it restricts the licensee from selling competing products.¹⁶⁰⁷ The inventor of the display technology and its licensee are in a vertical relationship and are not actual or likely potential competitors in the manufacture or sale of display products or in the sale or development of technology.¹⁶⁰⁸ Hence, the grant of an exclusive license does not affect competition between the licensor and the licensee.¹⁶⁰⁹ The exclusive license may promote competition in the manufacturing and sale of display products by encouraging BigCo to develop and promote the new product in the face of uncertain demand by

¹⁶⁰⁰ *Id.* example 8.

¹⁶⁰¹ *Id.* example 8.

¹⁶⁰² *Id.* example 8.

¹⁶⁰³ *Id.* example 8.

¹⁶⁰⁴ *Id.* example 8.

¹⁶⁰⁵ *Id.* example 8.

¹⁶⁰⁶ *Id.* example 8.

¹⁶⁰⁷ *Id.* example 8.

¹⁶⁰⁸ *Id.* example 8.

¹⁶⁰⁹ *Id.* example 8.

rewarding BigCo for its efforts if they lead to large sales.¹⁶¹⁰ Although the license bars the licensee from selling competing products, this exclusive dealing aspect is unlikely in this example to harm competition by anticompetitively foreclosing access, raising competitors' costs of inputs, or facilitating anticompetitive pricing because the relevant product market is unconcentrated, the exclusive dealing restraint affects only a small proportion of the outlets for distribution of display products, and entry is easy. On these facts, the restraint will unlikely be challenged.¹⁶¹¹

Older court decisions indicated that foreclosure of competition through exclusive dealing provisions with regard to only a relatively small percentage of the market (at least for a significant duration) could violate Section 1 Sherman Act.¹⁶¹² Following the Supreme Court's opinions in *Jefferson Parish Hospital District No. 2 v. Hyde*,¹⁶¹³ and other authority suggesting that exclusive dealing can be procompetitive and market power cannot be established based on foreclosure of less than 30% of a relevant market, more recent cases tend to find no basis for Section 1 exclusive dealing claims unless the percentage of the market foreclosed is significantly above 30%.¹⁶¹⁴ Under the rule of reason, obvious less restrictive alternatives may play an important role.¹⁶¹⁵ The same is true with regard to the duration because, according to settled case law, the antitrust legality of exclusive dealing clauses depends not only on the amount, but also largely on the

¹⁶¹⁰ *Id.* example 8.

¹⁶¹¹ *Id.* example 8.

¹⁶¹² American Bar Association, *Intellectual Property and Antitrust Handbook* 189-190 (2007); *FTC v. Brown Shoe Co.*, 384 U.S. 316, 320-321 (1966) (a significant number of outlets foreclosed); *Standard Oil Co. v. United States*, 337 U.S. 293, 305 (1949) (foreclosure of 6.7%); *Twin City Sportserv. v. Charles O. Finley & Co.*, 676 F.2d 1291, 1298-1308 (9th Cir. 1982) (foreclosure of 24 % of market with 10-year contracts).

¹⁶¹³ *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984); see also *id.* at 45 (O'Connor, J., concurring).

¹⁶¹⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 190 (2007); *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1059 (8th Cir. 2000) ("The boat builders failed to produce sufficient evidence to demonstrate that Brunswick had foreclosed a substantial share of the stern drive engine market through anticompetitive conduct."); *U.S. Healthcare v. Healthsource, Inc.*, 986 F.2d 589, 596 (1st Cir. 1983) (25% foreclosure lawful).

¹⁶¹⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 189 (2007); *Eli Lilly & Co. v. Zenith Goldline Pharm.*, 172 F. Supp. 2d 1060, 1065-1067 (S.D. Ind. 2001).

duration of competitor foreclosure.¹⁶¹⁶ Exclusive dealing contracts of shorter duration usually do not raise the same antitrust issues as those of longer duration,¹⁶¹⁷ which is consistent with the Agencies' approach. Therefore, some courts have indicated that agreements that are concluded for less than a year, or those terminable at will or on relatively short notice, are at least presumptively lawful.¹⁶¹⁸ In sum, the weight of authority holds that exclusive dealing provisions that are terminable in a year or less,¹⁶¹⁹ or that foreclose competitors from no more than 30% of the relevant market,¹⁶²⁰ are presumptively lawful.¹⁶²¹

7.3. EU and U.S. law compared

In the EU, non-compete obligations in patent licenses are block exempted up to the combined market-share threshold of 20% in agreements between competitors, and up to the individual market-share thresholds of 30% if concluded between non-competitors. The only exception to this general rule is antitrust issues arising in the context of parallel networks of such agreements covering more than 50% of a relevant market. In these cases, Article 7 TTBER may apply, which provides the Commission with the possibility of declaring the TTBER inapplicable to such agreements by way of regulation. As far as an individual assessment of non-compete obligations is concerned – for example, because the above mentioned market-share thresholds are exceeded – the Commission acknowledges the resulting procompetitive efficiencies, among which can be enumerated the contribution

¹⁶¹⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 29 (2008).

¹⁶¹⁷ American Bar Association, *Intellectual Property and Antitrust Handbook* 191 (2007).

¹⁶¹⁸ *Id.*; *Roland Mach. v. Dresser Indus.*, 749 F.2d 380, 395 (7th Cir. 1984); 986 F.2d at 596.

¹⁶¹⁹ *Roland Machinery Co. v. Dresser Indus., Inc.*, 749 F.2d 380, 395 (7th Cir. 1984).

¹⁶²⁰ *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 46-47 (1984) (concurring opinion); *United States v. Microsoft Corp.*, 253 F. 3d 34, 70 (D.C. Cir. 2001): 40 to 50% foreclosure usually required to establish Sherman Act § 1 violation.

¹⁶²¹ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 29-30 (2008).

to the dissemination of technology. This advantage is also recognized in the U.S., where it is acknowledged that exclusive dealing provisions may induce the licensor to grant the license in the first place. At the same time, the Commission emphasizes potential foreclosure as the main antitrust problem and argues that whenever non-compete obligations have such effects, they may not be proportionate as less restrictive alternatives exist, as, for instance, minimum output or minimum royalty stipulations, thereby indicating that non-compete obligations may fail the indispensability requirement of Article 101(3) TFEU. However, the Commission remains rather unclear to what an extent foreclosure is required in order not to fulfill the conditions of Article 101(3) TFEU. In the U.S. a similar legal situation is present as foreclosure is the main anticompetitive concern. Exclusive dealing provisions are evaluated under the rule of reason and may not be upheld in the case of sufficient foreclosure. A similarity to U.S. law is the analysis of non-compete obligations under Article 101(3) TFEU, meaning that pro- and anticompetitive effects are taken into consideration in the antitrust assessment. However, in the U.S. there seems to be an informal guidance by the courts that foreclosure of 30% on a relevant market is required. Thus a similar legal situation prevails in the EU, where agreements not exceeding the market-share thresholds of 20% and 30% respectively are block exempted. The same is true for the duration aspect. According to U.S. case law, exclusive dealing provisions of short duration or in contracts that are easily terminable may be permissible. Likewise, by application of the general principles of the analysis under Article 101(3) TFEU, the Commission will also take the duration of the restraint into account, especially when analyzing the indispensability criterion.

8. Tying

8.1. Tying under Article 101 TFEU

When the Commission speaks of “tying” it either refers to tying (in the strict sense) or bundling, but treats them alike from an antitrust perspective.¹⁶²² In the context of patent licenses, the practice of tying in the narrow sense of the word describes the licensor’s practice of conditioning the licensing of one technology (the tying product) upon the licensee agreeing to license another technology in addition or purchasing a second product from the licensor or someone designated by it (the tied product).¹⁶²³ Bundling means that two technologies or a technology and a product are only sold or licensed together as a bundle.¹⁶²⁴ In both cases it is a prerequisite that the products and technologies involved are distinct.¹⁶²⁵ Hence, a distinct demand for each of the products and technologies forming part of the tie or the bundle must exist.¹⁶²⁶ This condition is not fulfilled where the technologies or products are necessarily linked in such a manner that the licensed patent does not allow for exploitation without the tied product, or where both parts of the bundle can only be used together and not separately.¹⁶²⁷ Hereafter I will use the expression “tying” and refer to tying and bundling, similar to the Commission’s practice.

With regard to the general antitrust prohibition of Article 101(1) TFEU, tying is block exempted up to the combined market share of 20% in the case of agreements between competitors and up to the parties’ individual market shares of 30% in arrangements between non-competitors.¹⁶²⁸ The Commission underlines that these market-share thresholds apply to any relevant technology or product market affected by the license

¹⁶²² *Id.*

¹⁶²³ Technology Transfer Guidelines, *supra* note 1, para 191.

¹⁶²⁴ *Id.*

¹⁶²⁵ *Id.*

¹⁶²⁶ *Id.*

¹⁶²⁷ *Id.*

¹⁶²⁸ *Id.* para 192; Commission Regulation (EC) No 772/2004, *supra* note 17, art 2 and 3.

agreement, including the market for the tied product.¹⁶²⁹ Above the market-share thresholds, the Commission will assess the anticompetitive and procompetitive effects of tying in the course of an individual analysis under Article 101(3) TFEU.¹⁶³⁰

The main antitrust effect of tying is obviously foreclosure of competing suppliers of the tied product.¹⁶³¹ Second, tying enables the licensor to maintain market power in the market for the tying product by raising barriers to entry.¹⁶³² Through such a practice, new entrants cannot easily keep up pace and are forced to enter several markets at the same time to compete with the licensor.¹⁶³³ Third, tying allows the licensor to increase royalties in comparison to the amount that it could impose for a single technology without the tie.¹⁶³⁴ This is particularly true when the tying product and the tied product are partly substitutable and are both not used in fixed proportion,¹⁶³⁵ or where the licensee does not actually need the second technology. Fourth, tying deters the licensee from switching to substitute inputs in the face of increased royalties for the tying product.¹⁶³⁶

According to the Commission, the stated competition concerns emerge regardless of whether the parties are qualified as competitors.¹⁶³⁷ However, anticompetitive effects are only likely to occur when the licensor has a significant degree of market power in the tying product which enables it to restrict competition in the tied product.¹⁶³⁸ On the contrary, without such market power, the licensor will not be capable of foreclosing suppliers of the

¹⁶²⁹ Technology Transfer Guidelines, *supra* note 1, para 192.

¹⁶³⁰ *Id.*

¹⁶³¹ *Id.* para 193.

¹⁶³² *Id.* para 193.

¹⁶³³ *Id.* para 193.

¹⁶³⁴ *Id.* para 193.

¹⁶³⁵ *Id.* para 193.

¹⁶³⁶ *Id.* para 193.

¹⁶³⁷ *Id.* para 193.

¹⁶³⁸ *Id.* para 193.

tied product.¹⁶³⁹ It may thus be concluded that in the absence of market power, Article 101(1) TFEU is unlikely to be infringed.

Comparable to the situation regarding non-compete obligations, the appreciable foreclosure effects referred to above will only occur when the tie covers a sufficient proportion of the market for the tied product.¹⁶⁴⁰ The analysis delivers different results when the licensor possesses market power on the market for the tied product rather than on the market for the tying product – because the restraint is subsequently analyzed as a non-compete obligation, reflecting the fact that any competition problem has its origin on the market for the tied product and not on the market for the tying product.¹⁶⁴¹ For further details of the applicable evaluation principles regarding non-compete obligations, see *supra* Section 7.

On the other hand, the Commission acknowledges that tying can also lead to efficiency gains, for instance, where the tied product is necessary for a technically satisfactory exploitation of the licensed technology or to ensure that production under the license is in line with quality standards respected by the licensor and other licensees.¹⁶⁴² Procompetitive effects can be observed where the tied product enables the licensee to exploit the licensed technology significantly more efficiently.¹⁶⁴³ The Commission demonstrates this principle by means of the following example: Where the licensor licenses a particular process technology to the parties, it can also stipulate that the licensee buys a catalyst from the licensor which was developed to be used with the licensed technology and which allows the technology to be exploited more efficiently than in the case of other catalysts.¹⁶⁴⁴ The

¹⁶³⁹ *Id.* para 193.

¹⁶⁴⁰ *Id.* para 193.

¹⁶⁴¹ *Id.* para 193.

¹⁶⁴² *Id.* para 194.

¹⁶⁴³ *Id.* para 195.

¹⁶⁴⁴ *Id.* para 195.

Commission also particularly underlines in this context that, where the licensees use the licensor's trademark or brand name or where the link between the product incorporating the licensed technology and the licensor is otherwise obvious to consumers, the licensor has a legitimate interest to ensure that the quality of the products does not undermine the value of its technology or its reputation as an economic operator.¹⁶⁴⁵ Another important point is that where it is known to consumers that the licensees (and the licensor) produce on the basis of the same technology, licensees would not accept the license unless the technology is exploited by all other licensees in a technically satisfactory way,¹⁶⁴⁶ so as not to ruin its reputation.

In these scenarios, tying is normally either not restrictive of competition in the sense of Article 101(1) or covered by Article 101(3) TFEU,¹⁶⁴⁷ even above the market-share thresholds of the TTBER.¹⁶⁴⁸ Hence, the Commission makes no clear assertion on how it will qualify such restrictions. It will probably depend on the market power involved, whether the agreement comes within the scope of Article 101(1) TFEU in the first place, and then is subsequently individually exempted under Article 101(3) TFEU. The second possibility would be that the Commission considers them as ancillary to the main procompetitive transaction. However, antitrust counselors should not rely on the possibility that tying under these described conditions does not come within the scope of Article 101(1) TFEU since the involvement of licensor market power may trigger Article 101(1) TFEU liability. In this context one should keep in mind that – despite the Commission's statement that Article 101(3) TFEU will normally apply – an individual exemption requires all four conditions enumerated in this provision to be fulfilled, whereas it is the potential

¹⁶⁴⁵ *Id.* para 194.

¹⁶⁴⁶ *Id.* para 194.

¹⁶⁴⁷ *Id.* para 194.

¹⁶⁴⁸ *Id.* para 195.

infringer's task to prove this. Consequently, an antitrust assessment will especially concentrate on the question of whether the conveyed efficiencies are indispensable in light of the mentioned negative effects on competition. With regard to the aforementioned procompetitive efficiencies, the pass-on to consumer criterion will usually be fulfilled, in my opinion, and there should not normally be a threat of elimination of competition except in extreme constellations.

8.2. Tying under Section 1 Sherman Act

A tying arrangement has been defined as “an agreement by a party to sell one product...on the condition that the buyer also purchases a different (or tied) product, or at least agrees that he will not purchase that [tied] product from any other supplier.”¹⁶⁴⁹ Tying clauses are either treated as per se unlawful or analyzed under the rule of reason.¹⁶⁵⁰

Invalid tying provisions are characterized by “the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want or would have bought elsewhere on different terms.”¹⁶⁵¹ Thus, the power gained through patents can give rise to liability if a seller exploits its position in one market to expand its empire to the next.¹⁶⁵² Package licensing is the U.S. equivalent to bundling in the EU and is qualified as a form of tying.¹⁶⁵³

¹⁶⁴⁹ IP Guidelines, *supra* note 99, § 5.3 (citing *Eastman Kodak Co. v. Image Technical Services, Inc.*, 112 S. Ct. 2072, 2079 (1992)).

¹⁶⁵⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 191 (2007).

¹⁶⁵¹ *Jefferson Parish Hosp. Dist. No. 2. v. Hyde*, 466 U.S. 2, 12 (1984); Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 267 (2d ed. 2009); *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 44 (2006) (quoting *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984)).

¹⁶⁵² Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 37 (2008).

¹⁶⁵³ IP Guidelines, *supra* note 99, § 5.3.

The antitrust problem associated with tying provisions is that they allow an undertaking with market power in the tying product to raise the price for buyers of the tied product.¹⁶⁵⁴

Whether tying increases or decreases consumer welfare depends on the circumstances accompanying its use.¹⁶⁵⁵ Economic literature underlines that the potential for anticompetitive harm may vary from case to case, but tying and bundling can also generate efficiencies¹⁶⁵⁶ and therefore have procompetitive effects.¹⁶⁵⁷ In this context, an increase of consumer welfare can be mentioned as a result of economies of joint sales or quality assurances.¹⁶⁵⁸ Moreover, tying may reduce production costs.¹⁶⁵⁹

In the U.S., tying arrangements may run afoul of Section 1 Sherman Act, Section 3 Clayton Act,¹⁶⁶⁰ and may establish a basis for a Section 2 Sherman Act claim.¹⁶⁶¹ Besides, tying may also amount to patent misuse.¹⁶⁶² However, it should be noted that not all tying arrangements are illegal and those found to be illegal are not always per se illegal.¹⁶⁶³

A classic tying constellation involving a patent license occurred in *International Salt Co. v. United States*,¹⁶⁶⁴ where a patent owner licensed a patent covering salt making machinery on the condition that the licensee purchased unpatented salt from the licensor. Thus, conditioning the ability of a licensee to license one or more items of intellectual property

¹⁶⁵⁴ Edward F. O'Connor, *Intellectual Property Law and Litigation: Practical and Irreverent Insights* 6 (2009).

¹⁶⁵⁵ *Id.* at 187.

¹⁶⁵⁶ Keith N. Hylton, *Antitrust Law and Economics: Volume 4 Encyclopedia of Law and Economics* 186-187 (2d ed. 2010).

¹⁶⁵⁷ *Id.* at 187; David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 443 (2003).

¹⁶⁵⁸ Keith N. Hylton, *Antitrust Law and Economics: Volume 4 Encyclopedia of Law and Economics* 189 (2d ed. 2010).

¹⁶⁵⁹ *Id.*

¹⁶⁶⁰ Section 3 of the Clayton Act addresses tying and exclusive dealing in the context of the sale of goods, wares, merchandise, machinery, supplies, or other commodities, whether patented or unpatented, and thus, unlike § 1 Sherman Act, does not apply to services or intangible property. It is thus not applicable to tying provisions in a license agreement.

¹⁶⁶¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 191-192 (2007).

¹⁶⁶² *Id.* at 192.

¹⁶⁶³ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 50 (2010).

¹⁶⁶⁴ *International Salt Co. v. United States*, 332 U.S. 392 (1947).

on the licensee's purchase of another item of intellectual property or a good or a service was not allowed.¹⁶⁶⁵ The Supreme Court held this to be illegal per se.¹⁶⁶⁶

According to the Supreme Court in *Jefferson Parish Hospital District No. 2. v. Hyde*,¹⁶⁶⁷ a per se condemnation "without inquiry into actual market conditions is only appropriate if the existence of forcing is probable."¹⁶⁶⁸ Whether there are two distinct products for tying purposes is to be determined by examining consumer demand.¹⁶⁶⁹ Tying constitutes a per se antitrust violation where (a) the tying and the tied product are two separate products, (b) the sale of the tying product is conditioned on the purchase of the tied product, (c) there is sufficient economic power by the seller in the tying market to restrain trade in the market for the tied product, and (d) there is an effect on a substantial amount of interstate commerce.¹⁶⁷⁰ Some courts have interpreted this decision as requiring that a plaintiff claiming per se illegality must also prove anticompetitive effects in the tied product market, which would typically contravene the traditional definition of per se illegality, where a proof of actual harm to competition is not required.¹⁶⁷¹

The Agencies state in their IP Guidelines that even though tying arrangements may result in anticompetitive effects, they can also produce significant efficiencies and procompetitive benefits, which renders a consideration of both categories necessary.¹⁶⁷²

They continue listing the circumstances under which they would likely challenge a tying restraint as illegal, namely market power of the seller in the tying product, the arrangement's adverse effect on competition in the relevant market for the tied product,

¹⁶⁶⁵ 332 U.S. at 405-406.

¹⁶⁶⁶ 332 U.S. at 396; David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 442 (2003).

¹⁶⁶⁷ *Jefferson Parish Hosp. Dist. No. 2. v. Hyde*, 466 U.S. 2 (1984).

¹⁶⁶⁸ 466 U.S. at 15.

¹⁶⁶⁹ 466 U.S. at 19; *Monsanto v. McFarling*, 363 F.3d 1336, 1343 (Fed. Cir. 2004).

¹⁶⁷⁰ 466 U.S. at 15-16.

¹⁶⁷¹ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 50 (2010).

¹⁶⁷² IP Guidelines, *supra* note 99, § 5.3.

and efficiency justifications not capable of outweighing the anticompetitive effects.¹⁶⁷³ The Agencies do not explicitly underline in their IP Guidelines that they will conduct a rule of reason analysis. They make it clear, however, that they will not presume that a patent, copyright, or trade secret necessarily confers market power upon its owner.¹⁶⁷⁴

The latter view is consistent with the Supreme Court's ruling in *Illinois Tool Works*, where it held that the trial court had to determine whether the seller possessed market power based on actual proof rather than any presumption to this effect.¹⁶⁷⁵ Before *Illinois Tool Works*, the Supreme Court had endorsed that the presence of a patent or copyright on the tying product creates a presumption of market power.¹⁶⁷⁶ The Court explained this change with the fact that the presumption of market power, applicable in the antitrust context, was founded in the judicially created patent misuse doctrine. But in 1988 Congress amended the Patent Act to eliminate the market power presumption in patent misuse cases and correlatively also the foundation of the market power presumption in the context of antitrust claims.¹⁶⁷⁷ The case at issue involved Illinois Tool Works, a company manufacturing and marketing patented printing systems, including a patented ink jet printhead, a patented ink container, and specially designed, but unpatented ink.¹⁶⁷⁸ When Illinois Tool Works sold and licensed their printing systems to original equipment manufacturers (OEMs), the OEMs agreed that they and their customer would purchase

¹⁶⁷³ *Id.*

¹⁶⁷⁴ *Id.*

¹⁶⁷⁵ “Congress, the antitrust enforcement Agencies, and most economists have all reached the conclusion that a patent does not necessarily confer market power upon the patentee. Today, we reach the same conclusion, and therefore hold that, in all cases involving a tying arrangement, the plaintiff must prove that the defendant has market power in the tying product.” *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 45-46 (2006).

¹⁶⁷⁶ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 96 (3d ed. 2010); *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 16 (1984); *Standard Oil Co. v. United States*, 337 U.S. 293, 307 (1949).

¹⁶⁷⁷ *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 31 (2006); *id.* at 42: “Moreover, given the fact that the patent misuse doctrine provided the basis for the market power presumption, it would be anomalous to preserve the presumption in antitrust after Congress has eliminated its foundation.”

¹⁶⁷⁸ 547 U.S. at 31.

their ink exclusively from Illinois Tool Works.¹⁶⁷⁹ Independent Ink developed an ink that was compatible with Illinois Tool Works' printing systems and filed suit against Illinois Tool Works alleging, *inter alia*, illegal tying and monopolization in violation of Sections 1 and 2 of the Sherman Act.¹⁶⁸⁰ The Court relied on academic literature, according to which a patent does not necessarily confer market power.¹⁶⁸¹ Moreover, a presumption of market power is not justified because many tying arrangements, including those involving patents, are fully consistent with a free and competitive market.¹⁶⁸² Market power should be assessed, as in any case, by examining the alternatives offered to the patented technology or article at issue in the market place.¹⁶⁸³

Summing up, tying was at first treated as inherently anticompetitive.¹⁶⁸⁴ Per se condemnation of tying clauses related to intellectual property was largely caused by older cases before the change of approach, where patents were presumed to grant a "monopoly" with market power without taking into consideration competing technologies or products.¹⁶⁸⁵ Subsequently, however, despite courts continuously underlining the per se unlawful character, they have granted many tying agreements an escape from automatic condemnation by establishing requirements that must be met before the per se category applies.¹⁶⁸⁶ Four conditions must be fulfilled for tying to constitute a per se violation of Section 1 Sherman Act.¹⁶⁸⁷ First, at least two distinct products or services must exist.¹⁶⁸⁸

¹⁶⁷⁹ 547 U.S. at 32.

¹⁶⁸⁰ 547 U.S. at 32.

¹⁶⁸¹ 547 U.S. at 43.

¹⁶⁸² 547 U.S. at 45-46.

¹⁶⁸³ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 98 (3d ed. 2010).

¹⁶⁸⁴ Keith N. Hylton, *Antitrust Law and Economics: Volume 4 Encyclopedia of Law and Economics* 184 (2d ed. 2010).

¹⁶⁸⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 201 (2007).

¹⁶⁸⁶ Keith N. Hylton, *Antitrust Law and Economics: Volume 4 Encyclopedia of Law and Economics* 184 (2d ed. 2010).

¹⁶⁸⁷ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 618 (2d ed 2007); Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 36-37 (2008).

Second, the sale of the tying product or service must be conditioned on the purchase of the tied products or service.¹⁶⁸⁸ Third, the defendant must have sufficient market power over the tying product to restrain competition for other products. And fourth, the amount of commerce involved must be substantial.¹⁶⁹⁰

However, if a plaintiff is not able to prove that the seller had market power in the tying product, the conduct may still be found unlawful after a rule of reason analysis if it can be proven that the tie caused anticompetitive impacts in the tied product market.¹⁶⁹¹

A strict economic analysis of the market was demanded, as in any antitrust case, in order to establish whether the undertaking in question has market power in the patented product.¹⁶⁹²

In line with this approach, it seems as if the view towards tying arrangements has evolved as courts now examine the possible economic justifications for such agreements before finding antitrust liability.¹⁶⁹³ Accordingly, it has been suggested that the per se rule should not be applied to technological integration with demonstrable efficiencies as well as to products and markets in the context of which benefits from tying occur and in cases where the industry is one in which the economics and technology have not been thoroughly examined by the courts.¹⁶⁹⁴ In *United States v. Microsoft*, although the court sustained several monopolization claims against Microsoft based on its efforts to prevent competition to its operating system monopoly from other software, it held that rule of

¹⁶⁸⁸ *Id.*

¹⁶⁸⁹ *Id.*

¹⁶⁹⁰ Raymond T. Nimmer, *Licensing of Intellectual Property and other Information Assets* 618 (2d ed 2007); Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 36-37 (2008).

¹⁶⁹¹ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 58 (2010).

¹⁶⁹² Edward F. O'Connor, *Intellectual Property Law and Litigation: Practical and Irreverent Insights* 7 (2009).

¹⁶⁹³ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 267 (2d ed. 2009).

¹⁶⁹⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 194-195 (2007); *United States v. Microsoft*, 253 F.3d, 84-97 (D.C. Cir. 2001); *United States v. Microsoft Corp.*, 147 F.3d 935, 943-44 (D.C. Cir. 1998); *Cal. Computer Prods. v. IBM*, 613 F.2d 727, 745 (9th Cir. 1979); *Berkey Photo v. Eastman Kodak Co.*, 603 F.2d 263, 273 (2d Cir. 1979).

reason rather than per se liability applied to a Section 1 Sherman Act claim that Microsoft was unlawfully tying its operating systems and its internet exploring program by bundling them together contractually and technologically.¹⁶⁹⁵ Hence, although justifications are usually irrelevant in assessing per se claims, courts have considered justifications for ties, including quality control, operability, and customer satisfaction, in determining whether to apply a per se proscription.¹⁶⁹⁶

Summing up, U.S. courts and the Agencies increasingly take into consideration the actual economic effects in the analysis of the legality of tying and bundling restrictions.¹⁶⁹⁷ The per se rule is only applied under specific limited conditions. However, the Supreme Court may, on a suitable occasion, formally reject the per se rule and hold that the antitrust rule of reason applies to tying and bundling.¹⁶⁹⁸

8.3. EU and U.S. law compared

Both jurisdictions recognize the difference between tying and bundling (in the EU), respectively tying and package licensing (in the U.S.), but essentially treat them alike when it comes to antitrust law and commonly refer to them as tying in a wider sense. According to the convergent definition, in the EU and U.S. tying refers to the practice of conditioning the license of one patent on the licensee's acceptance to license another technology from the licensor or another product of the licensor, whereas bundling means that two technologies are only licensed or sold together in a bundle. A prerequisite of tying in both legal systems is a distinct demand for the tying and the tied product.

¹⁶⁹⁵ Raymond T. Nimmer, *Licensing of Intellectual Property and Other Information Assets* 638 (2d ed 2007); 253 F.3d at 84.

¹⁶⁹⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 195 (2007); *United States v. Jerrold Elec. Corp.*, 187 F. Supp. 545, 556-57 (E.D. Pa. 1960), *aff'd per curiam*, 365 U.S. 567 (1961); *Dehydrating Process Co. v. A.O. Smith Corp.*, 292 F.2d 653, 656-57 (1st Cir. 1961).

¹⁶⁹⁷ Keith N. Hylton, *Antitrust Law and Economics: Volume 4 Encyclopedia of Law and Economics* 186 (2d ed. 2010).

¹⁶⁹⁸ *Id.*

In the EU, tying is block exempted up to the market shares of 20% and 30% respectively, depending on whether competitors are involved. Any relevant market affected by the license must be considered with regard to the market-share thresholds. If the license does not come within the scope of the TTBER because the market-share thresholds are exceeded, an individual assessment needs to take place to determine whether the agreement is caught by Article 101(1) and whether the conditions of Article 101(3) TFEU are fulfilled. Among the anticompetitive effects of the tie are in particular foreclosure potential and the ability to increase royalties, especially when substitute technologies are involved or if the licensee does not need the tied technology. The U.S. approach is comparable to the system currently established in the EU, as procompetitive benefits may still be asserted to defend a tying practice under certain circumstances. A crucial difference, though, is the fact that tying still constitutes per se illegal behavior in the U.S. This is linked to the earlier existing presumption of market power conferred by patents. This presumption, however, was abandoned by the Supreme Court and now neither in the EU nor in the U.S. are patents presumed to invest the licensor with market power. Although tying is still formally qualified as a per se forbidden practice in the U.S., specific conditions must be fulfilled before the per se rule applies. If we take these requirements closely into consideration, they actually demand some sort of market analysis, which contravenes the traditional concept of a per se forbidden practice. In fact, the evaluation closely resembles the rule of reason analysis. EU law seems to be a step in front regarding this point as it does not judge tying provisions as hardcore restrictions. Above the market-share thresholds a thorough examination must take place to determine whether Article 101(1) TFEU applies in the first place, which is likely to be the case if market power on the side of the licensor is involved. A possible fulfillment of the conditions enumerated in

Article 101(3) TFEU must then be analyzed. Summing up, possible efficiencies that play a role in the antitrust consideration of tying practices on both sides of the Atlantic are secured quality standards and a significantly better exploitation of the technology.

Even though the EU and U.S. approach seem very similar on the surface, there are critical differences in how the tests are applied. Under the U.S. system, once the defendant puts forward a plausible argument on procompetitive justifications, the burden shifts back to the plaintiff to show either that these justifications are merely pretextual or that they are outweighed by the anticompetitive effects of the tying arrangement.¹⁶⁹⁹ In contrast, the EU approach requires the defendant not only to establish the existence of efficiencies but to show that they outweigh any anticompetitive harm.¹⁷⁰⁰

9. Grant back clauses

9.1. Grant back clauses under Article 101 TFEU

Grant back clauses refer to the practice of imposing any direct or indirect obligation on the licensee to grant an exclusive license or to assign, in whole or in part to the licensor or to a third party designated by the licensor, its own severable improvements to or its own new applications of the licensed technology.¹⁷⁰¹ An improvement can be characterized as severable if it allows exploitation without infringing upon the licensed technology.¹⁷⁰² Grant back clauses are included in the list of excluded restrictions of Article 5 TTBER.¹⁷⁰³ The latter are closely related to the hardcore restrictions of Article 4 TTBER because they are not block exempted either if agreed; however, they do not render the TTBER

¹⁶⁹⁹ American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 101 (3d ed. 2010).

¹⁷⁰⁰ *Id.*

¹⁷⁰¹ Commission Regulation (EC) No 772/2004, *supra* note 17, art 5 para 1 (a) and (b).

¹⁷⁰² Technology Transfer Guidelines, *supra* note 1, para 109.

¹⁷⁰³ *Id.*

inapplicable to the entire technology transfer agreement. They only exclude certain provisions from it,¹⁷⁰⁴ which are then subject to individual assessment. The rest of the agreement is automatically lawful due to the block exemption. The reason for the Commission's decision to exclude grant back obligations from the block exemption is related to the potential reduction of the licensee's incentive to innovate because it prevents it from exploiting its improvements, in particular by way of granting licenses to third parties.¹⁷⁰⁵ So the licensee will logically not make any effort to develop new technologies when it does not profit thereof.

The application of Article 5(1)(a) and (b) TTBER does not depend on whether the licensor pays consideration in return for acquiring the improvement or for obtaining an exclusive license.¹⁷⁰⁶ However, the Commission acknowledges that the existence and level of such consideration may be a relevant factor in the context of an individual assessment under Article 101 TFEU.¹⁷⁰⁷ This reasoning is understandable: When the licensee receives some sort of remuneration it is less likely that the obligation creates a disincentive for its innovation efforts.¹⁷⁰⁸

In the individual antitrust analysis of grant backs outside the scope of the block exemption regulation, the market position of the licensor on the technology market plays an important role because the stronger it is, the more likely it is that exclusive grant back obligations will have restrictive effects on competition in innovation.¹⁷⁰⁹ Naturally, the importance of the licensee as a source of innovation and future competition will largely depend on the

¹⁷⁰⁴ *Id.*; Technology Transfer Guidelines, *supra* note 1, para 107.

¹⁷⁰⁵ *Id.*

¹⁷⁰⁶ Technology Transfer Guidelines, *supra* note 1, para 110.

¹⁷⁰⁷ *Id.*

¹⁷⁰⁸ *Id.*

¹⁷⁰⁹ *Id.*

strength of the licensor's provided technology.¹⁷¹⁰ The market structure and the positions of other market participants will influence the antitrust analysis as well. Accordingly, the Commission explains that in cases where available technologies are controlled by only a limited number of licensors imposing exclusive grant back obligations on licensees, the risk of anticompetitive effects is higher than where there are a number of technologies only some of which are licensed on exclusive grant back terms.¹⁷¹¹

The Commission draws attention to a particular risk associated with grant back obligations stipulated in agreements between competitors. When they cross-license their technologies and combine a grant back obligation on both parties with an obligation on both of them to share with the other party improvements of its own technology, then there is an inherent risk of negative effects on innovation.¹⁷¹² The improvements sharing formula may prevent each competitor from gaining a competitive lead over the other.¹⁷¹³ However, such an effect is unlikely where the purpose of the license is to permit the parties the development of their respective technologies and where the license does not lead them to use the same technological base in the design of their products.¹⁷¹⁴ This is the case where the purpose of the license is to create design freedom rather than to improve the technological base of the licensee.¹⁷¹⁵ However, these situations will be limited, in my opinion.

On the contrary, non-exclusive grant back obligations in respect of severable improvements do not bear the same antitrust risks.¹⁷¹⁶ They are block-exempted even where the grant back obligation is non-reciprocal, thus only imposed on the licensee, and where under the contract the licensor is entitled to feed-on severable improvements to

¹⁷¹⁰ *Id.*

¹⁷¹¹ *Id.*

¹⁷¹² *Id.* para 111.

¹⁷¹³ *Id.* para 111.

¹⁷¹⁴ *Id.* para 111.

¹⁷¹⁵ *Id.* para 111.

¹⁷¹⁶ Commission Regulation (EC) No 772/2004, *supra* note 17, art 5(1)(a).

other licensees.¹⁷¹⁷ The Commission explains its assessment by the fact that a non-reciprocal grant back obligation can enhance innovation and the dissemination of new technology.¹⁷¹⁸ A feed-on clause may also have the same positive effects because each licensee knows at the time of contracting that it will be on an equal footing with other licensees in terms of the technology on the basis of which it is producing.¹⁷¹⁹ In this context the Commission does not clearly indicate whether it considers that such agreements are not restrictive of competition or whether the agreement fulfills the conditions of Article 101(3) TFEU. I think it is of the latter opinion because otherwise it would have chosen another wording. The Commission tends to state explicitly when it does not consider a certain type of restriction to be caught by Article 101(1) TFEU. It did so with regard to exclusive grant backs and obligations to assign non-severable improvements, which, according to the Commission, are not restrictive of competition within the meaning of Article 101(1) TFEU since non-severable improvements cannot be exploited by the licensee without the licensor's consent.¹⁷²⁰

9.2. Grant back clauses under Section 1 Sherman Act

In the U.S., as in the EU, a grant back clause refers to a provision under which a licensee agrees to grant the licensor the right to use the licensee's improvements with regard to the licensed technology.¹⁷²¹ The procompetitive effects of grant back obligations are widely acknowledged, especially if they are drafted in a non-exclusive manner.¹⁷²² They provide a means for the licensee and the licensor to share risks and reward the licensor for further

¹⁷¹⁷ Technology Transfer Guidelines, *supra* note 1, para 109.

¹⁷¹⁸ *Id.*

¹⁷¹⁹ *Id.*

¹⁷²⁰ *Id.*

¹⁷²¹ IP Guidelines, *supra* note 99, § 5.6; Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 265 (2d ed. 2009).

¹⁷²² *Id.* at 266.

innovation based on the licensed technology¹⁷²³ because it can be sure that it will also profit from the development of its technology through its licensees. It fosters the licensing of the results of its innovation in the first place.¹⁷²⁴ On the contrary, grant back obligations can adversely affect competition if they substantially reduce the licensee's incentives to engage in research and development and thereby limit rivalry in innovation markets.¹⁷²⁵ In addition, they may facilitate cartel behavior in a relevant market or can contribute to the strengthening of a licensor's strong position on the market.¹⁷²⁶

Grant back clauses can be concluded in the form of assignments, exclusive licenses, or non-exclusive licenses.¹⁷²⁷ A grant back provision may be necessary to ensure that the licensor is not prevented from effectively competing because it is denied access to improvements developed with the aid of its own technology.¹⁷²⁸ Unlike non-exclusive grant backs, which leave the licensee free to license improvements of the patent to others, exclusive grant back obligations are likely to have anticompetitive effects.¹⁷²⁹ The Agencies will evaluate a grant back provision under the rule of reason, considering its likely effects in light of the overall structure of the license and depending on the conditions in the relevant markets.¹⁷³⁰ Consequently, if the Agencies determine that a particular grant back obligation is likely to reduce significantly the licensees' incentives to invest in improving the licensed technology, they also consider the extent to which the grant back provision produces offsetting procompetitive benefits, in particular the promotion of the

¹⁷²³ *Id.* at 266.

¹⁷²⁴ *Id.* at 266.

¹⁷²⁵ *Id.* at 266.

¹⁷²⁶ *Id.* at 266; *United States v. General Elec. Co.*, 82 F. Supp 753, 815-817 (D.N.J. 1949).

¹⁷²⁷ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 265 (2d ed. 2009).

¹⁷²⁸ IP Guidelines, *supra* note 99, § 5.6.

¹⁷²⁹ *Id.*

¹⁷³⁰ *Id.*

dissemination of the licensees' improvements to the licensed technology.¹⁷³¹ An important factor in the overall antitrust assessment will be the evaluation of the licensor's market position, and particular attention is paid to whether the licensor has market power in a relevant technology or innovation market.¹⁷³² In addition, the Agencies will consider the extent to which grant back provisions increase the licensor's incentives to innovate in the relevant markets in the first place.¹⁷³³ This approach is consistent with the Supreme Court's ruling in *Transparent-Wrap Machine Corp. v. Stokes & Smith Co.*¹⁷³⁴ concerning an exclusive grant back provision in a patent license that required the licensee to assign to the licensor the patents on any improvements on the licensed technology. The Supreme Court held that such behavior could violate the antitrust laws,¹⁷³⁵ but was not illegal per se and should therefore be analyzed under the rule of reason.¹⁷³⁶ Subsequent decisions have also upheld grant back obligations against antitrust challenge when they were limited to the life of the licensed patent and were not shown to have impaired research by the licensee.¹⁷³⁷ The same result was reached where grant back provisions permitted the licensee to use the improvements without paying additional royalties to the licensor,¹⁷³⁸ or where the licensor reserved the right to grant licenses to others concerning the licensee's improvements on a royalty-free basis.¹⁷³⁹

¹⁷³¹ *Id.*

¹⁷³² *Id.*

¹⁷³³ *Id.*

¹⁷³⁴ *Transparent-Wrap Machine Corp. v. Stokes & Smith Co.*, 329 U.S. 637, 645-648 (1947).

¹⁷³⁵ *Id.* at 648.

¹⁷³⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 41-42 (2008).

¹⁷³⁷ *Id.* at 42; *Old Dominion Box Co. v. Continental Can Co.*, 273 F. Supp. 550, 572-573 (S.D.N.Y. 1967), *aff'd*, 393 F.2d 321 (2d Cir. 1968).

¹⁷³⁸ *Id.* at 42; *Santa Fe-Pomeroy, Inc. v. P & Z Co.*, 569 F.2d 1084, 1099-1102 (9th Cir. 1978).

¹⁷³⁹ *Id.* at 42; *Robintech, Inc. v. Chemidus Wavin, Ltd.*, 450 F. Supp. 817 (D.D.C. 1978).

The scope of the licensee's grant back obligation also plays an important role in the antitrust analysis.¹⁷⁴⁰ In *Duplan Corp. v. Deering Milliken, Inc.*,¹⁷⁴¹ the court reasoned that account must be taken of the fact that the grant back provision in the case at issue obliged the licensee to assign improvements was well outside the scope of the licensed patents.¹⁷⁴² Still, the court did not find an antitrust violation because the practice did not lead to any actual reduction of competition in manufacturing or innovation and, in addition, the licensee remained free to incorporate improvements into its own products.¹⁷⁴³ Courts have held in many cases that in the absence of proof of antitrust violations or anticompetitive effects, grant back clauses in the form of a non-exclusive license are usually not presumed to constitute an antitrust violation or constitute patent misuse.¹⁷⁴⁴ Moreover, even exclusive grant backs have been upheld in the context of competitive markets, provided that they were limited in duration and scope.¹⁷⁴⁵ Most cases in which grant backs were held to constitute antitrust violations involved grant back obligations in the context of an accumulation of patents in pools or situations that facilitated monopolization, market allocation, price fixing, or other anticompetitive coordination among competitors.¹⁷⁴⁶

¹⁷⁴⁰ *Id.* at 42.

¹⁷⁴¹ *Duplan Corp. v. Deering Milliken, Inc.*, 444 F. Supp. 648 (D.S.C. 1977).

¹⁷⁴² 444 F. Supp. at 671-672.

¹⁷⁴³ 444 F. Supp. at 672; Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 42 (2008).

¹⁷⁴⁴ American Bar Association, *Intellectual Property and Antitrust Handbook* 231 (2007); *Binks Mfg. Co. v. Ransburg Electro-Coating Corp.*, 281 F.2d 252, 259 (7th Cir. 1960); *Barr Rubber Prods. v. Sun Rubber Co.*, 277 F.Supp. 484, 506 (S.D.N.Y. 1967), *aff'd in part and rev'd in part*, 425 F.2d 1114 (2d Cir. 1970); *Well Surveys v. McCullough Tool*, 199 F. Supp. 374, 395 (N.D. Okla. 1961), *aff'd*, 343 F.2d 381 (10th Cir. 1965).

¹⁷⁴⁵ American Bar Association, *Intellectual Property and Antitrust Handbook* 231-232 (2007); *Santa Fe-Pomeroy Santa Fe-Pomeroy, Inc. v. P & Z Co.*, 569 F.2d 1084, 1101-02 (9th Cir. 1978) (many competitive alternatives), *Zajicek v. KoolVent Metal Awning Corp.*, 283 F.2d 127, 131-32 (9th Cir. 1960); *Swofford v. B & W, Inc.*, 251 F. Supp. 811, 820-21 (S.D. Tex. 1966), *aff'd*, 395 F.2d 362 (5th Cir. 1968); *Sperry Prods. v. Aluminium Co. of Am.*, 171 F. Supp. 901, 936-38 (N.D. Ohio 1959), *aff'd in part and rev'd in part*, 285 F. 2d 911 (6th Cir. 1960).

¹⁷⁴⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 232 (2007); *Duplan Corp. v. Deering Milliken, Inc.*, 444 F. Supp. 648, 700 (D.S.C. 1977) (requirement that a licensee assigning patents covering a broader scope than those of the licensor enhanced an extended monopoly), *aff'd in part and rev'd in part*, 594 F.2d 979 (4th Cir. 1979); *Hartford Empire v. United States*, 323 U.S. 386 (1945); *United States v. Aluminum Co. of Am.*, 91 F. Supp. 333, 410 (S.D.N.Y. 1950); *United States v.*

9.3. EU and U.S. law compared

In EU and U.S. antitrust law, grant back obligations are defined alike. In the EU, exclusive grant back obligations of severable improvements constitute excluded restrictions that do not profit from the block exemption regulation. The block exemption remains applicable to the rest of the agreement, provided, of course, that the requirements of the TTBER are met and no other hardcore restrictions are included in the contract. The consequence is that excluded restrictions are subject to a thorough individual assessment under Article 101(3) TFEU. In the U.S., the rule of reason is the appropriate standard to be applied in the course of an antitrust analysis. In both jurisdictions, grant back obligations neither constitute per se nor hardcore restrictions, hence an assessment of the circumstances of each specific case must take place. Procompetitive efficiencies and their relation to negative anticompetitive effects will determine the ultimate result of this evaluation. It can be concluded that the legal situations substantially resemble each other in EU and U.S. antitrust law. Although the outcome will depend on the constellation of the case at issue, it is clear that grant back obligations, especially if they are exclusive, may risk creating a disincentive for the licensee to innovate. The Commission indicates that the market structure in general and the market position of the licensor in particular will play an important role in the examination because the stronger it is, the more is it likely that the grant back obligation restricts competition in innovation – an attitude also reflected in the U.S. Agencies’ IP Guidelines. In an individual assessment, account will also be taken of a possible payment of consideration, which is perceived positively in the EU and the U.S. as it induces the licensee to innovate. A further parallel is the view towards non-exclusive grant backs, which are block exempted in the EU, and even when non-reciprocal are likely to be

General Elec. Co., 82 F. Supp 753, 815-16 (D.N.J. 1949) (grant backs held illegal in connection with broad monopolization); *United States v. Gen. Elec. Co.*, 80 F. Supp, 989, 1005-06 (S.D.N.Y 1948) (grant backs held illegal in conjunction with price-fixing).

individually exempted. They thus receive a more favorable treatment than exclusive grant back obligations. This perception conforms with U.S. antitrust law, where procompetitive efficiencies of non-exclusive grant backs are acknowledged and therefore usually upheld in the rule of reason balancing test due to their innovation enhancing potential. In sum, antitrust law on grant back obligations is widely harmonized in the EU and the U.S.

10. Non-challenge clauses

10.1. Non-challenge clauses under Article 101 TFEU

Non-challenge clauses refer to any direct or indirect obligation on the part of the licensee not to challenge the validity of intellectual property rights which the licensor holds in the common market.¹⁷⁴⁷ They also fall – like grant back provisions – into the category of excluded practices enumerated in Article 5 TTBER.¹⁷⁴⁸ The consequence is that they do not profit from the block exemption regulation and must be scrutinized individually under Article 101(1) TFEU.¹⁷⁴⁹ The rest of the provisions of the license agreement, however, are block exempted if all requirements of the TTBER are fulfilled. The exclusion of non-challenge clauses is without prejudice to the possibility of stipulating a termination right for the licensor in the event that the licensee challenges the validity of the licensor's IP.¹⁷⁵⁰ The Commission views non-challenge clauses as problematic because a licensee must have the possibility to act as any uninvolved third party and be able to eliminate unjustified IPR-induced protection from the market by challenging it. The provision thereby ensures that the licensee is in the same position as any third party.¹⁷⁵¹ In other words, the Commission does not want undertakings to reap competitive benefits from invalid IPRs. A non-

¹⁷⁴⁷ Commission Regulation (EC) No 772/2004, *supra* note 17, art 5 para 1(c).

¹⁷⁴⁸ *Id.*

¹⁷⁴⁹ *Id.*

¹⁷⁵⁰ *Id.*; Technology Transfer Guidelines, *supra* note 1, para 113.

¹⁷⁵¹ *Id.* para 113.

challenge clause would permit the licensor to sue the licensee for breach of contract and thereby create a further disincentive for the licensee to challenge the validity of the licensor's technology.¹⁷⁵² A reason for the Commission's critical view towards non-challenge clauses is that licensees are normally in the best position to determine whether an intellectual property right is valid.¹⁷⁵³ Pursuant to the Commission, in the interest of undistorted competition and in conformity with the principles underlying the protection of intellectual property, invalid intellectual property rights should be eliminated because they stifle innovation.¹⁷⁵⁴

In the case of an individual analysis in line with the general antitrust principles, Article 101(1) TFEU is likely to apply to non-challenge clauses where the licensed technology is valuable and therefore creates a competitive disadvantage for undertakings that are prevented from using it or are only able to use it against payment of royalties.¹⁷⁵⁵ In such cases the conditions of Article 101(3) TFEU are unlikely to be fulfilled.¹⁷⁵⁶ Moreover, non-challenge clauses may come within the scope of Article 101(1) TFEU also in many other scenarios, because they are likely to change patterns of trade within the internal market, meaning that the market situation is different than without such a restraint. Undertakings (in this case the licensee) may have acted differently on the market in the absence of the restraint. In the course of a subsequent individual analysis, one may assert as procompetitive efficiency the encouragement of the dissemination of technology because the licensor may otherwise not consent to grant the license. The main problem with an individual exemption in accordance with Article 101(3) TFEU, however, will be the indispensability requirement. It cannot be argued that a non-challenge clause is the least

¹⁷⁵² *Id.* para 113.

¹⁷⁵³ Technology Transfer Guidelines, *supra* note 1, para 112.

¹⁷⁵⁴ *Id.*

¹⁷⁵⁵ *Id.*

¹⁷⁵⁶ *Id.*

restrictive means possible in order to attain the above described efficiency. A termination clause in the event of a challenge of validity will be less restrictive and therefore non-challenge clauses will likely be captured by the general antitrust prohibition of Article 101(1) TFEU.

However, the Commission takes a favorable view of non-challenge clauses relating to know-how where once disclosed, it is likely to be impossible or very difficult to recover the licensed know-how.¹⁷⁵⁷ In such cases, an obligation on the licensee not to challenge the licensed know-how promotes dissemination of new technology, in particular by allowing weaker licensors to license stronger licensees without fear of a challenge once the know-how has been absorbed by the licensee.¹⁷⁵⁸ It is questionable whether this principle may be alleged in the context of patent licenses as well. The fact that the Commission only referred to know-how speaks against it.

As mentioned, the parties may stipulate a termination right in the event of a challenge of validity. The underlying reasoning for this allowance is that the licensor will not be forced to maintain a contractual relationship with a party aiming to destroy the basis of their contract, whereas such a clause implies that upon termination any further use by the licensee of the challenged technology is at the challenger's own risk.¹⁷⁵⁹ Irrespective of the block exemption, such termination clauses do not even come within the scope of Article 101(1) TFEU, in my opinion, because it is not perceivable how they could lead to a restriction of competition by eliminating the exploitation of invalid IPRs.

¹⁷⁵⁷ *Id.*

¹⁷⁵⁸ *Id.*

¹⁷⁵⁹ *Id.* para 113.

10.2. Non-challenge clauses under Section 1 Sherman Act

Under a non-challenge clause, the licensee undertakes not to attack the validity of the licensed intellectual property.¹⁷⁶⁰ Earlier, the doctrine of “licensee estoppel,” which forbade the licensee to challenge the validity of the patent at issue, had been developed in order to keep the licensee from accepting the benefits of a patent license at first, and subsequently challenging the validity of the licensed patent.¹⁷⁶¹ A turning point was the *Lear v. Adkins*¹⁷⁶² decision of 1969, where the Supreme Court ruled to the contrary by establishing that a licensee had the right to challenge the validity of the licensed patent.¹⁷⁶³ The case involved John Adkins, an inventor and mechanical engineer, hired by Lear, Inc. to solve a problem the company had encountered in its efforts to develop a gyroscope (an essential component of the navigational system of aircrafts) which would meet the increasingly demanding requirements of the aviation industry.¹⁷⁶⁴ At the beginning of the parties’ relationship, Lear and Adkins concluded an agreement providing that all inventions become the property of Adkins, but Adkins promised to grant Lear a license concerning all ideas he might develop in return for royalties.¹⁷⁶⁵ Adkins was able to invent a process to improve the gyroscope accuracy at a low cost and Lear used the method in its production.¹⁷⁶⁶ Adkins had in the meantime been granted a patent for his development.¹⁷⁶⁷ Lear, however, refused to continue to pay royalties and challenged the validity of Adkins’ invention by alleging a lack of sufficient novelty.¹⁷⁶⁸ The Court overruled the doctrine of

¹⁷⁶⁰ Gail E. Evans, *Strategic Patent Licensing for Public Research Organizations: Deploying Restriction and Reservation Clauses to Promote Medical R&D in Developing Countries*, 34 Am.J.L. and Med. 175, 220-221 (2008).

¹⁷⁶¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 233 (2007).

¹⁷⁶² *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

¹⁷⁶³ 395 U.S. at 671; American Bar Association, *Intellectual Property and Antitrust Handbook* 233 (2007).

¹⁷⁶⁴ 395 U.S. at 655.

¹⁷⁶⁵ *Id.* at 657.

¹⁷⁶⁶ *Id.* at 655.

¹⁷⁶⁷ *Id.* at 655-656.

¹⁷⁶⁸ *Id.* at 655-656.

licensee estoppel and argued that it would undermine the strong federal policy favoring the full and free use of ideas in the public domain and that, consequently, Lear must be allowed to challenge the invalidity of the patent in order to avoid the payment of royalties.¹⁷⁶⁹

Since then, the obligation in a license preventing a licensee from contesting the validity is unenforceable.¹⁷⁷⁰ However, before the licensee could challenge the validity of the IP, it was required to breach the contract first, for example by ceasing to pay royalties.¹⁷⁷¹ This view changed with the *MedImmune v. Genentech*¹⁷⁷² decision, where the possibilities of challenging licensed rights widened.¹⁷⁷³ The Court held that a licensee is not required to breach or terminate a license agreement as a prerequisite for filing an action to challenge the validity, enforceability, or non-infringement of a patent and that, consequently, he is able to maintain the benefit of the license while at the same time challenging the patents covered in the license by seeking a declaration of patent invalidity.¹⁷⁷⁴ Alternatively, licensors may consider adding a clause to provide for termination of the license upon the challenge of the underlying patented technology.¹⁷⁷⁵ In such an event, the licensee would no longer be in a position to reap the benefits of the license.¹⁷⁷⁶ The licensor may also prefer to add a clause providing pre-suit notification, which gives the licensor the

¹⁷⁶⁹ *Id.* at 674.

¹⁷⁷⁰ American Bar Association, *Intellectual Property and Antitrust Handbook* 234 (2007).

¹⁷⁷¹ *Id.* at 233; *Studiengesellschaft Kohle, M.B.H. v. Shell Oil Co.*, 112 F.3d 1561, 1566-68 (Fed. Cir. 1997).

¹⁷⁷² *MedImmune, Inc. v. Genentech, Inc.*, 127 S. Ct. 764 (2007).

¹⁷⁷³ Gail E. Evans, *Strategic Patent Licensing for Public Research Organizations: Deploying Restriction and Reservation Clauses to Promote Medical R&D in Developing Countries*, 34 Am.J.L. and Med. 175, 221-222 (2008).

¹⁷⁷⁴ *Id.*; Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning Lear? Incentives to Innovate after MedImmune*, 24 Berkeley Tech. L.J. 971, 972 (2009).

¹⁷⁷⁵ *Id.* at 1003-1004.

¹⁷⁷⁶ Gail E. Evans, *Strategic Patent Licensing for Public Research Organizations: Deploying Restriction and Reservation Clauses to Promote Medical R&D in Developing Countries*, 34 Am.J.L. and Med. 175, 221-222-223 (2008).

opportunity to renegotiate the agreement or evaluate the strength of the licensee's claim.¹⁷⁷⁷

10.3. EU and U.S. law compared

In the EU, non-challenge clauses do not profit from the block exemption regulation and are categorized as excluded restrictions by the Commission. Provided that the conditions of the TTBER are fulfilled, the rest of the agreement is block exempted, whereas the non-challenge clause is subject to an individual antitrust analysis. It is, however, unlikely to sustain individual antitrust scrutiny under Article 101(1) TFEU and therefore likely to be forbidden. The reason for the Commission's critical approach towards non-challenge clauses is that, in the interest of undistorted competition within the internal market, invalid intellectual property should be removed from it. Consequently, any clauses shielding invalid patents do not necessarily contribute to an efficiency-enhancing integration. As the licensee actually uses the intellectual property, it often is in the best position to determine the validity of the patent, which makes it necessary to grant the licensee the right to challenge it. The Commission underlines that Article 101(1) TFEU is likely to apply in cases where the licensed patent concerns a valuable technology which cannot be exploited at all or freely by other market participants. Non-challenge clauses are anyway able to appreciably effect trade between Member States; they may change patterns of trade as the parties may act differently than they would have in the absence of the non-challenge provision. In the U.S., initially the doctrine of licensee estoppel forbade a challenge of validity of the licensor's patent during a valid contract. This theory was overturned by the courts leading to the unenforceability of any clauses prohibiting the challenge of validity.

¹⁷⁷⁷ *Id.*

However, as a prerequisite, the licensee had to commit a breach of contract in order to be able to seek a declarative judgement stating the invalidity. As a result of recent case law, such a breach of contract is now longer a condition to challenge the validity of a patent. Consequently, it can be concluded that EU and U.S. law do not allow non-challenge clauses because of their potential to shield invalid intellectual property which would freely be accessible to the public in the absence of the license and thereby contribute to the dissemination of technology. In order to balance the fact that the licensee cannot be prevented from attacking the basis of the contract by challenging the validity of the patent, the parties may, in both jurisdictions, stipulate a termination right if this is the case. The latter does not raise any antitrust issues.

VII. The antitrust analysis of patent licenses under Article 102 TFEU and Section 2 Sherman Act

This chapter explains the antitrust assessment under Article 102 TFEU and under Section 2 Sherman Antitrust and compares both provisions. The application of the general principles will then be demonstrated in the example of two categories of behavior which are likely to result in a violation of antitrust law: the acquisition of exclusive licenses and tying. For the sake of completeness, it should be mentioned that refusals to license may also amount to an infringement of these both provisions. However, this field exceeds the scope of this doctoral thesis as it is clearly limited to antitrust issues arising in the context of patent licenses that are actually concluded.

1. Analysis under Article 102 TFEU

Article 102 TFEU requires for antitrust liability an abuse of a dominant position by one or more undertakings within the internal market that is capable of affecting trade between the Member States. According to Article 102(2) TFEU, such abuse may, in particular, consist in: (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; or (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.¹⁷⁷⁸ However, this list of typical abusive behaviors is not intended to be exhaustive.¹⁷⁷⁹ In the case of Article 102, the abusive behavior must also affect trade between Member States.¹⁷⁸⁰ This does not imply, however, that each element of the behaviour must be assessed in isolation.¹⁷⁸¹ Conduct that forms part of an overall strategy pursued by the dominant undertaking must be assessed in terms of its overall impact.¹⁷⁸² On the other hand, in order for Article 102 TFEU to be applicable to all the practices forming part of this overall strategy, it is sufficient that at least one of these practices is capable of affecting trade between Member States.¹⁷⁸³

In the course of the analysis, one must determine, first, a position of dominance and then that the undertaking's conduct comes under scrutiny in order to establish if it has engaged

¹⁷⁷⁸ TFEU, *supra* note 15, art 102.

¹⁷⁷⁹ Case 6/72 *Continental Can v Commission* [1973] ECR 215, para 26; Case T-201/04 *Microsoft Corp. v Commission* [2007] ECR II-3601, para 860; Joined Cases C-395 and 396/96P *Compagnie Maritime Belge v Commission* [1996] ECR II-1201, para 112; Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.114 (2010).

¹⁷⁸⁰ Guidelines on the effect on trade concept, *supra* note 562, para 17.

¹⁷⁸¹ *Id.*

¹⁷⁸² *Id.*

¹⁷⁸³ *Id.*

in behavior that constitutes unlawful abuses.¹⁷⁸⁴ These two elements of Article 102 TFEU imply that it is not in itself illegal for an undertaking to hold a dominant position, but the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the internal market.¹⁷⁸⁵

EU case law has adopted a comprehensive definition of dominance. A dominant position requires a situation where a company detains such a position of strength on a certain market that it determines its own business strategy and decisions without taking into consideration how competitors or customers will react, or how consumers will be ultimately affected by it – that is, it is able to act substantially independently of competitors, customers, and consumers.¹⁷⁸⁶ In other words, the undertaking is materially free of competitive market disciplines in the relevant market.¹⁷⁸⁷ Moreover, dominance has also been described as the power to prevent effective competition being maintained in the relevant market.¹⁷⁸⁸ The notion therefore always entails that competitive constraints are not sufficiently effective as a result of the undertaking's substantial market power over a

¹⁷⁸⁴ Legal Week, *A Solution to the Abuse of Power*, January 29, 2009.

¹⁷⁸⁵ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 464-465 (2006).

¹⁷⁸⁶ Case 27/76 *United Brands v Commission* [1978] ECR 207, para 65; Case 85/76 *Hoffman-La Roche v Commission* [1979] ECR 461, para 38; Case 31/80 *L'Oréal v De Nieuwe AMCK* [1980] ECR 3775, para 26; Case T-30/89 *Hilti v Commission* [1991] ECR II-1439, para 90; Case T-201/04 *Microsoft Corp. v Commission* [2007] ECR II-3601, para 229; Case 322/81 *Michelin v Commission (Michelin I)* [1983] ECR 3461, para 30; Case 247/86 *Alsatel v Novasam* [1988] ECR 5987, para 12; Case 30/87 *Bodson v Pompes Funèbres* [1988] ECR 2479; Communication from the Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45/7 ("Article 102 Guidance"), para 10; Market Definition Notice, *supra* note 342, para 10.

¹⁷⁸⁷ Legal Week, *A Solution to the Abuse of Power*, January 29, 2009.

¹⁷⁸⁸ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 462-463 (2006); Case 78/70 *Deutsche Grammophon v Metro* [1971] ECR 487, para 17; Case 40/70 *Sirena v Eda* [1971] ECR 69, para 16; Joined Cases 40-48, 50, 54-56, 111, 113 and 114/73 *Suiker Unie v Commission* [1975] ECR 1663, paras 456-457, Joined Cases C-241 and 242/91P *RTE and ITP v Commission (Magill)* [1995] ECR I-743, para 47; Article 102 Guidance, *supra* note 1789, para 10.

period of time.¹⁷⁸⁹ The Commission considers an undertaking which is able to profitably increase prices above the competitive level for a significant period of time and which does not face sufficiently effective competitive constraints to hold a dominant position. Two years will usually suffice.¹⁷⁹⁰

Unilateral conduct can come under antitrust scrutiny when it is undertaken by a firm with a significant degree of market power.¹⁷⁹¹ The logic is clear: if there are enough substitutes on the market, no undertaking is able to raise prices substantially above a competitive level without losing market shares to its rivals.¹⁷⁹² Typically, abusive behavior can occur when the conduct differs from that which would have been likely under normal competitive conditions.¹⁷⁹³ In this respect, the two categories of exclusionary actions, which restrict competition, and exploitative conduct, which unfairly exploits those dependent on the dominant undertaking (e.g., by charging excessive prices) are distinguished.¹⁷⁹⁴ However, the notion of dominance does not entail a complete absence of any competitive restraint.¹⁷⁹⁵

The prerequisite of the examination under Article 102 TFEU is, as in the assessment of competitive restraints under 101 TFEU, the delineation of the relevant market in its product geographic dimension.¹⁷⁹⁶ Remember that a relevant product market comprises all products and/or services regarded as substitutable by consumers by reason of the products'

¹⁷⁸⁹ Article 102 Guidance, *supra* note 1789, para 10.

¹⁷⁹⁰ *Id.* para 11.

¹⁷⁹¹ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 4 (2009).

¹⁷⁹² *Id.*

¹⁷⁹³ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.114 (2010).

¹⁷⁹⁴ *Id.*

¹⁷⁹⁵ *Id.* § 1.107; Case T-395/94 *Atlantic Container Line v Commission* [2002] ECR II-875, para 330; Case 27/76 *United Brands v Commission* [1978] ECR 207, para 113.

¹⁷⁹⁶ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.108 (2010), Steven D. Anderman & John Kallaughner *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 10.06 (2006).

characteristics, price, and intended use.¹⁷⁹⁷ The geographic market can be described as an area in which the conditions of competition are sufficiently homogenous, and is distinguished from neighboring areas in which the conditions of competition are appreciably different.¹⁷⁹⁸ For a detailed market definition, see *supra* Chapter III. According to Article 102 TFEU, the dominant position must cover a substantial part of the common market (the territory of a Member State usually fulfills this condition).¹⁷⁹⁹

In most licensing cases, dominance by the licensor will occur in a technology market, although it may also be established in the market where the rights are actually used.¹⁸⁰⁰ The ECJ indicated that a market share of 50% sustained over a substantial period of time gives rise to a presumption of dominance within the meaning of Article 102 TFEU.¹⁸⁰¹ Moreover, market shares between 70% and 80% warrant a presumption of dominance.¹⁸⁰² Market shares are just a proxy for market power, not a precise measure.¹⁸⁰³ Therefore, market shares as low as 40-45% can also suffice for a finding of a dominant position.¹⁸⁰⁴ Notably, a dominant position alone does not automatically amount to an infringement of antitrust law, but the undertaking has a special responsibility and should be aware that its

¹⁷⁹⁷ Market Definition Notice, *supra* note 342, para 7.

¹⁷⁹⁸ *Id.* para 8; Case T-504/93 *Tiercé Ladbroke v Commission* [1997] ECR II-923, para 102; Case 27/76 *United Brands v Commission* [1978] ECR 207, para 44.

¹⁷⁹⁹ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.112 (2010); Case 322/81 *Michelin v Commission (Michelin I)* [1983] ECR 3461, para 28; Case C-52/07 *Kanal 5 v STIM* [2008] ECR I-9275, para 22; Case C-7/97 *Oscar Bronner v Mediaprint* [1998] ECR I-7791, para 36; Case C-323/93 *Centre d'Insémination de la Crespelle v Cooperative de la Mayenne* [1994] ECR I-5077, para 17.

¹⁸⁰⁰ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 10.06 (2006).

¹⁸⁰¹ Case T-228/97 *Irish Sugar v Commission* [1999] ECR II-2969, para 70; Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 10.08 (2006); Case C-62/86 *Akzo v Commission* [1991] ECR I-3359, para 60.

¹⁸⁰² Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.113 (2010); Case 85/76 *Hoffman-La Roche v Commission* [1979] ECR 461, paras 53-56; Case T-30/89 *Hilti v Commission* [1991] ECR II-1439, paras 91-92; Case T-228/97 *Irish Sugar v Commission* [1999] ECR II-2969, para 70.

¹⁸⁰³ Steven D. Anderman & John Kallaughner, *Technology Transfer and the New EU Competition Rules – Intellectual Property Licensing after Modernisation* § 10.08 (2006).

¹⁸⁰⁴ Monti Giorgio, *EC Competition Law* 143 (2007); Case 27/76 *United Brands v Commission* [1978] ECR 207, para 108.

actions do not distort or prevent competition in the internal market.¹⁸⁰⁵ The scope of the dominant position must also be considered in the specific case.¹⁸⁰⁶

Traditionally, antitrust assessment under Article 102 TFEU was largely influenced by an ordoliberal school of thought. This approach, however, was at odds with the revised assessment under Article 101 TFEU, which endorsed a more economic one. The current system of Article 102 TFEU has been criticized, and it has been argued for the consideration of economic aspects.

In 2009, the Commission published Communication Guidance on the Commission's enforcement priorities in applying Article 82 of the Treaty to abusive exclusionary conduct by dominant undertakings¹⁸⁰⁷ ("Article 102 Guidance"), which was released after long discussions. The purpose was to set out the Commission's enforcement priorities in the application of Article 102 TFEU (ex Article 82 TEC) to exclusionary conduct by dominant undertakings which may result in an intervention by the Commission.¹⁸⁰⁸ The Commission underlines that it will concentrate on safeguarding the competitive process in the internal market and on ensuring that dominant undertakings do not exclude their competitors by means other than competing on the merits of the products or services they provide.¹⁸⁰⁹ The Commission's guidance deals only with exclusionary conduct, without prejudice to the Commission's acknowledgement that exploitative conduct can also infringe Article 102 TFEU.¹⁸¹⁰ The framework builds on the economic analysis used in recent cases and lays

¹⁸⁰⁵ Case 322/81 *Michelin v Commission (Michelin I)* [1983] ECR 3461, para 57; Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 229.

¹⁸⁰⁶ Case 322/81 *Michelin v Commission (Michelin I)* [1983] ECR 3461, para 57; Case T-83/91 *Tetra Pak v Commission (Tetra Pak II)* [1994] ECR II-755, para 115; Case T-111/96 *ITT Promedia v Commission* [1998] ECR II-2937, para 139; Case T-203/01 *Michelin v Commission (Michelin II)* [2003] ECR II-4071, para 97.

¹⁸⁰⁷ Article 102 Guidance, *supra* note 1789.

¹⁸⁰⁸ *Id.* para 2.

¹⁸⁰⁹ *Id.* para 6.

¹⁸¹⁰ *Id.* para 7.

down a possible method for the assessment of common abusive practices.¹⁸¹¹ An economic-based approach to the application of Article 102 TFEU presupposes that the analysis of each specific case will not be undertaken based on the form of a particular business practice employed, but rather on the anticompetitive effects generated by such business behavior.¹⁸¹²

The Commission commits to an assessment of several factors, including the market position of the dominant undertaking and its competitors, the constraints imposed by the credible threat of future expansion by actual competitors or entry by potential competitors, and countervailing buyer power – whereas the letter refers to the constraints imposed by the bargaining strength of the undertaking’s customers.¹⁸¹³ Of course, market shares provide a practical first indication of the market structure and of the importance of the various market players, but their actual strength will depend on the existing market conditions.¹⁸¹⁴ Experience suggests that the higher the market share and the longer it is held, the more likely it will amount to a dominant position.¹⁸¹⁵ Expansion by actual competitors or entry by potential competitors, including the threat of such expansion or entry, is also relevant,¹⁸¹⁶ but only likely where it is sufficiently profitable for them, after a consideration of the likely reactions of the allegedly dominant undertaking, as well as the risk and costs of failure.¹⁸¹⁷ Furthermore, entry barriers can occur in the form of legal barriers or may concern advantages specifically enjoyed by the dominant undertaking, as for example, privileged access to essential inputs, natural

¹⁸¹¹ Apostolopoulos, Haris, *Refusal-to-Deal Cases of IP Rights at the Aftermarket in the US and EU Law: Converging of Both Law Systems through Speaking in the Same Language of Law and Economics*, 7 JICL 144, 163 (2007).

¹⁸¹² *Id.*

¹⁸¹³ Article 102 Guidance, *supra* note 1789, para 12.

¹⁸¹⁴ *Id.* para 13.

¹⁸¹⁵ *Id.* para 15.

¹⁸¹⁶ *Id.* para 16.

¹⁸¹⁷ *Id.* para 16.

resources, or important technologies.¹⁸¹⁸ Moreover, the dominant undertaking's own conduct is capable of creating barriers to entry, for instance where it has made significant investments which entrants or competitors would have to match¹⁸¹⁹ or appreciable foreclosing effects through long-term contracts with customers.¹⁸²⁰ The criteria of countervailing buyer power, which results from the customers' size, or their commercial significance for the dominant undertakings and their ability to switch quickly to a competing supplier, acknowledge the fact that competitive constraints can equally be exerted by customers and influence even an undertaking with a high market share, deterring it from profitably increasing prices.¹⁸²¹

The Commission clearly commits to an examination of alleged possible justifications by a dominant undertaking, whereas they must be objectively necessary or produce substantial efficiencies outweighing any anticompetitive effects on consumers.¹⁸²² This is an innovative new approach which takes economic considerations into account. Exclusionary conduct may, for example, be considered objectively necessary for health and safety reasons, but it must be kept in mind that it is normally the task of public authorities to set and enforce safety standards.¹⁸²³

This is a new orientation because the Commission acknowledges the idea that practices having foreclosure effects can be justified by efficiencies sufficient to guarantee that no net harm to consumers is likely to arise.¹⁸²⁴ In this respect, the dominant undertaking must show, with a sufficient degree of probability and on the basis of verifiable evidence, that four cumulative conditions are fulfilled, which resemble the four conditions of Article

¹⁸¹⁸ *Id.* para 17.

¹⁸¹⁹ Case 27/76 *United Brands v Commission* [1978] ECR 207, para 91.

¹⁸²⁰ Article 102 Guidance, *supra* note 1789, para 17.

¹⁸²¹ *Id.* para 18.

¹⁸²² *Id.* para 29.

¹⁸²³ *Id.* para 29.

¹⁸²⁴ *Id.* para 30.

101(3) TFEU and were clearly inspired by them. Efficiencies, such as technical improvements in the quality of goods or a reduction in the cost of production, must have been or must be likely to be realized as a result of the conduct.¹⁸²⁵ Moreover, the undertaking's conduct must be indispensable to the realization of those efficiencies, so there must be a lack of less anticompetitive alternatives.¹⁸²⁶ Furthermore, these efficiencies outweigh any likely negative effects on competition and consumer welfare in the affected markets. Lastly, the practice does not eliminate effective competition by removing all or most existing sources of actual or potential competition.¹⁸²⁷ The idea behind this last requirement is the Commission's view that exclusionary conduct leading to a market position approaching that of a monopoly can normally not be justified by efficiency gains.¹⁸²⁸

It has been established through case law that intellectual property rights may contribute to the existence of a dominant position,¹⁸²⁹ but mere ownership alone is not sufficient.¹⁸³⁰ Evidence is required that the market share of a product actually reflects a significant market power causing a dominant position.¹⁸³¹

The applicability of the TTBER does not hinder a finding of a violation of Article 102 TFEU through the abuse of a dominant position; hence, a dominant undertaking was held to infringe this Treaty provision where it acquired another undertaking which had an

¹⁸²⁵ *Id.* para 30.

¹⁸²⁶ *Id.* para 30.

¹⁸²⁷ *Id.* para 30.

¹⁸²⁸ *Id.* para 30.

¹⁸²⁹ Case 24/67 *Parke, Davis v Probel* [1968] ECR 55; Case T-30/89 *Hilti v Commission* [1991] ECR II-1439, para 93.

¹⁸³⁰ Case 51/75 *EMI v CBS* [1976] ECR 811, para 5; Joined Cases C-241 and 242/91P *RTE and ITP (Radio Telefis Eireann and Independent Television Publications) v Commission (Magill)* [1995] ECR I-743, para 46; Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.107 (2010); Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 40 (2007).

¹⁸³¹ Steven D. Anderman, *The Interface between Intellectual Property Rights and Competition Policy* 40 (2007).

exclusive license of the only viable competing technology, even though this license was covered by the (then valid) old block exemption regulation.¹⁸³²

2. Analysis under Section 2 Sherman Act

Section 2 Sherman Act punishes by a fine, imprisonment, or both “every person who shall monopolize, or attempt to monopolize, or combine or conspire with another person or persons, to monopolize any part of trade or commerce among the several States”.¹⁸³³ This provision is meant to punish monopolization and the attempt to monopolize.¹⁸³⁴ Section 2 Sherman Act reaches both collective conduct (combination or conspiracy) and unilateral conduct (monopolization and attempts to monopolize).¹⁸³⁵ In addition, according to the jurisprudence, illegal monopolization under Section 2 Sherman Act has two elements: the possession of monopoly power in the relevant market¹⁸³⁶ and the willful acquisition or maintenance of that power. The latter must be distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.¹⁸³⁷ Mere possession of monopoly power is therefore not sufficient to trigger Section 2 monopolization claims; however, it is a necessary precondition because monopolization can be described as the conduct of a firm that already has a position of strength on the

¹⁸³² Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.119 (2010); Case T-51/89 *Tetra Pak Rausing v Commission* [1990] ECR II-309, paras 29-30.

¹⁸³³ 15 U.S.C. § 2 (1890).

¹⁸³⁴ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 460 (2006).

¹⁸³⁵ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 401 (2003).

¹⁸³⁶ *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 596-597 (1985) (defining market power as “the power to control prices in the relevant market or to exclude competition in a relevant market.”); *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1353 (Fed. Cir. 1999) (stating, “anticompetitive conduct is generally defined as conduct whose purpose is to acquire or preserve the power to control prices or exclude competition.”); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 401 (2003).

¹⁸³⁷ IP Guidelines, *supra* note 99, § 2.2; *U.S. v. Grinnell*, 384 U.S. 563, 570-71 (1966); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 595-596 (1985).

market and adopts anticompetitive exclusionary strategies to the ultimate goal of preserving such position or further enlarging it.¹⁸³⁸ Exclusionary practices aim at impairing potential rival's entry into the relevant market or they intend to drive existing competitors off the market.¹⁸³⁹ Consequently, some form of anticompetitive behavior is necessary in addition to the existence of market power.¹⁸⁴⁰ Such conduct must be reasonably capable of creating, enlarging, or prolonging monopoly power by impairing the opportunities of rivals and not reasonably necessary in order to achieve any consumer gains that the conduct promises.¹⁸⁴¹ On a more general basis, monopoly power has been described as the ability to control market prices or to exclude competition.¹⁸⁴² The use of this power to gain a competitive advantage or to destroy a competitor is forbidden.¹⁸⁴³ Behavior that otherwise might comply with antitrust law may be impermissibly exclusionary when practiced by a monopolist because of the lack of any market constraints.¹⁸⁴⁴

An anticompetitive conduct element is required as well, which means that a test resembling the rule of reason under Section 1 Sherman Act applies also under Section 2 Sherman Act.¹⁸⁴⁵ It is acknowledged that only unreasonably exclusionary practices that also reduce social welfare warrant an antitrust intervention.¹⁸⁴⁶ Such a position is commonly caused by a firm's dominant share of a relevant market, especially markets protected by entry

¹⁸³⁸ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 460 (2006).

¹⁸³⁹ *Id.* at 458.

¹⁸⁴⁰ Einer Elhauge, *United States Antitrust Law and Economics* 225 (2008).

¹⁸⁴¹ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 9 (2009).

¹⁸⁴² *United States v. E.I. duPont de Nemours Co.*, 351 U.S. 377, 391 (1956), *U.S. Anchor Mfg. v. Rule Indus.*, 7 F.3d 986, 994 (11th Cir. 1993); David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 401 (2003).

¹⁸⁴³ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 401 (2003), *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451, 482-483 (1992).

¹⁸⁴⁴ *United States v. Dentsply Int'l*, 399 F.3d 181, 187 (3d Cir. 2005).

¹⁸⁴⁵ Einer Elhauge, *United States Antitrust Law and Economics* 227 (2008).

¹⁸⁴⁶ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 4-5 (2009).

barriers.¹⁸⁴⁷ Consequently, market definition is also a critical factor for the antitrust assessment in the U.S. A relevant market has two components: a product, consisting of goods or services (product market) and a location (geographic market).¹⁸⁴⁸ It is recalled that the relevant product market comprises substitute products to which a customer may turn in response to a price increase of the primary product.¹⁸⁴⁹ Thus, commodities that are reasonably interchangeable form part of the same relevant market.¹⁸⁵⁰ The geographic market is the geographic area to which customers may look for competing products.¹⁸⁵¹ The economic definition of market power involves discretion over pricing.¹⁸⁵² There is no absolute percentage that serves as a dominant share, but a market share of at least 50-60% is generally required.¹⁸⁵³ Courts often informally set a minimum threshold of 70% to demonstrate monopoly power.¹⁸⁵⁴ Thus, in the U.S., a range of market shares between 70-90% establishes a prima facie case of monopoly power when held over a significant period of time.¹⁸⁵⁵ Moreover, if the accused monopolist has a share of 90% or more of a relevant product or geographic market, it can be concluded with reasonable certainty that this fact will be sufficient to prove monopoly power.¹⁸⁵⁶ Sometimes, however, the reliance upon market shares can be misleading and account must be taken of the market structure as

¹⁸⁴⁷ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 257 (2d ed. 2009).

¹⁸⁴⁸ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 87 (2010).

¹⁸⁴⁹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 257 (2d ed. 2009).

¹⁸⁵⁰ *Id.* at 257-258.

¹⁸⁵¹ *Id.* at 258.

¹⁸⁵² Einer Elhauge, *United States Antitrust Law and Economics* 191 (2008).

¹⁸⁵³ *United States v. Dentsply Int'l*, 399 F.3d 181, 187 (3d Cir. 2005); *FTC v. Tenet Health Care*, 186 F.3d 1045, 1052 note 10 (8th Cir. 1999); American Bar Association, *Intellectual Property and Antitrust Handbook* 40 (2007).

¹⁸⁵⁴ Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 58 (2009).

¹⁸⁵⁵ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 5 (2009).

¹⁸⁵⁶ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 90 (2010).

well.¹⁸⁵⁷ It has been suggested that a market share of less than 50% cannot confer monopoly power.¹⁸⁵⁸

After the determination that an undertaking enjoys monopoly power, it must be assessed whether it acquired it willfully.¹⁸⁵⁹ In early cases, the willfulness element of the monopolization test was fulfilled if a plaintiff could prove that monopoly was a probable result of the defendant's actions, as opposed to a situation that was thrust upon the defendant. But this reasoning fell out of favor as courts recognized that the test was too strict, causing undertakings with monopoly power to violate Section 2 by pursuing normal, potentially procompetitive commercial conduct.¹⁸⁶⁰ An analysis remains difficult because courts have rarely attempted to formulate general principles for the distinction of pro- and anticompetitive conduct in this respect.¹⁸⁶¹ Instead, courts have recognized that making such distinctions is inherently case specific and requires "the most subtle of economic judgments about particular business practices."¹⁸⁶² It can be concluded that the willfulness element is fulfilled whenever the accused monopolist obtained or maintained its monopoly through unfair or predatory means or when it abused its power.¹⁸⁶³ This criterion thus seeks to balance the inherent conflict between the repugnance of monopolies and the desire to encourage measures of successful competition that can lead to market power.¹⁸⁶⁴ It should

¹⁸⁵⁷ *Id.*

¹⁸⁵⁸ Monti Giorgio, *EC Competition Law* 143 (2007); Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 4 (2009).

¹⁸⁵⁹ American Bar Association, *Intellectual Property and Antitrust Handbook* 46-47 (2007).

¹⁸⁶⁰ *Id.* at 46-47; Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 *J. Marshall J. Computer & Info. L.* 455, 458 (2006).

¹⁸⁶¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 47 (2007).

¹⁸⁶² *Id.*; *Goldwasser v. Ameritech Corp.*, 222 F.3d 390, 397 (7th Cir. 2000).

¹⁸⁶³ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 91 (2010).

¹⁸⁶⁴ *Id.*

be taken into account, though, that the willfulness element does not refer to subjective intent, but rather to objective intent inferred from the undertaking's conduct.¹⁸⁶⁵

Courts have developed a terminology that categorizes unlawful conduct as “exclusionary” or “predatory,” while finding that the law protects conduct having a “legitimate business purpose”, but authors have criticized this terminology as unhelpful.¹⁸⁶⁶ The Supreme Court explained in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.* that “if a firm has been ‘attempting to exclude rivals on some basis other than efficiency,’ it is fair to characterize its behavior as predatory.”¹⁸⁶⁷ The Court further elaborated that “exclusionary comprehends at the most behavior that not only tends to impair the opportunities of rivals, but also either does not further competition on the merits or does so in an unnecessarily restrictive way.”¹⁸⁶⁸

An undertaking with monopoly power may defend its behavior by establishing a business justification, whereas the burden of proof in this context relies on the undertaking under review.¹⁸⁶⁹ Consequently, under U.S. antitrust law, dominant undertakings can defend themselves by asserting that their behavior is likely to pass on efficiencies to consumers and that the procompetitive benefits outweigh the anticompetitive effects.¹⁸⁷⁰ A certain similarity to the rule of reason test under Section 1 cannot be denied, but the term “rule of reason” is usually not applied in the context of Section 2 cases.¹⁸⁷¹

Attempted monopolization requires that the defendant has engaged in predatory or anticompetitive conduct with a specific intent to monopolize and the existence of a

¹⁸⁶⁵ Einer Elhauge, *United States Antitrust Law and Economics* 226 (2008).

¹⁸⁶⁶ American Bar Association, *Intellectual Property and Antitrust Handbook* 47 (2007).

¹⁸⁶⁷ *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985).

¹⁸⁶⁸ 472 U.S. at 605 note 32.

¹⁸⁶⁹ *United States v. Dentsply International, Inc.*, 399 F.3d 181, 196-197 (3d Cir. 2005).

¹⁸⁷⁰ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 466 (2006).

¹⁸⁷¹ American Bar Association, *Intellectual Property and Antitrust Handbook* 48 (2007).

dangerous probability of achieving monopoly power.¹⁸⁷² Unlike monopolization, attempt requires proof that the defendant had a “specific intent to destroy competition or build monopoly”.¹⁸⁷³ It thus captures practices that aim at achieving monopoly power in a certain market.¹⁸⁷⁴ Identifying an attempt to monopolization presents a quite difficult task because every undertaking is eager to improve its market position.¹⁸⁷⁵ Therefore, in theory, each conduct could be characterized as an attempt to monopolize.¹⁸⁷⁶ In light of this deliberation, American jurisprudence has developed a more complex test for attempt cases, establishing that a necessary precondition for a finding of liability is proof of predatory or anticompetitive conduct; second, a specific intent to monopolize; and third, a dangerous probability of success.¹⁸⁷⁷ This test has been first employed in *Swift & Co. v. United States*¹⁸⁷⁸ and was reaffirmed by the Supreme Court.¹⁸⁷⁹ However, a dangerous probability of success cannot be inferred from conduct alone, rather an inquiry into the relevant product and geographic market and the defendant’s economic power is always required.¹⁸⁸⁰ In this context, an assessment of the defendant’s market share must thus allow for the conclusion that it is big enough to cause monopolization; otherwise, the presumption that an attempt does not occur prevails.¹⁸⁸¹

¹⁸⁷² *Spectrum Sports v. McQuillan*, 506 U.S. 447, 456 (1993); *United States v. Microsoft, Corp.*, 253 F.3d 34, 80 (D.C. Cir. 2001); Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 5 (2009).

¹⁸⁷³ American Bar Association, *Intellectual Property and Antitrust Handbook* 49 (2007); *Times-Picayune Publ’g v. United States*, 345 U.S. 594, 626 (1953).

¹⁸⁷⁴ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 460 (2006).

¹⁸⁷⁵ *Id.* at 460.

¹⁸⁷⁶ *Id.* at 460.

¹⁸⁷⁷ *Id.* at 460-461.

¹⁸⁷⁸ *Swift & Co. v. United States*, 196 U.S. 375, 396 (1905).

¹⁸⁷⁹ *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 457 (1993).

¹⁸⁸⁰ 506 U.S. at 459.

¹⁸⁸¹ Katarzyna Czapracka, *Intellectual Property and the Limits of Antitrust: A Comparative Study of US and EU Approaches* 5 (2009).

Section 2 Sherman Act also prohibits a conspiracy to monopolize, which requires as an initial step a combination or conspiracy; second, a particular act in furtherance of the conspiracy; and a specific intent to monopolize and causal antitrust injury.¹⁸⁸² It remains unclear whether courts will require dangerous probability as an additional element in conspiracy claims because the Supreme Court has not addressed conspiracy to monopolize since issuing its decision in *Spectrum Sports*, which added this condition.¹⁸⁸³ Several appellate cases have declined to do so.¹⁸⁸⁴

It is recalled that earlier, it was presumed that the ownership of a patent confers market power to the patent holder, but this presumption was eliminated by the Supreme Court,¹⁸⁸⁵ a view consistent with the Agencies' IP Guidelines.

Examples of conduct challenged as exclusionary under Section 2 Sherman Act are illegal tying arrangements and refusals to deal.¹⁸⁸⁶ However, since this research project is only dedicated to an antitrust analysis of patent licensing agreements that are actually concluded, it cannot deal with the extensive field of refusals to license.

3. A comparison of EU and U.S. law

At first sight, both provisions seem to cover the same scope and to be very much alike. The EU and U.S. legal systems provide for a two-fold test: The examination of an existence of a dominant position (EU) or monopoly position (U.S.) and an additional conduct element in the form of an abuse of a dominant position (EU) or willful monopolization (U.S.). A necessary first step in both jurisdictions is the definition of the relevant market before

¹⁸⁸² *Paladin Assocs. v. Mont. Power*, 328 F.3d 1145, 1158 (9th Cir. 2003) (citing *United States v. Yellow Cab Co.*, 332 U.S. 218, 224-225 (1947)).

¹⁸⁸³ American Bar Association, *Intellectual Property and Antitrust Handbook* 49, note 180 (2007).

¹⁸⁸⁴ *Freeman v. San Diego Ass'n of Realtors*, 322 F.3d 1133, 1154 (9th Cir. 2003); *U.S. Anchor Mfg. v. Rule Indus.*, 7 F.3d 986, 1001 (11th Cir. 1993).

¹⁸⁸⁵ *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006).

¹⁸⁸⁶ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 257 (2d ed. 2009).

market positions can be determined and conduct can be assessed. A further similarity in the EU and the U.S. consists in the fact that, regarding the assessment of an undertaking's market position, inferences are usually drawn from market shares. But this is only the first step. A complete determination of the market position necessitates also the consideration of competitors and the structure of the market, in particular whether entry barriers exist.

The market shares required for a violation of Section 2 Sherman Act in the U.S. are higher than what is required for European courts and the Commission in order to establish a dominant position. Another difference, though, is the fact that Section 2 Sherman Act contains, in contrast to Article 102 TFEU, also the category of "attempted monopolization" and also explicitly condemns conspiracies to monopolize.

Both sets of law are convergent as patents and intellectual property in general are not presumed to confer market power. Moreover, economic considerations play an important role in the U.S. where a test similar to the rule of reason analysis is employed taking into consideration pro- and anticompetitive effects of a behavior on the market, whereas the plaintiff must establish the unreasonableness of a restraint. The EU approach regarding Article 102 TFEU has been criticized as legalistic, interventionist, and lacking economic considerations. It has been urged to replace the current form-based approach with an effects-based approach focusing on potential anticompetitive effects.¹⁸⁸⁷ The Commission has taken a step towards convergence with its Article 102 Guidance Paper, as it allows an examination of efficiencies as justifications for abusive behavior – similar to the test applied in the U.S. Still, it is questionable whether such economic principles will in fact play a role in the antitrust analysis conducted by the European courts.

¹⁸⁸⁷ Ariel Ezrachi, *Article 82 EC: Reflections on its Recent Evolution* 20 (2009).

4. Exclusive licenses

4.1. Exclusive licenses under Article 102 TFEU

According to EU antitrust law, exclusive licenses of intellectual property rights granted to an undertaking in a dominant position do not lead per se to an abuse of a dominant position within the meaning of Article 102 TFEU.¹⁸⁸⁸ However, surrounding circumstances, in particular the effects on the competition structure of the market in question, must be taken into consideration.¹⁸⁸⁹ An important case was *Tetra Pak v. Commission (Tetra Pak I)* where the CFI reaffirmed the Commission's finding that Tetra Pak had abused its dominant position by obtaining an exclusive license for the only viable competing technology.¹⁸⁹⁰ The case involved the sector concerned with the packaging of liquid foods, especially milk, in cartons, where Tetra Pak Rausing SA already held 90% of the relevant market.¹⁸⁹¹ The National Research and Development Council, whose activities were taken over by the British Technology Group ("BTG"), granted an exclusive license concerning a competing technology to Novus Corp.¹⁸⁹² The latter then assigned the exclusive license to a company of the Liquipak group. However, Tetra Pak acquired the U.S. company Liquipak International Inc. and thereby also acquired the companies in the Liquipak group, to which Novus Corp. had previously assigned the BTG license.¹⁸⁹³ The CFI held that the mere fact that an undertaking in a dominant position acquires an exclusive license does not automatically constitute abuse within the meaning of Article 102 TFEU.¹⁸⁹⁴ The circumstances surrounding the acquisition, and in particular its effects on the structure of

¹⁸⁸⁸ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.137 (2010).

¹⁸⁸⁹ *Id.*

¹⁸⁹⁰ Case T-51/89 *Tetra Pak Rausing v Commission (Tetra Pak I)* [1990] ECR II-309.

¹⁸⁹¹ *Id.* para 3.

¹⁸⁹² *Id.* para 6.

¹⁸⁹³ *Id.* para 6.

¹⁸⁹⁴ *Id.* para 23.

competition in the relevant market, must be taken into account.¹⁸⁹⁵ It confirmed the Commission's opinion not to object to the exclusive license as such, but rather the anticompetitive effect of its acquisition.¹⁸⁹⁶ The violation stemmed precisely from Tetra Pak's acquisition of the exclusive license "in the specific circumstances of this case".¹⁸⁹⁷ The specific context to which the Commission refers was the fact that the acquisition of the exclusivity of the license not only "strengthened Tetra Pak's very considerable dominance but also had the effect of preventing, or at the very least considerably delaying, the entry of a new competitor into a market where very little if any competition is found."¹⁸⁹⁸ Consequently, the applicant's position in the relevant market, and the fact that the right to use the process protected by the BTG license was the only possibility giving an undertaking the means of competing effectively with Tetra Pak in the field of packaging milk, was the decisive factor in finding that the exclusive license amounted to an abuse of a dominant position.¹⁸⁹⁹ In consequence, the additional element lay in the very context of the case, namely the fact that Tetra Pak's acquisition of the exclusive license had the practical effect of precluding all competition in the relevant market.¹⁹⁰⁰

4.2. Exclusive licenses under Section 2 Sherman Act

In the U.S., it is also recognized that the acquisition by a monopolist of exclusive rights in related patents should be considered a presumptive violation of Section 2 of the Sherman Act, but a monopolist should be allowed to acquire exclusive rights in unrelated patents

¹⁸⁹⁵ *Id.* para 23.

¹⁸⁹⁶ *Id.* para 23.

¹⁸⁹⁷ *Id.* para 23.

¹⁸⁹⁸ *Id.* para 23.

¹⁸⁹⁹ *Id.* para 23.

¹⁹⁰⁰ *Id.* para 24.

and non-exclusive rights in any patent.¹⁹⁰¹ However, there seems to be a lack of case law. The court held in *L.G. Balfour Co. v. Federal Trade Commission*¹⁹⁰² that, while the mere accumulation of IP rights is not normally an antitrust offense, when a monopoly acquires exclusive licenses that are a prerequisite for participation in the relevant market, and when competitors do not have an equal opportunity to procure the needed licenses, the monopolist may be guilty of monopolization.¹⁹⁰³ It has already been established that the mere accumulation of IPR does not automatically violate antitrust laws, but an undertaking which enjoys market power may be guilty of monopolization when it acquires exclusive licenses that are necessary for participation in the relevant market, foreclosing competitors from acquiring the requisite licenses.¹⁹⁰⁴

4.3. EU and U.S. law compared

I confine myself to a short conclusion after the legal comparison of Article 102 TFEU and Section 2 Sherman Act to exclusive licenses. As in both legal systems, the possession of a dominant market share alone is not sufficient to undermine an antitrust violation; an additional abusive behavior is required. It is acknowledged across the Atlantic that such conduct may consist in the acquisition of an exclusive license if competitors are thereby substantially foreclosed or eliminated from a relevant market.

¹⁹⁰¹ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 421 (2003); 3 Herbert Hovenkamp, et al., *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property* § 707(a) (2003); Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 261 (2d ed. 2009).

¹⁹⁰² *L.G. Balfour Co. v. FTC*, 442 F.2d 1 (7th Cir. 1971).

¹⁹⁰³ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 421 (2003), *L.G. Balfour Co. v. FTC*, 442 F.2d 1, 15-16 (7th Cir. 1971).

¹⁹⁰⁴ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 261 (2d ed. 2009); *L.G. Balfour Co. v. FTC*, 442 F.2d 1, 15-16 (7th Cir. 1971).

5. Tying practices

5.1. Tying under Article 102 TFEU

As explained above in the context of the general antitrust prohibition, tying refers to the practice of conditioning the license upon the licensee accepting to license another license or to purchase other products from the licensor. Article 102(d) TFEU specifically provides that an abusive of a dominant position may consist in making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts. The reasoning behind disallowing tying is that producers should not be able to extend market power legitimately acquired in a given market to other markets in which, absent the tying arrangement, the producer would lack a competitive advantage, or leverage.¹⁹⁰⁵ Tying can also raise antitrust concerns under Article 102 TFEU, and substantial fines may be imposed where such an abuse is found.¹⁹⁰⁶ The *Microsoft* case is the most famous with regard to this type of infringement in the intellectual property context.¹⁹⁰⁷ Microsoft held very high market shares in the PC operating systems market for many years (over 90% since 2000).¹⁹⁰⁸ On March 24, 2004, the Commission decided that Microsoft had violated Article 102 TFEU by abusing its dominant position in client PC operating systems in two ways.¹⁹⁰⁹ Besides illegally refusing to supply interoperability information, which was indispensable for rivals to compete in the work group server operating systems market, it had illegally tied Windows Media Player to its Windows PC

¹⁹⁰⁵ Haris Apostolopoulos, *The Copyright Misuse Doctrine on Computer Software: A Redundant Doctrine of U.S. Copyright Law or a Necessary Addition to E.U. Copyright Law?*, 24 J. Marshall J. Computer & Info. L. 571, 576 (2006).

¹⁹⁰⁶ Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.129 (2010); T-201/04 *Microsoft v Commission* [2007] ECR II-3601, paras 1339, 1354.

¹⁹⁰⁷ Commission Decision *Microsoft*, 2007 OJ (L32) 23; upheld in Case T-201/04 *Microsoft Corp. v Commission* [2007] ECR II-3601.

¹⁹⁰⁸ Rubini Luca, *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* 50 (2010).

¹⁹⁰⁹ *Id.* at 47.

operating systems.¹⁹¹⁰ The Commission imposed a fine of EUR 497,196 million for this serious infringement of Article 102 TFEU.¹⁹¹¹ With regard to the tying aspects, Microsoft conditioned the availability of the Windows client PC operating system on the simultaneous acquisition of Windows Media Player and thereby tied Windows Media Player to its monopoly product.¹⁹¹² The Commission applied a five-step test for examining the tying arrangements in order to find an infringement. First, it concluded that (a) the tying and the tied product are two separate products. Moreover, (b) the seller held a dominant position in the market for the tying product and (c) did not give customers a choice of whether to buy the tying product without the tied product. Furthermore, (d) these tying practices foreclosed competition and (e) lacked any objective justification.¹⁹¹³ It then referred to consistent case law on tying, such as *Hilti* and *Tetra Pak II*,¹⁹¹⁴ setting out the legal conditions to be met in this context.¹⁹¹⁵ The fact that the dominant undertaking does not charge for providing the tied product or that consumers are not obliged to use the additional functionality does not legalize the conduct; tying is objectionable whenever it undermines the structure of competition or deprives customers of choices.¹⁹¹⁶ However, the fact that Microsoft had a very strong – super-dominant or quasi-monopolistic – position on the market also contributed to the Commission’s and CFI’s findings, even though neither decision indicated that different rules were applied because of such an unusually strong

¹⁹¹⁰ *Id.* at 47.

¹⁹¹¹ *Id.* at 47.

¹⁹¹² *Id.* at 61.

¹⁹¹³ Case T-201/04 *Microsoft Corp. v Commission* [2007] ECR II-3601, paras 842, 862 and 869; American Bar Association, *The Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications* 101 (3d ed. 2010); Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.129 (2010).

¹⁹¹⁴ Case T-30/89 *Hilti v Commission* [1991] ECR II-1439; Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755, upheld on appeal in Case C-333/94 P *Tetra Pak v Commission* [1996] ECR I-5951.

¹⁹¹⁵ Rubini Luca, *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* 63 (2010).

¹⁹¹⁶ Case T-201/04 *Microsoft Corp. v Commission* [2007] ECR II-3601, paras 960-961, 968-970; Case 85/76 *Hoffman-La Roche v Commission* [1979] ECR 461, paras 90, 111; Jonathan D.C. Turner, *Intellectual Property and EU Competition Law* § 1.129 (2010).

position.¹⁹¹⁷ Nevertheless, it is difficult to see how the broad legal principles established would differ if applied to a company that has just a dominant position on the relevant market.¹⁹¹⁸ Although the *Microsoft* case concerned software copyright, its principles can be applied to patent licenses as well, as under EU law they are treated alike because they both come within the scope of the definition of technology transfer agreements.

The Commission also deals with tying in its Article 102 Guidance and refers often to the *Microsoft* decision. Accordingly, it explains that it will take action under Article 102 TFEU if the tying and the tied products are distinct products and the tying practice is likely to cause anticompetitive foreclosure.¹⁹¹⁹ The distinct product condition depends on customer demand¹⁹²⁰ and is fulfilled if a substantial number of customers would purchase the tying product without buying the tied product from the same supplier.¹⁹²¹

The main competition problem related to tying provisions is competitors' foreclosure in the tied and/or the tying market,¹⁹²² whereas this risk is likely to be higher where the dominant undertaking commits to a lasting tying strategy, for example, through technical tying which is costly to reverse.¹⁹²³ The fear is that tying leads to less competition for customers interested in buying the tied product without the tying product.¹⁹²⁴ Consequently, if there is not a sufficient number of customers willing to buy the tied product alone to sustain competitors of the dominant undertaking in the tied market, such a tying practice can lead to those customers facing higher prices.¹⁹²⁵

¹⁹¹⁷ Rubini Luca, *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* 163 (2010).

¹⁹¹⁸ *Id.*

¹⁹¹⁹ Article 102 Guidance, *supra* note 1789, para 50.

¹⁹²⁰ *Id.* para 51.

¹⁹²¹ *Id.* para 51.

¹⁹²² *Id.* para 52.

¹⁹²³ *Id.* para 53.

¹⁹²⁴ *Id.* para 55.

¹⁹²⁵ *Id.* para 55.

5.2. Tying under Section 2 Sherman Act

Tying can constitute a predatory practice used to obtain or maintain a monopoly pursuant to Section 2 Sherman Act.¹⁹²⁶ Of course, market power that must be shown to sustain a tying claim under Section 1 is not as great as that required for proof of a Section 2 violation.¹⁹²⁷ During the analysis under Section 2 Sherman Act, tying provisions imposed by a dominant undertaking are assessed under the rule of reason analysis, which demands scrutiny of actual effects on competition.¹⁹²⁸ On the other hand, under Section 1 Sherman Act, tying provisions imposed by a less-than-dominant firm can be illegal per se, hence forbidden irrespective of a detailed examination of the competitive effects.¹⁹²⁹ Antitrust analysis of tying practices has developed largely under Section 1 Sherman Act and Section 3 Clayton Act, but a tie-in can also be framed under Section 2 Sherman Act.¹⁹³⁰ This was the case in *United States v. Microsoft, Corp.*¹⁹³¹ where two elements were examined: first, whether Microsoft possessed monopoly power in the market for Intel-compatible operating systems and, second, whether it abused that dominance by engaging in predatory conduct in the form of tying internet explorer to its operating system.¹⁹³² In this case, however, after the plaintiffs alleged anticompetitive conduct, Microsoft came up with several procompetitive justification of its practice.¹⁹³³ In the course of an analysis under Section 2 Sherman Act, the plaintiff bears the burden not only of rebutting a proffered justification

¹⁹²⁶ Douglas Broder, *U.S. Antitrust Law and Enforcement: A Practice Introduction* 50 (2010).

¹⁹²⁷ *Id.* at 51; *Fortner Enters. v. US Steel Corp.*, 394 U.S. 495, 502-503 (1969).

¹⁹²⁸ Rubini Luca, *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* 229 (2010).

¹⁹²⁹ *Id.*

¹⁹³⁰ Emanuela Arezzo, *Intellectual Property Rights at the Crossroad between Monopolization and Abuse of Dominant Position: American and European Approaches Compared*, 24 J. Marshall J. Computer & Info. L. 455, 475-476 (2006); Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice* 302-303 (2d ed.1999).

¹⁹³¹ *United States v. Microsoft, Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

¹⁹³² 253 F.3d at 58-78; Rubini Luca, *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* 230 (2010).

¹⁹³³ 253 F.3d at 67.

but also of demonstrating that the anticompetitive effect of the challenged action outweighs it.¹⁹³⁴ As plaintiffs failed to do so, Microsoft could not be held liable for an antitrust violation under Section 2 Sherman Act.¹⁹³⁵ In *Illinois Tool Works*, plaintiffs alleged illegal tying and monopolization in violation of §§ 1 and 2 Sherman Act.¹⁹³⁶ The Court, however, reversed the previous presumption that a patent necessarily confers market power upon the patentee and therefore held that, in all cases involving a tying arrangement, the plaintiff must prove that the defendant has market power in the tying product.¹⁹³⁷ In the case at hand, however, plaintiffs failed to do so.

5.3. EU and U.S. law compared

The legal situations in the EU and the U.S. regarding tying practices imposed by a dominant undertaking closely resemble each other, although one should not forget, as mentioned above in the general introduction, market shares required for a finding of a dominant or monopoly position tend to be higher in the U.S. than in the EU. One may thus conclude that EU antitrust law is stricter in this respect. In addition, U.S. case law on tying practices has developed largely under Section 1 Sherman Act, which explains the limited number of tying cases involving an alleged monopolization under Section 2 Sherman Act.

¹⁹³⁴ *Id.*

¹⁹³⁵ *Id.*

¹⁹³⁶ *Illinois Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 32 (2006).

¹⁹³⁷ 547 U.S. at 45-46.

VIII. Antitrust issues of licensing in the context of patent pools in the EU and the U.S.

1. Overview

According to EU and U.S. law, technology pools are arrangements whereby two or more parties assemble a package of technology which is subsequently licensed to pool members and third parties.¹⁹³⁸ They can be structured in various ways, reaching from simple agreements between a limited number of parties to elaborate organizational arrangements whereby the organization of the licensing of the pooled technologies is entrusted to a separate entity.¹⁹³⁹ An important first observation is the fact that agreements establishing technology pools and setting out the terms and conditions for their operation are not — irrespective of the number of parties — covered by the TTBER, but the Commission nevertheless deals with them in its Technology Transfer Guidelines.¹⁹⁴⁰ The TTBER does not apply because the parties agree to pool their respective technologies for the purpose of licensing them as a package or stipulate to license a third party who is authorized to license the package of technologies.¹⁹⁴¹ As a consequence the licenses granted to the pool are not intended to permit the production of contract products,¹⁹⁴² which would be a necessary precondition for the application of the TTBER. The latter may apply, however, to individual licenses that the pool grants to third parties, provided that the requirements of the TTBER are met and that no hardcore restrictions are included.¹⁹⁴³

Patent pools are especially created in high-technology fields, as for instance semiconductors, information technology, and biotechnology, because so-called “patent-

¹⁹³⁸ Technology Transfer Guidelines, *supra* note 1, para 210; Michael A. Lavine, *Ripples in the Patent Pool: The Impact and Implications of the Evolving Essentiality Analysis*, 4 N.Y.U. J. L. & Bus. 605, 607 (2008).

¹⁹³⁹ *Id.* para 210.

¹⁹⁴⁰ *Id.* para 212; Commission Regulation (EC) No 772/2004, *supra* note 17, preamble para 7.

¹⁹⁴¹ Technology Transfer Guidelines, *supra* note 1, para 41.

¹⁹⁴² *Id.*

¹⁹⁴³ *Id.* para 212.

thickets” are likely to occur, which means that many independent patent holders have rights that cover a technology and many different patents are necessary in order to manufacture or sell a product.¹⁹⁴⁴ Consequently, undertakings must enter into negotiations with numerous patent owners to collect all the technology needed for a product.¹⁹⁴⁵ Clearly this process can be time and effort consuming, stifling the dissemination of new technologies.¹⁹⁴⁶ Patent thickets may raise prices due to the high transaction costs and thereby may discourage innovation.¹⁹⁴⁷ In addition, high litigation risks may result from an incomplete portfolio of patent licenses.¹⁹⁴⁸ A patent pool has the advantage of allowing licensees to operate on the market on the basis of a single license.¹⁹⁴⁹ This chapter will outline the antitrust analysis of patent pools in the EU and the U.S. Antitrust issues of patent pools mainly concern the selection of the included technologies and the operation of the pool.¹⁹⁵⁰

2. Potential harms of patent pools

Patent pools receive antitrust scrutiny because they are capable of restricting competition and potentially come within the scope of the general antitrust prohibition of Article 101(1) TFEU. In the U.S. it is also acknowledged that patent pools can cause anticompetitive effects and, therefore, may violate Section 1 or Section 2 Sherman Act.¹⁹⁵¹ The latter is particularly likely where the pool has monopoly power in a relevant market.¹⁹⁵² According to the Technology Transfer Guidelines, a technology pool involving the joint licensing of

¹⁹⁴⁴ Richard J. Gilbert, *Ties That Bind: Policies to Promote (Good) Patent Pools*, 77 Antitrust L.J. 1 (2010).

¹⁹⁴⁵ *Id.*

¹⁹⁴⁶ *Id.*

¹⁹⁴⁷ *Id.* at 2.

¹⁹⁴⁸ *Id.* at 2.

¹⁹⁴⁹ Technology Transfer Guidelines, *supra* note 1, para 210.

¹⁹⁵⁰ *Id.* para 212.

¹⁹⁵¹ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 6 (2008).

¹⁹⁵² *Id.* at 7.

the pooled technologies may create a price fixing cartel if it is composed solely or predominantly of substitute technologies.¹⁹⁵³ Naked restrictions imposed in patent pools that limit competitive efforts totally unrelated to the patents being pooled can produce anticompetitive effects also in the U.S.¹⁹⁵⁴ Among these practices are methods employed to accomplish price fixing or market division, which are subject to challenge under the per se rule.¹⁹⁵⁵ An example would be a pool among owners of patents covering microscopes that contains an obligation to fix prices in an unrelated market for eyeglasses in which the patent owners also compete.¹⁹⁵⁶ Furthermore, pooling among horizontal competitors inhibits them from competing “head to head” for licensees in a patent licensing market, because the pool members often do not retain the right to independently license and set royalty rates for the pooled technology outside the pool.¹⁹⁵⁷ Accordingly, even where a patent holder retains rights to license outside the pool, there may be little incentive to do so.¹⁹⁵⁸ This possible anticompetitive effect of patent pools may discourage participants from engaging in research and development, thereby retarding innovation.¹⁹⁵⁹ A patent pool requiring, for example, members to grant licenses to each other for current and future technology at minimal cost may reduce the incentives of its members to engage in research and development.¹⁹⁶⁰ They must share their successful research and development while

¹⁹⁵³ Technology Transfer Guidelines, *supra* note 1, para 213.

¹⁹⁵⁴ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 448 (2003); Michael A. Lavine, *Ripples in the Patent Pool: The Impact and Implications of the Evolving Essentiality Analysis*, 4 N.Y.U. J. L. & Bus. 605, 610 (2008); U.S. Dep’t of Justice & Fed. Trade Comm’n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 8 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

¹⁹⁵⁵ *Id.*; R. Justin Koscher, *A Patent Pool’s White Knight: Individual Licensing Agreements and the Procompetitive Presumption*, 20 DePaul J. Art Tech. & Intell. Prop. L. 53, 55 (2009).

¹⁹⁵⁶ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 448 (2003).

¹⁹⁵⁷ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 8-9 (2008).

¹⁹⁵⁸ *Id.* at 9.

¹⁹⁵⁹ IP Guidelines, *supra* note 99, § 5.5.

¹⁹⁶⁰ *Id.*

other members free ride on their accomplishments.¹⁹⁶¹ However, a patent pool may create procompetitive benefits as well, for example, by exploiting economies of scale and integrating complementary capabilities of the pool members (including the clearing of blocking positions), and is likely to cause competitive problems only when the arrangement includes a large fraction of the potential research and development in an innovation market.¹⁹⁶² If the pool involves collective price or output restraints, they may be deemed unlawful according to Section 1 Sherman Act in the U.S. if they do not contribute to an efficiency-enhancing integration of economic activity among the participants.¹⁹⁶³

Another antitrust problem may occur when the patent pool shelters weak patents from validity challenges via non-challenge provisions.¹⁹⁶⁴ The antitrust problem associated with such stipulations is the risk that they will lead to coordination to raise prices because the licensees are required to pay for a technology that should normally be free. At the same time it may foreclose competition from substitute technologies that do not form a part of the pool.¹⁹⁶⁵ The same problem is also identified with regard to patent pools in the EU where the Commission draws attention to the fact that they may shield invalid patents.¹⁹⁶⁶

Pooling raises the costs and risks for a successful challenge because the challenge fails if only one patent in the pool is valid.¹⁹⁶⁷ According to the Commission, another antitrust problem of technology pools, in particular when they support an industry standard or establish a *de facto* industry standard, consists in the reduction of innovation by foreclosing alternative technologies because the existence of the standard and the related pool

¹⁹⁶¹ *Id.*

¹⁹⁶² *Id.*

¹⁹⁶³ IP Guidelines, *supra* note 99, § 5.5.

¹⁹⁶⁴ Richard J. Gilbert, *Ties That Bind: Policies to Promote (Good) Patent Pools*, 77 Antitrust L.J. 1, 8 (2010).

¹⁹⁶⁵ *Id.*

¹⁹⁶⁶ Technology Transfer Guidelines, *supra* note 1, para 229.

¹⁹⁶⁷ *Id.*

exacerbates or even prevents market entry for new and improved technologies.¹⁹⁶⁸

Although there is no inherent link between patent pools and standards, in some cases the technologies in the pool nevertheless support (entirely or partly) a *de facto* or *de jure* industry standard.¹⁹⁶⁹

3. Procompetitive benefits of patent pools

According to the Commission, technology pools can create procompetitive benefits, in particular through the reduction of transaction costs and by setting a limit on cumulative royalties to avoid double marginalization.¹⁹⁷⁰ Hence a pool allows for one-stop shop licensing of the technologies covered by the pool.¹⁹⁷¹ This is important in sectors where intellectual property rights are prevalent and where, in order to operate on the market, licenses must be obtained from a significant number of licensors.¹⁹⁷² In cases where licensees receive on-going services in relation to the application of the licensed technology, joint licensing and servicing can lead to further cost reductions.¹⁹⁷³ These procompetitive benefits of patent pools are also widely acknowledged in the U.S.¹⁹⁷⁴ They enable the integration of complementary technologies, reduce transaction costs, and promote the dissemination of technology.¹⁹⁷⁵ Without a pool, the only possibility to obtain the necessary patents is to enter into individual negotiations with numerous technology

¹⁹⁶⁸ Technology Transfer Guidelines, *supra* note 1, para 213.

¹⁹⁶⁹ *Id.* para 211; David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 454 (2003).

¹⁹⁷⁰ Technology Transfer Guidelines, *supra* note 1, para 214.

¹⁹⁷¹ *Id.*

¹⁹⁷² *Id.*

¹⁹⁷³ *Id.*

¹⁹⁷⁴ IP Guidelines, *supra* note 99, § 5.5.

¹⁹⁷⁵ *Id.*; U.S. Dep't of Justice & Fed. Trade Comm'n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 65 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

owners.¹⁹⁷⁶ Through this easier access to patented technology, pooling arrangements facilitate the rapid development of new technologies.¹⁹⁷⁷ Another important advantage of technology pools is the fact that it is a highly efficient means to resolve legal conflicts arising in the context of patented technology.¹⁹⁷⁸ It is often not possible to manufacture a commercially viable product by using a patented technology without infringing another patent (“blocking patents”).¹⁹⁷⁹ The costs associated with resolving these conflicts through litigation can often be high, whereas the costs associated with mutual grants of immunity can be comparatively low.¹⁹⁸⁰ Consequently, costly infringement actions are avoided by providing the parties with a contractual right to exploit the IP of others without fear of costly litigation.¹⁹⁸¹

4. The nature of the pooled technologies as decisive factor

In the EU, the Commission acknowledges that the competitive risks and the efficiency enhancing potential of technology pools is largely influenced by the relationship between the pooled technologies and their relationship with technologies outside the pool.¹⁹⁸² Consequently, two basic distinctions must be made: (a) between technological complements and technological substitutes and (b) between essential and non-essential technologies.¹⁹⁸³ According to the Technology Transfer Guidelines, two technologies are complements (as opposed to substitutes) when they are both necessary to manufacture a

¹⁹⁷⁶ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 270 (2d ed. 2009).

¹⁹⁷⁷ *Id.*

¹⁹⁷⁸ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 447(2003).

¹⁹⁷⁹ *Id.*

¹⁹⁸⁰ *Id.* at 448.

¹⁹⁸¹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 270 (2d ed. 2009).

¹⁹⁸² Technology Transfer Guidelines, *supra* note 1, para 215.

¹⁹⁸³ *Id.*

certain product or to carry out the process to which the technologies relate.¹⁹⁸⁴ Two technologies are substitutes when either technology allows the owner to produce the product or to carry out the process to which the technologies relate.¹⁹⁸⁵ As far as the other distinction is concerned, a technology is essential if there are no substitutes available for that technology inside or outside the pool and the technology in question constitutes a necessary part of the package of technologies in order to manufacture the products or to carry out the processes to which the pool relates.¹⁹⁸⁶ Technologies that are essential are by necessity also complements.¹⁹⁸⁷

In the case of substitutable technologies within a pool, royalties are likely to be higher than they would be in the absence thereof, because licensees do not benefit from rivalry between the technologies in question.¹⁹⁸⁸ On the other hand, when the technologies in the pool are complements, the pooling arrangement reduces transaction costs and may lead to lower overall royalties because the parties are in a position to fix a common royalty for the package, as opposed to each of them fixing a separate royalty which does not take into account the royalties fixed by others.¹⁹⁸⁹ However, the distinction between complementary and substitute technologies is not clear-cut in all cases because there may be partial overlaps.¹⁹⁹⁰ As a general rule, when due to efficiencies stemming from the integration of two technologies, licensees are likely to demand both technologies, the Commission will treat them as complements even if they are partly substitutable.¹⁹⁹¹ This reasoning is explained by the fact that without the pool, licensees would probably want to license both

¹⁹⁸⁴ *Id.* para 216.

¹⁹⁸⁵ *Id.* para 216.

¹⁹⁸⁶ *Id.* para 216.

¹⁹⁸⁷ *Id.* para 216.

¹⁹⁸⁸ *Id.* para 217.

¹⁹⁸⁹ *Id.* para 217.

¹⁹⁹⁰ *Id.* para 218.

¹⁹⁹¹ *Id.* para 218.

technologies due to the additional economic benefit of employing both technologies together.¹⁹⁹²

The inclusion of substitute technologies in the pool causes a restriction of inter-technology competition and amounts to collective bundling.¹⁹⁹³ Moreover, if the pool is substantially composed of substitute technologies, the arrangement amounts to price fixing between competitors.¹⁹⁹⁴ Therefore, as a general rule the Commission considers that such inclusion of substitute technologies violates Article 101(1) TFEU.¹⁹⁹⁵ The Commission states that it is unlikely that the conditions of Article 101(3) TFEU will be fulfilled in this case.¹⁹⁹⁶

Given that the technologies in question are alternatives, no transaction cost savings accrue from including both technologies in the pool.¹⁹⁹⁷ In the absence of the pool, licensees would not have licensed both technologies.¹⁹⁹⁸ In these scenarios, it does not suffice that the parties remain free to license independently their technologies because the parties are likely to have little incentive to do so.¹⁹⁹⁹

On the contrary, when a pool is composed only of technologies that are essential and therefore by necessity also complements, the creation of the pool as such generally does not come within the scope of Article 101(1) TFEU, irrespective of the parties' market position.²⁰⁰⁰ However, some conditions on which licenses are granted may be caught by the general antitrust prohibition.²⁰⁰¹

¹⁹⁹² *Id.* para 218.

¹⁹⁹³ *Id.* para 219.

¹⁹⁹⁴ *Id.* para 219.

¹⁹⁹⁵ *Id.* para 219.

¹⁹⁹⁶ *Id.* para 219.

¹⁹⁹⁷ *Id.* para 219.

¹⁹⁹⁸ *Id.* para 219.

¹⁹⁹⁹ *Id.* para 219.

²⁰⁰⁰ *Id.* para 220.

²⁰⁰¹ *Id.* para 220.

Where non-essential but complementary patents are included in the pool, there is a risk of foreclosure of third party technologies.²⁰⁰² Once a technology is included in the pool and is licensed as part of the package, licensees will have little incentive to license a competing technology when the royalty paid for the package already covers a substitute technology.²⁰⁰³ Moreover, the inclusion of technologies which are not necessary for the manufacture of the products or processes to which the patent pool relates also forces licensees to pay for technology that they actually do not need.²⁰⁰⁴ Consequently, when a pool encompasses non-essential technologies, the agreement is likely to be caught by Article 101(1) TFEU where the pool has a significant position on any relevant market.²⁰⁰⁵ It should be taken into consideration that substitute and complementary technologies may be developed after the creation of the pool; therefore, the assessment of essentiality is an on-going process.²⁰⁰⁶ A technology can become non-essential after the creation of the pool due to the development of new third party technologies.²⁰⁰⁷ One way to ensure that such third party technologies are not foreclosed is the exclusion from the pool of technologies that have become non-essential.²⁰⁰⁸ In the assessment of technology pools comprising non-essential technologies, the Commission will in its overall assessment, *inter alia*, take account (a) whether there are any procompetitive reasons for including the non-essential technologies in the pool and (b) whether the licensors remain free to license their respective technologies independently.²⁰⁰⁹ The Commission explains in this context that licensees may want to put together their own technological package composed partly of

²⁰⁰² *Id.* para 221.

²⁰⁰³ *Id.* para 221.

²⁰⁰⁴ *Id.* para 221.

²⁰⁰⁵ *Id.* para 221.

²⁰⁰⁶ *Id.* para 222.

²⁰⁰⁷ *Id.* para 222.

²⁰⁰⁸ *Id.* para 222.

²⁰⁰⁹ *Id.* para 222 para (a) and (b).

technology forming part of the pool and partly of technology owned by third parties.²⁰¹⁰ Additionally, the Commission will take account of (c) whether, in cases where the pooled technologies have different applications, some of which do not require the use of all of the pooled technologies, the pool offers the technologies only as a single package or whether it offers separate packages for distinct applications.²⁰¹¹ So it should generally be avoided that technologies which are not essential to a particular product or process are tied to essential technologies.²⁰¹² The Commission will also consider (d) whether licensees have the possibility to obtain a license for only part of the package with a corresponding reduction of royalties, as the latter may reduce the risk of foreclosure of third party technologies outside the pool.²⁰¹³ Where the license agreements concluded between the pool and individual licensees are of relatively long duration and the pooled technology supports a de facto industry standard, it should be considered that the pool may foreclose access to the market of new substitute technologies.²⁰¹⁴ In assessing the risk of foreclosure in such cases, it is of particular relevance to take into account whether licensees can terminate with reasonable notice part of the license and obtain a corresponding reduction of royalties.²⁰¹⁵ Under the quite similar approach in the U.S., the first step in the analysis of competitive implications of a patent pool is the assessment of the relationship between the intellectual property rights being pooled – namely, whether they compete, complement, or block each other.²⁰¹⁶ In the U.S., like in the EU, complementary patents cover technology that is useless without a license to another patented invention.²⁰¹⁷ Patent pools involving

²⁰¹⁰ *Id.* para 222 para (b).

²⁰¹¹ *Id.* para 222 para (c).

²⁰¹² *Id.* para 222 para (c).

²⁰¹³ *Id.* para 222 para (d).

²⁰¹⁴ *Id.* para 222 para (d).

²⁰¹⁵ *Id.* para 222 para (d).

²⁰¹⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 8 (2008).

²⁰¹⁷ Michael S. Mireless, *An Examination of Patents, Licensing, Research Tools, and the Tragedy of the Anticommons in Biotechnology Innovation*, 38 U. Mich. J.L. Reform 141, 168 (2004).

complementary technologies are less likely to raise antitrust issues because they do not eliminate an independent competitor from a relevant market, and may even create efficiencies.²⁰¹⁸ They also tend to lower prices for consumers.²⁰¹⁹ On the other hand, under U.S. antitrust law, IPRs that cover technologies that are or could be substituted for each other are considered as potentially problematic. Conversely, the inclusion of complementary technologies is regarded as desirable.²⁰²⁰

The Agencies also distinguish in their analysis of patent pools between essential and substitute patents.²⁰²¹ Patents are essential if the product or standard at issue in the pool cannot be produced without infringing the patent, whereas patents belonging to this category do not have substitutes and typically are complementary, possessing a greater value if the licensee can use other essential patents.²⁰²² On the contrary, substitute patents, are not necessary in order to use a technology in the pool but present alternative ways of creating products that otherwise would compete with each other.²⁰²³ According to the Agencies' IP Guidelines, pooling results in anticompetitive behavior if the excluded patents cannot effectively compete in the relevant market for the good incorporating the licensed technologies, the pool participants collectively possess market power, and the limitations on participation are not reasonably related to the efficient development and

²⁰¹⁸ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 9 (2008).

²⁰¹⁹ U.S. Dep't of Justice & Fed. Trade Comm'n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 66 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

²⁰²⁰ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 270 (2d ed. 2009) U.S. Dep't of Justice & Fed. Trade Comm'n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 66 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

²⁰²¹ Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property and Antitrust Law* 96 (2009).

²⁰²² *Id.*

²⁰²³ *Id.*

exploitation of the pooled patents.²⁰²⁴ Therefore, U.S. patent owners should pool complementary patents that are essential to the effective and efficient use of a given technology, but should avoid pooling patents that could serve as a substitute for one another in the market place.²⁰²⁵ If the patents being pooled are in a blocking relationship to each other, which means that neither patent can be practiced without infringing the other, then no competitive issue arises merely as a result of pooling those technologies.²⁰²⁶

5. The applicable guiding principles

The Commission explains that, first, the stronger the market position of the pool, the greater the risk of anticompetitive effects.²⁰²⁷ Second, pools that possess a strong position on the market should be open and non-discriminatory. And third, pools should not unduly foreclose third party technologies or limit the creation of alternative pools.²⁰²⁸ As a consequence, in the case of a pool with a dominant position on the market, royalties and other licensing terms must be fair and non-discriminatory, whereas licenses should be concluded in a non-exclusive way.²⁰²⁹ These conditions should ensure that the pool remains open and does not cause foreclosure or other anticompetitive effects on downstream markets.²⁰³⁰ Nevertheless, it is allowed to impose different royalties for different uses, for example, to apply different royalty rates to different product markets, but there should not be any discrimination within product markets.²⁰³¹ In particular, the treatment of

²⁰²⁴ IP Guidelines, *supra* note 99, § 5.5; U.S. Dep't of Justice & Fed. Trade Comm'n, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 67 (2007), available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

²⁰²⁵ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 271 (2d ed. 2009).

²⁰²⁶ Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 9 (2008).

²⁰²⁷ Technology Transfer Guidelines, *supra* note 1, para 224.

²⁰²⁸ *Id.*

²⁰²⁹ *Id.* para 226.

²⁰³⁰ *Id.* para 226.

²⁰³¹ *Id.* para 226.

licensees should not depend on whether they are licensors.²⁰³² The Commission will therefore take into account whether royalty obligations are also imposed on the licensors when they want to license the pooled technologies.²⁰³³ Undertakings setting up a technology pool that is compatible with Article 101 TFEU, and any industry standard that it may support, are usually free to negotiate and fix royalties for the technology package and each technology's share of the royalties either before or after the standard is set.²⁰³⁴ Because such an agreement is inherent in the establishment of the standard or pool, it cannot in itself be considered restrictive of competition.²⁰³⁵ Moreover, licensors and licensees must be free to develop competing products and standards and must have the possibility to grant and obtain licenses outside the pool.²⁰³⁶ These conditions limit the risk of foreclosure of third party technologies and ensure that the pool does not impair innovation or preclude the creation of competing technological solutions.²⁰³⁷ In particular, where a pool supports an (*de facto*) industry standard and where the parties are subject to non-compete obligations, the pool creates a particular risk of preventing the development of new and improved technologies and standards.²⁰³⁸

Likewise, in the U.S., pooling arrangements generally need not be open to all who would like to join because the exclusion from pools among parties that collectively possess market power may harm competition.²⁰³⁹ Nevertheless, such an exclusion from pools among competing technologies is unlikely to have anticompetitive effects unless (a) excluded firms cannot effectively compete in the relevant market for the good incorporating the licensed technologies and (b) the pool members collectively possess

²⁰³² *Id.* para 226.

²⁰³³ *Id.* para 226.

²⁰³⁴ *Id.* para 225.

²⁰³⁵ *Id.* para 225.

²⁰³⁶ *Id.* para 227.

²⁰³⁷ *Id.* para 227.

²⁰³⁸ *Id.* para 227.

²⁰³⁹ IP Guidelines, *supra* note 99, § 5.5.

market power in the relevant market.²⁰⁴⁰ Under these circumstances, the Agencies conduct a rule of reason analysis to determine whether the pooling agreement's limitations on participation are reasonably related to the efficient development and exploitation of the pooled technologies and will assess the net effect of those limitations in the relevant market.²⁰⁴¹ The Supreme Court also recognized that patent pools are appropriately evaluated under the rule of reason, except when the agreement's only apparent purpose is price fixing,²⁰⁴² or when the agreement is a sham for practices that would otherwise warrant per se treatment.²⁰⁴³ Accordingly, when pooling arrangements are mechanisms to accomplish naked price fixing or market division, they are subject to challenge under the per se rule. This point was illustrated in *United States v. New Wrinkle, Inc.*²⁰⁴⁴ in the price fixing context. Furthermore, as grant back obligations can constitute a disincentive to innovate, they are likely to raise antitrust issues.²⁰⁴⁵ This negative effect can be minimized by ensuring that new technologies contributed to the pool are weighted more heavily in any determination of royalties, thereby increasing the extent to which the innovator is able to capture the full value of the innovation in question.²⁰⁴⁶ Another possibility would be to ensure that only essential patents are subject to the grant back.²⁰⁴⁷ According to EU law, grant back obligations should also be non-exclusive and limited to developments that are essential or important to the use of the pooled technology.²⁰⁴⁸ This allows the pool to feed on and benefit from improvements to the pooled technology.²⁰⁴⁹ It is legitimate for the

²⁰⁴⁰ *Id.*

²⁰⁴¹ *Id.*

²⁰⁴² *United States v. Line Material Co.*, 333 U.S. 287, 314-315 (1948).

²⁰⁴³ American Bar Association, *Intellectual Property and Antitrust Handbook* 237 (2007).

²⁰⁴⁴ *United States v. New Wrinkle, Inc.*, 342 U.S. 371 (1952).

²⁰⁴⁵ David A. Balto & Andrew M. Wolman, *Intellectual Property and Antitrust: General Principles*, 43 IDEA 395, 450 (2003).

²⁰⁴⁶ *Id.*

²⁰⁴⁷ *Id.*

²⁰⁴⁸ Technology Transfer Guidelines, *supra* note 1, para 228.

²⁰⁴⁹ *Id.*

parties to ensure that the exploitation of the pooled technology cannot be held up by licensees that hold or obtain essential patents.²⁰⁵⁰

Summing up, it is advised that all licensors in the pool grant non-exclusive rights to the pool and remain free to license their IP outside the pool.²⁰⁵¹ In addition, the patents should be evaluated by an expert to determine which patents are essential to the pool. At the same time, a mechanism should be introduced which provides for future review of all the patents contained in the pool.²⁰⁵² According to EU antitrust law, the manner in which a patent pool is created, organized, and operated can reduce the risk of it having the object or effect of restricting competition and can provide assurances with regard to the procompetitiveness of the agreement.²⁰⁵³ When participation in a pool creation process is open to all interested parties representing different interests, it is more likely that technologies for inclusion in the pool are selected on the basis of price or quality considerations than when the pool is set up by a limited group of technology owners.²⁰⁵⁴ Similarly, when the relevant bodies of the pool are composed of persons representing different interests, it is more likely that licensing terms and conditions, including royalties, will be open and non-discriminatory and reflect the value of the licensed technology than when the pool is controlled by licensor representatives.²⁰⁵⁵ Another relevant factor is the extent to which independent experts are involved in the creation and operation of the pool.²⁰⁵⁶ For instance, the assessment of whether a technology is essential to a standard supported by a pool is often a complex matter that requires special expertise.²⁰⁵⁷ The Commission will take into account

²⁰⁵⁰ *Id.*

²⁰⁵¹ Sharon K. Sandeen, *Intellectual Property Deskbook for the Business Lawyer: A Transactions-based Guide to Intellectual Property Law* 271 (2d ed. 2009).

²⁰⁵² *Id.*

²⁰⁵³ Technology Transfer Guidelines, *supra* note 1, para 230.

²⁰⁵⁴ *Id.* para 231.

²⁰⁵⁵ *Id.* para 231.

²⁰⁵⁶ *Id.* para 232.

²⁰⁵⁷ *Id.* para 232.

their functions and how they are selected.²⁰⁵⁸ The functions of independent experts may include, in particular, an assessment of whether technologies put forward for inclusion in the pool are valid and whether they are essential.²⁰⁵⁹ Finally, it is relevant to take into account the dispute resolution mechanism foreseen in the instruments setting up the pool.²⁰⁶⁰ The more dispute resolution is entrusted to bodies or persons that are independent of the pool and its members, the more likely it will operate neutrally.²⁰⁶¹ In some cases, the pool is implemented through non-exclusive cross-licenses between each of the patent holders, whereas in other situations, the parties may assign their rights to a separate administrator or entity acting as the licensor for the pooled rights.²⁰⁶²

6. A transatlantic legal analysis of patent pools

First, the conclusion can be drawn that substantial convergence exists in EU and U.S. antitrust law regarding the analysis of patent pools. Patent pools are consistently defined in the EU and the U.S. Their procompetitive effects are widely acknowledged, consisting, *inter alia*, in the establishment of a one-stop shopping system with the concomitant reduction of transaction costs. Patent pools therefore foster the development of new technologies and enable easier access to patented technology. Although patent pools are not covered by the TTBER (because they lack the condition of a license with the object of enabling the production of contract products), the Commission deals extensively with the related antitrust issues in its Technology Transfer Guidelines. In the U.S., the antitrust enforcement Agencies also address patent pools in their IP Guidelines, although not in such a detailed manner. This fact, however, is typical for the EU and linked to the code based

²⁰⁵⁸ *Id.* para 233.

²⁰⁵⁹ *Id.* para 233.

²⁰⁶⁰ *Id.* para 235.

²⁰⁶¹ *Id.* para 235.

²⁰⁶² Adam Liberman et al., *International Licensing and Technology Transfer: Practice and the Law* 7 (2008).

system of law established by the continental European law tradition. On the contrary, enforcement Agencies on both sides of the Atlantic seem to be well aware of the potential competitive harm related to patent pools, for example, when they are misused as a means to disguise price fixing or market allocation. Clearly, such practices will be forbidden. Moreover, another critical issue is the ability of the owner to license outside the pool and the fact that patent pools may indeed shield invalid patents. On both sides of the Atlantic, foreclosure effects related to patent pools are potentially problematic from an antitrust point of view. The nature of the pooled technologies plays also a decisive role in the antitrust analysis. The Commission clearly underlines that the inclusion of substitute technologies violates Article 101(1) TFEU, whereas it is unlikely that the conditions of Article 101(3) TFEU are fulfilled. A same notion is also widespread in the U.S. where the inclusion of substitute patents raises antitrust issues, whereas the pooling of complementary patents has procompetitive effects. This approach can be explained by the fact that the inclusion of substitutable technologies in a pool increases royalties because licensees do not benefit from rivalry between the technologies. Pools consisting of essential patents do not come within the scope of Article 101(1) TFEU. On the other hand, pools comprising non-essential, but complementary patents may be caught by Article 101(1) TFEU where the pool has a significant position on the market. Whether an individual exemption under Article 101(3) TFEU is granted will depend on the circumstances of the case at issue, which is consistent with the U.S. Agencies' rule of reason analysis.

Part III: Conclusion

Technology transfer is omnipresent and a decisive motor of modern economic life. If we take into consideration all new technologies which are frequently developed and enhanced in order to assist and please our society, the role of licensing intellectual property has increased significantly. It is only natural to reconsider whether this type of contract may raise antitrust issues. The answer is clear: Yes, it can. However, the general approach towards technology transfer in the form of licensing in EU and U.S. antitrust law is positive because of the substantial procompetitive benefits which may be attributed to it. First, it fosters the development of new or improved products and technologies because licensors may later profit from their intellectual property rights in the form of royalties. Without the possibility to license, the elaboration of new inventions protected by intellectual property may not take place at all. However, licensing fosters the creation of new products also from another perspective. The licensee gains access to a previously unavailable technology which it can combine with its own assets and knowledge in order to achieve new solutions, thereby creating further products. So the licensing of intellectual property creates a win-win situation, as it benefits the licensor and the licensee. Therefore, antitrust law and IP law can be reconciled with each other in both jurisdictions.

On the other hand, whenever two parties conclude a contract there is an inherent risk of a violation of antitrust law. This detailed analysis has given broad insights into antitrust issues which may arise in the context of technology transfer, demonstrated with the example of patent licenses. The comparison of the legal systems of two major trading blocks – the EU and the U.S. – has revealed substantial convergence, but also some differences. There is convergence regarding the economic rationale behind a free market economy that freely operating competitive markets will result in the most efficient

allocation of resources, providing consumers with a greater variety of products at the lowest possible prices. Moreover, free competition also stimulates technological development and innovation, leading to a wider choice of products and services, lower prices, better quality, and higher productivity. Antitrust law across the Atlantic therefore aims at protecting competition by prohibiting practices that influence the market in a negative way and thereby ultimately harm consumers. While there is no doubt regarding the obvious similarities in the general concept of the antitrust prohibition of Article 101 TFEU and Section 1 Sherman Act to safeguard undistorted competition, some deviations can already be recognized after a first quick examination. Section 1 Sherman Act is relatively short in its wording and about 60 years older than Article 101 TFEU. The EU antitrust prohibition is more extensive and already provides detailed conditions for an exemption in its paragraph 3, which reflects the continental European tradition of a code based system of law. In the U.S., on the other hand, the development of law through court decisions has played a crucial role.

At this point, we may proceed to pointing out the general difference between the two systems of law, which is inseparably linked to the different legal bodies at issue. U.S. law is the national law of a single country. EU law is the law of a supranational organization, unique in the world. The European Union's aim of creating an integrated internal market without frontiers must be taken into consideration in the course of antitrust analysis. The Commission as "guardian of the treaties" has a strong position and competence to enforce antitrust violations. The nature of the antitrust claims in the EU and the U.S. differ as private law enforcement is of major importance in the U.S. A licensee will often allege an antitrust violation to avoid compliance with other provisions in the patent license agreement, or assert it as a defense in a breach of contract and infringement action brought

by the licensor. Although the antitrust enforcement Agencies may take action against antitrust violations, the resulting court decisions form just a part of the big picture. In contrast, the Commission is the main watchdog of European antitrust law, leading to a centralization of its enforcement.

The TTBER as introduced in 2004 and the Commission's accompanying Technology Transfer Guidelines have contributed to the fact that the legal systems of the EU and the U.S. regarding the antitrust assessment of technology licensing took a large step towards convergence. Notably, economic aspects are indispensable in modern antitrust analysis. Market delineation and subsequent market analysis are necessary components in any assessment under the antitrust laws across the Atlantic, which makes economic influence particularly obvious. Far reaching convergence can also be observed after an analysis of the antitrust treatment of patent pools or after a comparison of Article 102 TFEU and Section 2 Sherman Act in relation to patent licensing practices.

The means employed in an antitrust analysis under the general antitrust prohibitions are, however, different. In the EU, the TTBER plays a central role in the examination process. It renders the general antitrust ban of Article 101(1) TFEU automatically inapplicable to all agreements which meet its requirements. Consequently, it block exempts technology transfer agreements between two parties, permitting the production of contract products up to the combined market-share threshold of 20% if the agreement is concluded between competitors and up to the individual market shares of 30% of each party if it is formed between non-competitors. On the contrary, no such comparable legal act exists in U.S. antitrust law. The advantage of the TTBER is that parties meeting its standards profit from legal certainty by knowing that their licensing agreement will not be challenged. In the U.S., the antitrust enforcement Agencies also introduced an antitrust safety zone in their IP

Guidelines. Accordingly, they will not challenge a restraint if it is not facially anticompetitive and the licensor and licensee do not exceed the collective market share of 20%. The notable difference, however, is that this provision is theoretically not a source of law (and only the Agencies must respect it) as opposed to the EU TTBER.

This more economic approach is relatively new to European antitrust law, whereas due to experience, the U.S. system seems to be a step ahead as courts and enforcement agencies have been accustomed to it for a long time. In sum, there is, however, significant convergence of the practices likely to raise antitrust issues. EU and U.S. antitrust law provide a similar approach when it comes to identifying licensing practices which are inherently anticompetitive. Hence, stipulations in patent license agreements that have the effect of market allocation between competitors (e.g., by imposing reciprocal sales restrictions) will be challenged. The same is true for horizontal price fixing provisions which amount to a classic cartel. Reciprocal output restrictions are equally likely to be forbidden; they may function as efficiently as a traditional price cartel because the quantity produced and offered potentially influences the market price. On the contrary, it may be established that field of use restrictions are, among the ten analyzed restraints in patent licensing agreements, the category that receives the most favorable treatment, as EU and U.S. antitrust law clearly acknowledge the related procompetitive efficiencies.

This comparative analysis has shown that there is also convergence when it comes to attributing likely anticompetitive risks to the various restraints imposed in patent licenses. An example is the identification of foreclosure as the main competitive concern related to exclusive dealing or tying arrangements in the EU and the U.S. In some respects, however, divergences between the two legal systems can be recognized, linked to the previously explained difference in nature of the two legal bodies at issue: a supranational organization

(EU) and a federal republic (U.S.). An example is Section 261 Patent Act, which provides the patentee with the right to grant or convey an exclusive right to use its patent throughout the United States or any specified region therein. In consequence, exclusive licenses are presumptively lawful in the U.S, whereas in the EU, no comparable provision exists because IP law and property law in general is a competence of the Member States.

Due to the EU's goal of creating an integrated internal market without borders, practices which contravene this aim by separating national territories within the EU are viewed with particular criticism. An example is sales restrictions. In addition, the U.S. seems to be more flexible as it allows for a consideration of horizontal and vertical aspects of a patent license, whereas the EU system resorts to a categorization of agreements between competitors or non-competitors which may subject individual restraints to a stricter regime even though they are vertical.

An example where antitrust analysis has led to fundamental different results is the category of resale price maintenance. The only permissible practice in this respect under European law is maximum resale price maintenance between non-competitors, whereas in the U.S. any restrictions in the form of resale price maintenance, irrespective of maximum or minimum setting, are assessed under the rule of reason and are often upheld.

The Commission has recently launched the revision process of the TTBER,²⁰⁶³ since the current version will expire on April 30, 2014.²⁰⁶⁴ In the course of a consultation process the Commission invited stakeholders to answer a questionnaire with the aim of evaluating the current TTBER and its accompanying Technology Transfer Guidelines.²⁰⁶⁵ The purpose of this questionnaire is to gather stakeholder input on how the existing regulation and

²⁰⁶³ Press release concerning the review of the current regime for technology transfer agreements, *available at* http://ec.europa.eu/competition/consultations/2012_technology_transfer/press_release_en.pdf.

²⁰⁶⁴ Commission Regulation (EC) No 772/2004, *supra* note 17, art 11.

²⁰⁶⁵ Stakeholders' questionnaire, *available at* http://ec.europa.eu/competition/consultations/2012_technology_transfer/questionnaire_en.pdf.

guidelines have worked in practice and what improvements are possible.²⁰⁶⁶ It was asked, *inter alia*, whether the current regime has proven to be a well-functioning system. Moreover, stakeholders were invited to report any problems raised by its application or whether the lists of hardcore and excluded restrictions should be extended or whether certain practices should be removed from them.²⁰⁶⁷ The Commission will analyze the feedback and take it into account in the review process of a probable draft of a new version of the TTBER. However, since this public consultation process ended on February 3, 2012, and taking into consideration that the date of expiry of the current version is still more than two years away, it can be assumed that it will still take some time before the Commission publishes its draft proposal. It is hard to guess from today's perspective in which respect the Commission will amend its TTBER. The Commission launched the revision process because of the expiry of the TTBER in 2014. It is unlikely that it will change the current system significantly because it introduced a completely new approach already in 2004. From a formal standpoint, it will certainly change the references to other Commission notices and legislative material when these have since been renewed. An example is the new Guidelines on Vertical Restraints or the Block Exemption Regulation on Research and Development Agreements.

A field where we could still learn from the U.S. system is minimum resale price maintenance, which is likely to produce procompetitive benefits. Since 2007, these types of restraints are judged under the rule of reason in the U.S., whereas they are still seen as inherently anticompetitive in the EU. This does not fit, however, in the overall system that confines itself to taking economic considerations into account. The Commission thus could exclude this category from the hardcore list in a revised TTBER. But the odds are against

²⁰⁶⁶ *Id.*

²⁰⁶⁷ *Id.*

such a drastic innovation because the Commission actually reaffirmed minimum resale price maintenance as a hardcore restriction in the new Block Exemption Regulation on Vertical Agreements in 2010.

More room for improvement relates to the passages in the Technology Transfer Guidelines that do not currently state whether the Commission considers a practice either not to be caught by Article 101(1) or not to fulfill the conditions of Article 101(3) TFEU. Although this distinction may seem irrelevant for the outcome because in both cases there is no antitrust violation, the difference lies in the analysis necessary, which varies significantly. The evaluation is much easier when the Commission states that it considers a practice to escape the scope of Article 101(1) TFEU as opposed to a situation where Article 101(3) TFEU is fulfilled. In the latter case, the defendant must prove the fulfillment of all four conditions of exemption – a task that can be very challenging at times. This could be clarified in order to facilitate antitrust law application in the future.

Both systems of antitrust law endorse economic considerations in the evaluation of anticompetitive effects. One disadvantage of the current system relying on self-assessment is the costs associated with it. As this work has shown, market conditions and the parties' market positions play a crucial role in the antitrust assessment. However, often it will be difficult to assess these elements without the help of an economic expert.

From a continental European perspective, where lawyers are used to a legalistic approach in the application of law, it is often difficult to predict the outcome in potential antitrust scenarios. Legal certainty was sacrificed to achieve justice in individual cases, as the more economic approach reflects business realities and the effect of conduct on the market more accurately. The application of antitrust law to patent licenses is a task that has proven difficult at times because clear cut rules are not always available. It will take time to get

accustomed to this new economically-influenced approach to antitrust law; maybe lessons can be learned from the U.S., where this system has been functioning for well over 100 years. Finally, after a comprehensive transatlantic analysis, the conclusion can be drawn that antitrust assessment with regard to patent licenses is largely convergent in the EU and the U.S. Any differences can ultimately be traced to the different legal bodies at issue and the additional goal of EU antitrust law aiming at safeguarding an integrated internal market without national frontiers. It is thus questionable that the remaining differences can ever be bridged, but we will see whether even further steps will be taken towards convergence in the revised TTBER and accompanying Technology Transfer Guidelines that will enter into force in 2014.

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