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# PATENT POOLS IN THE LIGHT OF US AND EU COMPETITION LAW

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## **ABSTRACT**

*By setting patent pools, companies can use their patents to collaborate in creating new technology. This can save their funds for R&D, and they can benefit from such technology, which would be hard to develop on their own. In some cases, patent pools are created, because companies want to gain revenue from licensees. However, despite the many procompetitive effects of patent pools, there are many threats to competition. By entering into a patent pool, companies can block their competitors from entering the market or collude to their competitors' detriment. The regulation of patent pools is needed to allow only those pools that are procompetitive. The first part of this article focuses on outcomes of patent pools in the view of economists. Such findings can be the basis for the lawmaker to decide which patent pools should be restricted. The second part of the article analyses the regulations concerning patent pools of two legal systems – the EU and the US. The article analyses legal ways of regulating patent pools in the US starting with business review letters, guidelines and judgments. The article then analyses EU law, which regulates patent pools based on guidelines, exemptions from the prohibition of restrictive agreements and judgments of the EU courts. In the conclusion, the author focuses on the optimal solution for regulating patent pools considering the analysed legal systems. Keywords: patent pool, competition law, prohibition of restrictive agreements*

## **INTRODUCTION**

A patent pool consists of different patents which together form specified technology. Of importance, the patents included in patent pools belong to different companies, each of which agreed to share technology with other companies to form a pool. In practice, patent pools are often created by agreements among companies holding individual patents or by transferring patents to a separate entity that manages them. The treatment of patent pools under competition law is ambiguous. Patent pools often enhance efficiency.

Companies do not have to develop different kinds of technologies on their own if they decide to share their patents within a patent pool. Participants in a pool can rely upon the technology already developed by other members of the pool, which saves the participants time and expense. Simply, they can meet their needs by obtaining patents from patent pools. In such case, the technology is offered on the market, and anyone can get it. Patent pools can help to achieve such fundamental goals of competition law as lower prices and improved quality of products and services. At the same time, patent pools can also

harm competition, which can occur when on the market there is only one patent pool. Companies can be excluded from the market if they do not use technology included in the patent. Moreover, members of a patent pool may become reluctant to innovate, because such innovation may then require that the patents in the pool be changed. Many procompetitive and anticompetitive outcomes of patent pools cause difficulties in the regulation of patent pools under competition law, which should prohibit patent pools that harm competition. The appropriate regulation of patent pools is further complicated by the fact that many patent pools can cause both positive and negative outcomes for competition. The aim of this article is to analyse patent pools in terms of law and economics and to find the optimal regulation. Analysis conducted in this article will be based on two legal systems which deal with patent pools – the US and the EU.

## **PATENTS POOLS IN THE VIEW OF ECONOMISTS**

One of the main aims of patent pools is to eliminate the hold-up problem which occurs when production of a specified product is impossible without certain technology (S. Brenner, 2009). Moreover, in many cases, the hold-up problem arises when one of patent holder refuses to license the use of that holder's patent. Even if all licences are available, production costs can increase significantly, because multiple license fees must be paid (M. McKee M, Bjornstad D., 2010). Higher production costs in turn lead to higher prices of the products, which will negatively affect the public welfare. The next serious economic problem with patent pools is the patent thicket. This problem can arise when patent pools slow or limit the introduction of new technology. In many situations, new technology will use patents that are already in the patent pool. Consequently,

technology can be upgraded or technology that uses some elements of older technology included in the patent pool can be stopped (Shapiro C, 2000). On the other hand, it is possible to create new technology that is not based on older technology but which is simply not economically justified. It can be argued that, when the patent thicket problem occurs, companies are more inclined to innovate to avoid paying fees, especially when such fees significantly affects costs of production. Moreover, when only one patent pool supplies widespread technology, other companies may wish to develop competing technology to gain some of the market for such technology. In some situations, a patent pool can even be described as a bundle of technologies, and, when not all pooled technologies are used by companies, they are forced to buy all of them. Moreover, if even better similar technology is available on the market, which is a part of a patent pool, companies will not be interested in buying it, because they will already have it in the pool (Bekkers R., 2001). In that sense, a patent pool can block competitors in the same way as it can abuse its dominant position by tying or bundling. Among the most important features of patent pools is the nature of the patents pooled. Complementing patents are needed together to use pooled technology to produce a specified product. This means that every patent is a part of a given technology and that, without every patent, the technology will not work at all. The second type of pools consist of substitutes. Those types of patent pools are comprised not only of one technology but different kinds of technologies that can be used interchangeably to produce the specified product. Similar outcomes can occur when given technology from a patent pool is widely used in a given industry. The introduction of new technology that would be better in terms of costs and quality can be blocked because of high switching costs.

Many companies that paid fees for old technology would be unwilling to pay licence fees for newer technology and change their production lines. Most economists focus on the outcome of a patent pool after its formation. Based on the influence of the patent pool on the market, they evaluate the extent to which the pool is welfare enhancing. Versaavel and Dequiedt introduced an ex ante approach that focuses on the market before a patent pool is formed. These authors claim that companies tend to join patent pools, and, to do so, they invest in research and development (R&D) and are forced to expedite the introduction of new technology (Dequiedt V., Versaavel B., 2012). This is likely to happen when there are not many patent pools on the market. If several patent pools are already on the market that offer similar technologies, they will compete with each other and thereby reduce fees. In that event, new patent pools can fail because of little interest in obtaining new technology or pool members will not realize a return on their investment in R&D. According to Shapiro, patent pools that consist of patents that are perfect complements enhance welfare, while patent pools consisting of patents that are substitutes harm welfare (Shapiro C., 2001). Because of their nature, substitute patents compete with each other. Consequently, if they are in a pool, competition does not exist. Therefore, such patents should not be in a pool, because they will diminish the actual and potential competition of a given technology (World Intellectual Property Organization, 2014). Such theoretical findings that enable distinguishing the type of pool would be very helpful for competition law; in practice, patent pools rarely consist of perfect complements or substitute patents (Lerner J., Stojwas M., Tirole J, 2005). Moreover, patents that are perfect complements can change in the future into perfect substitutes (Lerner J., Tirole J., 2004). Gilbert and Shapiro

found that pools that consist of substitute patents can limit competition when their members agree to share new technology that was invented by one of its members. In such a situation, even if one company has spent its resources for R&D, all members of the pool will benefit from it (Gilbert R., C. Shapiro, 1997). This means that members of such pools have no incentive to innovate; they are even discouraged from doing so, because no member will recover its investments. One of the most harmful outcomes of patents pools for competition may be horizontal restraints by which members of the pool can block other companies from entering the market (Glick M., Reymann L, Hoffman R., 2002). The same outcome occurs when only closed patent pools are created. Such pools are closed for any participants other than the members that created it (Huang Z., 2004). Consequently, no other company with technology useful to the pool will be a member of it and no company will obtain a license. Very often such closed patent pools are created to block competitors from entering the market or to block similar technologies from becoming widespread. Patent pools have many procompetitive effects. One of the most common is the reduction of production costs incurred in buying technology from a pool. By obtaining such technology, a company can save funds on R&D and use technology that is already available on the market. In addition, companies obtaining technology from the pool can be certain that the technology is working well, because pool members and other companies are using it. In that sense, a patent pool can be just a source of profit for its members, although in several situations patent pools were set up by an entire industry to satisfy government orders (Bittlingmayer, G., 1988). Patent pools can also facilitate the creation of new technology especially when different companies have different technologies

which can be combined to form a new one. The integration of technologies into a patent pool also helps to save funds to develop that part of technology that is in the possession of another company. On the other hand, when technology from the pool is very popular in a given sector of the economy, because of its advance and license fees, companies are less reluctant to innovate to replace that pooled technology. In such a situation, pooled technology can even lead to standardization or maintaining old technology. Patent pools facilitate widespread technology that is offered on one specified fee instead of very common situations, in which companies had to pay several patent fees to have access to specified technology. Bekkers argues that patent pools ensure equal access to technology for all interested companies. Moreover, obtaining new technology should be non-discriminatory and equal (Bekkers R., 2001). As mentioned above, patent pools in many situations lead to efficiency, which is why they are needed. However, in certain circumstances, the creation of a patent pool is impossible. If a pool would consist of a several patents required to create a new technology, any potential pool member could block the formation of the pool by refusing to add his patent, which is essential for the technology (Dequiedt V., Versaavel B., 2012). Van Overwalle suggests that two problems can arise in such a situation. First, the companies willing to join the pool tend to hurry in elaborating new technology, which can result in overinvestment in R&D. Second, after joining, the pool companies will not be inclined for further investments to improve such technology, because they will expect a return on their investment in elaborating such technology (van Overwalle G., 2009). Lerner and Tirole argue that the impact of patent pools on the market depends upon whether pool members have the right to licence their patents independently outside of the pool. If they

do, patent pools do not harm competition, assuming also that their purpose is not collusion or market sharing (Lerner J., Tirole J., 2007). Such findings lead to the conclusion that allowing only pools that do not allow members to licence outside of the pool is the best way to achieve efficiency gains. Further, a pool that is free to license can offer its technology to another pool. If technology is complementary, this situation will lead to competition between pools and increase R&D. In some cases, a patent pool has one more positive effect for the companies that create it. Very often it is hard to determine if technology developed by one company uses parts of technology patented by another company. In such a situation, a patent pool can resolve problems with conflicts about abusing each other patents (Glick M., Reymann L, Hoffman R., 2002). Moreover, by establishing a patent pool, companies do not have to spend their time and resources in lengthy and costly court disputes. Finally, by creating or joining patent pools, companies can avoid compensation or a judicial prohibition against using certain technology if litigation is lost.

#### Us law concerning patent pools

The first US patent pool was established in 1856. The Sewing Machine Pool operated successfully until its last patent expired in 1877. This first patent pool operated on the market without regulation by competition law. Several years later, the Sherman Antitrust Act was enacted. Compared to other companies, the members of this pool were very incentivized to innovate during two periods: before the formation of the pool and after its expiration. After the pool was formed, however, its members were reluctant to innovate and sought fewer patents (Lampe R, Moser P., 2009). This historical information may not be useful in today's market condition because of many technologies operating on the market and

also because of different economic condition. But this patent pool shows the uncertain nature of the pool, which seems to have been pro innovative but in fact deterred innovation. After passage of the Sherman Act, US courts did not deal with patent pools, because, in their view, the exercise of rights from patents was not covered by competition law. In *Bement v. National Harrow Co.*, the US Supreme Court stated that licensing is in fact a form of a monopoly, but owners have the absolute right to decide whether they want to sell this right (Case *Bement v. Nat'l Harrow Co.*, 186 U.S. 70, 91, 1902). This form of monopoly enables patent owners to restrict their use or sale (Case *United States v. General Electric Co.*, 272 US 476, 47 Sup. Ct 192, 1926). However, the immunity granted by the Sherman Act did not last for long. In *Standard Sanitary Manufacturing Co. v. United States*, decided in 1912, the Supreme Court rejected the contention that patent licensing was out of the scope of the Sherman Act (15 U.S.C. § 2, 2000). Nearly twenty years passed before fundamental rules for the treatment of patents pools were adopted in the US by the Supreme Court *Standard Oil Co. v. United States*. The Court stated that the Sherman Act applies to all agreements that may restrict competition, including licensing agreements. The Supreme Court did not find a violation of the Sherman Act and held that the creation of a patent pool was justified. Moreover, the Court expressed that, in general, a patent pool will promote competition when patents are available for all manufacturers on reasonable terms and that the purpose of a legitimate patent pool is to exchange blocking patents (Vakerics T., 2006). In this case, the most important factor was the availability of a patent pool for other manufacturers. Consequently, the court stated that licence fees or licence conditions that prevent companies from obtaining patents from a pool are anticompetitive and violate the Sherman

Act. This approach is not focused on effects on the market that can arise due to the formation of the patent pool but on the real opportunity for competitors to obtain the pool's patents. The US Department of Justice (DOJ) and the Federal Trade Commission (FTC) in 1995 issued Antitrust Guidelines for the Licensing of Intellectual Property, which help to assess whether a patent pool violates competition law (Guidelines 1995). The Guidelines state that patent pools can have many procompetitive effects, such as: 1) integration of complementary technologies; 2) reduction of transaction costs; 3) clearing blocking positions; 4) avoidance of costly infringement litigation; and 5) promotion of the dissemination of technology. Moreover, in the Guidelines, the DOJ expressed that generally there is no difference in the treatment of open and closed patent pools, but the exclusion from a patent pool among its members that collectively possesses market power may, in connection with other factors, harm competition. The Guidelines use cases as examples. Cf. *Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.*, in which the Supreme Court stated that exclusion from a patent pool cannot be regarded unlawful per se (472 U.S. 284, 1985). The Guidelines explain that patent pools that exclude competitors from obtaining its patents can harm competition when such companies cannot effectively compete on the relevant market and when the pool members collectively possess market power in the relevant market. Of course, if one of these conditions is met, it does not mean that the patent pool is unlawful, but such limitations must be examined to determine whether they are essential for the development or use of pooled technology (Guidelines 1995). This means that the main concern of the Guidelines is whether the patent pool is blocking or may block competitors from entering the relevant market. In *Zenit Radio Corp. v. Hazeltine*

Research, the Supreme Court upheld such findings and stated that a patent pool that selectively refuses to license violates the Sherman Act (395 U.S. 100, 1969). In the Guidelines, the DOJ and FTC agreed with the views of economists that patent pools may limit innovation within its members when they are obliged to share their new technology development among other members at minimal costs. In such a situation, a pool member has no incentive to invest in new technology, because the member will not receive reimbursement of investments in R&D. Of course, when pooled technology is still developing, such sharing of licences can have procompetitive effects by exploiting economies of scale and integrating complementary technologies in the possession of the pool members (Guidelines 1995). As can be seen, the Guidelines are very synthetic; they focus only on a few anticompetitive effects of patent pools. Moreover, these guidelines are not binding, and their aim is just to give guidance to every company that deals with a patent pool. Such guidance does not remove judgement or discretion in any given case (Guidelines 1995). It can be argued that nowadays these Guidelines have no value for assessing patent pools, since they were issued twenty years ago and consequently do not include several important holdings by US courts. They may no longer be needed, because patent pools have many ambiguous effects which can be classified as procompetitive in one instance and anticompetitive in another. Such a dual nature means that the most important factor to be considered was developed in the *Standard Oil Co. v. United States* case of the real availability of the patent pool to other companies. Such findings were supplemented in the 1990s, when the DOJ cleared several patent pools by issuing business review letters. The first letter concerned a patent pool created by the MPEG LA group (the MPEG-2 pool), which aimed to pool patents and then

license them. The reasons why this pool was formed were crucial in the outcome of this case. The MPEG-2 standard is a video technology, but companies that were making different kinds of equipment compatible with this standard could infringe several patents belonging to other companies. As a result, companies interested in adopting this standard formed MPEG LA to administrate the pool consisting of twenty seven essential patents and to determine whether any other patents are essential to the MPEG-2 standard. The DOJ emphasized that this patent pool was managed by an independent body that ensured that the pool included only essential patents not alternative ones. Other similar cases involved a three-member DVD pool ("3C DVD"), a six-member DVD pool ("6C DVD") and the 3G "Patent Platform" Licensing Program. The DOJ found that the effects of these patent pools were procompetitive. It stated that all of them not only integrated complementary technologies but also helped to disseminate technology and clear blocking positions. Each of the pool also had a "secure mechanism" to prevent the occurrence of anticompetitive outcomes. Such a mechanism was mainly based on the independent administrator of the pool, who was responsible for maintaining only complementary patents in the pool. Moreover, such patent pools enabled their members to licence individually and were available to all interested companies. Such pools were clearly intended to create an industry standard. Such findings about patent pools were reconfirmed by the DOJ and TFC in 2007 in the next report (in many parts this report consists guidelines)- Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition (Report 2007) that dealt with competition concerns and patent pools. It can be even argued that this report introduced a specific test aimed to determine the legality of patent pools.

According to that test, to determine which patent pools are harmful to competition, several factors must be considered. First, the report indicates that generally pools that consist of substitute patents are anti-competitive, because they can even create a form of monopoly, which can fix prices. Different companies having substitute patents can collude to set up a patent pool and force other companies to buy licences at fixed prices. In that situation, patent pool competition between different technologies can be even eliminated. Pools consisting of complementary patents were recognized to have mainly pro-competitive outcomes, e.g. increased efficiencies can lead to lower prices. Of course, classifying patents as substitutes or complementary is always difficult. In practice, a patent can be classified as a partly substitute and partly complementary (Report 2007). If every patent in a pool has such a double nature, such a classification will be useless. The Guidelines mention a second classification, which divides patents as essential and nonessential. Taking into account such a classification, only patents that are essential to a given technology should be kept in pools. If the pool consists of nonessential patents, companies may want to force others to buy technology which they do not need. Such a practice can be compared to tying or bundling in that patent pools companies can sell two or more different technologies claiming that the pool consists of only one. In *Philips Corp. v. International Trade Commission*, Philips owned technology used for the production of recordable and rewriteable compact discs. All of its patents connected with CDs were put in the pool and were offered only as a bundle. Some of the licensors stopped paying the license fees arguing that they were forced to pay for a bundle of patents that included non-essential patents. They claimed that, in fact, the patent pool was created only to tie several patents and thus force companies to

buy them. Philips sued the companies that stopped paying its fees. The International Trade Commission found that four out of the six patents in the pool were non-essential and illegally tied to the essential patents (*Princo Corp. v. ITC*, 616 F.3d 1318, Fed. Cir. 2010). On appeal, the Federal Circuit Court did not agree with the Commission. The Court stated that such a packaged license was not per se illegal. The Court found that there was no demand for non-essential patents and thus there was no tie in an economic sense. Moreover, the Court found many procompetitive outcomes of such a package and stated that, in such cases, the rule of reason should be applied. These findings are very controversial. First, the Court's findings were based on the assumption that, when there is no competition for non-essential patents, tying will not harm competition. But, a company that ties patents can monopolise different markets. An example is the *Microsoft v. European Commission* case, in which the Commission stated that tying would prevent any competitors from entering the market in which only the company that ties products operates (Case T-201/04 *Microsoft Corp. v. Commission* (2007) ECR II-3601). Second, the guidelines favour nonexclusive licensing, because, when pool members are free to license outside of the pool, it promotes innovation. Moreover, the same patent can be used in many different pools consisting alternative technologies or even other technologies. In such a situation, pool members are also keen to invest in their patent and improve it to join more than one pool, which will bring more profits to the patent owner. In addition, nonexclusive licensing can be blocked indirectly by fixing royalties that can be obtained outside of the pool. In *Matsushita Electrical Industrial Co. v. Cinram International Inc.*, the U.S. District Court for the District of Delaware held that the patent pool did not violate the Sherman Act even through the



individual licensing led to excessive royalties (299 F. Supp. 2d 370, D. Del. 2004). The Court emphasized that the analysis should be based on the rule of reason. The Court found that individual licences were realistic alternatives to the costs of pooled patents. These findings were based on the market prices and on the historical data concerning negotiations of the pool members. In the Summit VISX case, FTC found that the patent pool, in which members have veto power over the decision whether to license pooled patents and to set a fee for every usage of its technology, violates the Sherman Act (In re Summit Tech., Inc. & VISX, Inc., No. 9286, FTC Mar. 24, 1998). This case shows that, if nonexclusive licensing is not available, it can lead to collusion among the pool members. In *United States v. Krasnov*, the District Court held that competition law will be violated by the creation of a patent pool by companies that jointly hold monopoly power and agree not to license their patents without mutual consent (Pearlstein D., Robert E. Bloch, Ronan P. Harty, Paul B. Hewitt, Harvey I. Saferstein, James I. Serota, Willard K, 2002). Third, any grantbacks - improvements in licensed technology - should not be nonexclusive or broadly written (Report 2007). As an economist already observed, when a company is obliged to share its improvements in technology among other members of the pool, the other members will free-ride on such improvements. This will lead to the situation in which no improvements will be made in the pool, because investments in improvements by one member will not be returned by others. Fourth, the Guidelines noticed that pool members can be competitors in a downstream market, which means that sharing among them such information as level of prices and quantity of production can lead to collusion. To avoid this outcome, pool members should not share sensitive information about

downstream markets which could lead to coordination. Moreover, good example of a preventative mechanism was made in the MPEG-2 case, in which pool members chose an independent pool administrator that gathered only information necessary for the operation of the pool. Next to be considered are royalty rates. The Guidelines indicate that royalties alone that are small and a significant portion of the downstream price do not raise concerns (Report 2007). Consequently, that level of royalties can be one of the factors to be considered when determining if a patent pool has anticompetitive outcomes. Some members of the pool can block their competitors from entering the market by setting high levels of royalties that will make a product price uncompetitive. Moreover, the Guidelines state that charging different levels of royalty payments depending on whether a company is a pool member is not per se anticompetitive (Report 2007). Royalties paid by pool members can be lower, because every member had to invest in technology that is now part of the pool. Other companies can be charged higher royalties, because the profit provides a return on investment for the pool members. However, there is a very flexible border between charging high royalties and blocking competitors from obtaining licences. The last factor that must be considered is whether a pool can offer partial licences. This can be done in two ways. A pool can offer such partial licences, or pool members can license their technology independently. If one of those two possibilities arises, a patent pool will not harm competition by allowing partial licences. On the other hand, allowing a partial licence can raise the costs of acquiring technology. The main purpose of a patent pool is to gather different parts of technology to create a new one. Pooled technology should be cheaper to obtain than obtaining different patents from many

companies. But in some cases, companies need only part of pooled technology, which will be used in their new technology. Both Guidelines from 1995 and 2007 create tests for competition that authorities will apply when examining a specific patent pool. But these tests are not the only factors that must be considered. As stated above, a few factors were developed by the FTC in guidance letters from the mid-nineties. In many cases, US courts have identified situations in which patent pools do not violate the Sherman Act. This means that judicial decisions must also be considered.

#### Eu law on patent pools

EU law does not mention patent pools directly. As stated above, patent pools are agreements between companies which agree to offer their patents to create new technology jointly. Because patent pools are agreements, they are subject to Article 101 TFEU, which prohibits agreements that restrict competition. This means that those patent pools which have anticompetitive outcomes violate EU law. On the other hand, the prohibition from Article 101 TFEU is not absolute. Consequently, even if a patent pool has anticompetitive outcomes, it can be exempted from the prohibition if it also achieves procompetitive outcomes. In such a case, a balancing of pool outcomes is performed, and, only when procompetitive outcomes outweigh anticompetitive outcomes will the exemption apply. Such a balancing can be made for every single patent pool, but Article 101 of the Treaty of the Functioning of the European Union (TFEU) provides for the opportunity to issue block exemption regulations, in which certain groups are considered to cause sufficiently compelling procompetitive outcomes and are therefore exempted from the prohibition against restrictive agreements. Regulation no. 316/2014 on the application of Article 101(3) of the Treaty on the Functioning of

the European Union applicable to categories of technology transfer agreements (OJ 2014 L93/17) grants an exemption from the prohibition against restrictive agreements among others for patent pools. The benefit of the block exemption from such regulations depends on the fulfillment by the vertical arrangement of two conditions. First, a patent pool can be covered by a block exemption, if the combined market share of its competing members does not exceed 20% on the relevant market. If members of a patent pool are not competitors, the block exemption applies, if the market share of each of the parties does not exceed 30% of the relevant market. The second condition means that this form of safe harbor must be excluded from those vertical agreements that contain hardcore restrictions called black clauses. Regulation 316/2014 contains a closed list of such restrictions. If the patent pool agreement has such a black clause, it cannot be covered by the block exemption. The European Commission found that such black clauses lead patent pools to have serious anticompetitive effects. In this such way, the lawmaker categorized those patent pools that contain black clauses, thereby formalizing economic effects of patent pools and recognizing that in general they are anticompetitive. Moreover, Regulation 316/2014 introduced a second list of clauses called gray clauses. This type of restriction will not remove the benefit of the group exemption from the whole agreement creating the patent pool but only the part that contains such a gray clause. In such a situation, the Commission adopted a solution similar to the black clauses solution, but it recognized that anticompetitive effects are not very serious. This is why only part of a patent pool agreement containing a gray clause cannot benefit from the block exemption. Regulation no. 316/2014 was issued with guidelines which aim to help interpret the

regulation. The guidelines indicate that patent pools can be pro-competitive by, for example, reducing transaction costs and avoiding double marginalisation. No doubt guidelines constitute a valuable source of interpretation for the courts and national authorities. This source is all the more valuable, because, in many places, guidelines are supported by decisions of the European Commission or EU law courts. The Court of Justice in the *Hauptzollamt* case stated that the informal interpretation of the regulation by the European Commission through the issuance of an informal document is not the same as an authentic interpretation. Such documents are not legally binding, and, therefore, the interpretation contained in them does not guarantee their application to each of the Member States (Case 74–69, *Hauptzollamt Bremen–Freihafen v Commission* [1970] ECR 451). The Court made the same holding in *France v. Commission*, which overturned the rules of procedure adopted by the European Commission. The Court stated that the European Commission is not entitled to impose new commitments on Member States by the rules of conduct (Case C–303/90, *France v Commission* [1991] ECR 5315). The Guidelines as main anti-competitive outcomes recognized collusion leading to fixing prices and supporting or setting an industry standard. Such outcomes will not always determine if a patent pool is violating the prohibition against restrictive agreements. In the *IGR Stereo Television* case, five different patent pools created five different industry standards, each of which could be used to produce the same product (European Commission 1982). The main problem was the refusal to license pooled technologies for companies that were not members of the pool. The Commission found that such refusal prevented competitors from entering the market and violated the competition law. Later in *X/Open Group*, the European Commission

granted an exemption from the prohibition of restrictive agreements to a patent pool that was open only to some companies, but its members assured that, as soon as technology was developed, the pool would be open for all interested companies (Smith G., 2007). The guidelines provide factors that are considered when the European Commission assesses patent pools. The first factor is the transparency of the pool creation process. The guidelines indicate that, when the pool is open, patents are chosen on the basis of quality and price. When a patent pool is created by one company that invites others to take part in the pool, the invitation is made with the intention to block competitors from obtaining technology. Second, the Commission will consider the nature of pooled technologies to determine whether they are complementary or substitute technologies. Like the US DOJ, the European Commission favours pools that consist of complementary technologies, which indicates that they have many pro-competitive outcomes. In general, complementary technologies that create a patent pool will reduce transaction costs. With substitute patents, the Commission has found that royalties may be higher, because there is no competition between technologies. Moreover, patent pools consisting only of substitute technologies reduce competition between such technologies and can lead to collusion in the form of bundling or price fixing. In general, the Commission has found that, if significant substitute technologies are kept in a pool, it will violate the prohibition against restrictive agreements, and it is unlikely that this type of pool will be exempted from this prohibition, because no cost savings will arise. An assessment of whether technology is essential for a given patent pool should be made all the time, because over time essential technology can be replaced by other technology and thus become

nonessential (F. Fine, 2005). The next factor that will be considered is whether independent experts are involved in the creation and operation of the patent pool. Such experts can assure that the pool will choose only complementary and essential technologies. The Commission will not consider only whether the pool is managed by experts, but also how they were appointed and if they are independent from the pool members. Finally, the Commission will focus on whether pool members exchange sensitive information between them and if the pool created safeguards which ensure that such information is not exchanged. Again, the Commission has found that the management of the pool by independent experts is the best safeguard, because they should collect only the information necessary to calculate and verify royalties. Based on the above mentioned factors, the Commission will run a test to verify several criteria. If all of those criteria are met, the patent pool will not violate the prohibition against restrictive agreements. Guidelines indicate that violations will not occur when: a) participation in the pool is open to all interested companies; b) pool members created safeguards that ensure the inclusion of only essential technologies; c) there are safeguards that prevent the exchange of sensitive information among pool members; d) pool members are free to licence outside of the pool; e) pool licenses are available for all interested licensors on FRAND conditions (fair, reasonable, and non-discriminatory licensing obligations); f) members and licensors can check the validity and the essentiality of the technology; and g) members of the pool and licensors are not limited in developing competing products or technology. The second test mentioned in the guidelines is provided for patent pools that consist of nonessential but complementary technologies. In such a case, the Commission will examine: a) whether there

are procompetitive reasons for including nonessential patents in the pool; b) whether licensors are free to license outside the pool; c) whether pooled technologies are tied; and d) whether partial licenses are available. Such a test can indicate to the Commission whether the nature and operation of the pool is procompetitive or anticompetitive. Of course, even if such a test is failed by a specific pool, this does not mean automatically that it violates the EU competition law. Like every agreement, a patent pool can benefit from the individual exemption from the prohibition of restrictive agreements. In that event, the procompetitive and anticompetitive outcomes should be balanced so that the pool will produce mostly procompetitive outcomes. The European Commission in the Guidelines did not focus only on relations between pool members and the nature of the pooled technologies. It also focuses on conditions under which technology is transferred to licensees. Again, the European Commission will examine such conditions in cases when the pool will have strong market power, examine whether the pool limits other alternative technologies, and whether the licensee agreement contains hard core restrictions – black clauses listed in Article 4 of the Regulation no. 316/2014.

## Conclusions

Through patent pools, companies can develop new technology faster and cheaper than by acting alone. Consequently, one of the most important features of a patent pool is increased efficiency, which results from the introduction of new technology. In many situations, a patent pool is the only way to gain a necessary piece of technology without which the introduction of a new product or service will be impossible. But patent pools can also have a negative effect on the market. Under the pretext of creating a patent pool, companies can block their

competitors from entering the market or collude unfairly to enhance their own positions. This double nature of patent pools means that lawmakers should allow only those that are procompetitive as demonstrated by economic research on the outcomes of the patent pools. But economic theories on patent pools can be hard to implement in practice. As mentioned above, economists argue that only pools consisting of complementary patents lead to gains in efficiency. Such a finding may be very hard to determine in real life, because the nature of pooled patents can change over time. The regulation of patent pools in the US and the EU share some similarities, but they differ significantly. In those two legal systems, guidelines issued by the government play a crucial role in assessing whether a patent pool is violating competition law. Of course, such guidelines are a very helpful tool, because they show in detail how the assessment of outcomes will be made. On the other hand, such guidelines are not binding on companies or courts, which will finally assess a patent pool. In certain situations, such guidelines can even be misleading for companies. In the US, one of the most important factors considered is whether a patent pool is really available to competitors. Such a finding can demonstrate whether a patent pool is preventing competitors from entering the market. Such a finding is crucial and unequivocal in evaluating patent pools. By making such an assessment, there is no need to determine if the pool consists of substitute or complementary patents or if they are essential or non-essential patents. One of the most important features of this test is its simplicity. Assessing market conditions can determine whether a pool was formed to block competition. The EU law treats patent pools like many other agreements that can restrict competition. Every patent pool can benefit from an individual or group exemption from the prohibition of

restrictive agreements. In the first situation, all outcomes of patent pools are measured. If a given patent pool produces prevailing procompetitive effects, it will be allowed; if the effects are mostly anticompetitive, it will not benefit from the exemption. This test seems to be easy, but the calculation of procompetitive and anticompetitive effects is not an easy task, especially when such outcomes cannot be expressed in monetary terms. Perhaps because individual exemption conditions can be difficult to assess, European lawmakers introduced block exemptions from the prohibition of restrictive agreements. Such exemptions are easily to apply, because there is no need to consider different economic outcomes of patent pools. Simply those patent pool agreements whose members have market shares not exceeding limits set in a block exemption and that do not impose one of the hard core restrictions are recognized to be procompetitive. No real assessment is needed. Is there an optimal solution for the regulation of patent pools that can be adopted taking into account the analysed legal systems? This question is not easy to answer. The US and the EU legal systems differ significantly. But there are elements that can be used in all legal systems. First, the competition authority can issue business review letters to clear patent pools. Such a solution gives legal certainty so that companies need not fear that sometime after the formation of the pool, the competition authority will find a violation of the competition law. The second is the block exemption, which is also an easy tool for companies to use. Assessing whether their market share does not exceed limits set by the lawmaker without considering real market conditions can be performed by every company. On the other hand, the complexity of effects of a patent pool indicates that the most certain way to assess whether the patent pool violates

competition law is to test their real availability for competitors.

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