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NONDISCRIMINATION IN STANDARD ESSENTIAL PATENTS; ND PRONG V. ART. 102(C) TFEU

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ABSTRACT

The article analyses the meaning of the nondiscriminatory principle in disputes concerning Standard Essential Patents (SEPs) under EU competition and contract law (that is, ND prong). The article reviews the economics literature, looking at the welfare effect of price discrimination and the interpretation of the ND prong provided by a number of economists. Secondly, the article analyses the case law of the EU Court of Justice on Art. 102(c) TFEU and recent rulings by the German and British courts concerning the scope of the application of the ND prong. A strategy of discrimination in regard to royalty rates may be sanctioned, both under competition and contract law. However, Art. 102(c) requires a higher burden of proof than contract law. As a consequence, it is unsurprising that no case of royalty rate discrimination has ever been sanctioned in Europe as an abuse of dominance. While courts and economists generally agree that the ND prong is applicable only when licensees are "similarly situated," to date, there is no common understanding of the meaning of this expression. In particular, it is unclear whether, and to what extent, licensees are "similarly situated" if they are not competitors in the downstream market.

I. INTRODUCTION

I.A. Standardization and Standard Essential Patents

Standards are acquiring a growing relevance in the context of the digital economy. Standards, in fact, ensure communication compatibility (that is, the so-called interoperability) between electronic devices that are produced by different manufacturers.[1] Mobile phones, computers, smart watches, and thousands of different types of electronic devices communicate with each other

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[1] P. Larouche, G. Van Overwalle (2015), "Interoperability Standards, Patents and Competition Policy" In Panagiotis Delimatsis (ed.), *The Law, Economics and Politics of International Standardisation* (Cambridge University Press, Cambridge). 367–393.

thanks to the existence of common industry standards.[2] Interoperability fosters innovation, allows manufacturers to develop new products, and, therefore, increases the consumers' welfare.[3]

The standardization process may follow three different paths:[4] firstly, as a result of market dynamics, a technical specification may be implemented by the majority of industry players, thus becoming a de facto standard in the industry. Alternatively, public authorities at the national or international level may pick up a technical specification, which therefore becomes a "legal" standard in the industry.[5] Finally, a technical specification may also be developed within a Standard Development Organization (SDO)—that is, a private organization that includes the relevant industry stakeholders.[6] In contrast to de facto and legal standardization, SDOs plan the standardization process ahead of time, before new products that implement the standard reach the retail market. In particular, SDOs "shape" a new standard by selecting the "best" technical specifications from among those solutions that are developed by its members.[7] The broad membership of an SDA, which usually includes both patent holders and implementers, ensures that the standard developed by the SDO will indeed prevail in the industry.[8]

In high-tech industries, patent rights safeguard the inventors' incentives to invest in R&D and thus to further innovate. As noted by Padilla, Ginsburg, and Wong-Ervin, the patent holder can either decide to implement the invention by itself (that is, by manufacturing retail products that implement the invention) or by transferring to third parties the right to use the patent through a licensing

[2] B. Lundqvist (2017), "Standardization for the Digital Economy: The Issue of Interoperability and Access under Competition Law." 62(4) *Antitrust Bulletin:* 710–725. At 712.

[3] H. Tsilikas (2017), "Collaborative Standardization and Disruptive Innovation: The Case of Wireless Telecommunication Standards." 48(2) *International Review of Intellectual Property and Competition Law:* 151–178.

[4] W. Weber (2011), "Competition Law versus FRAND Terms in IT Markets" 34(1) *World Competition*: 51–71. At 52.

[5] *Ibid.*

[6] A number of authors have defined these organizations as Standard Setting Organizations (SSOs). However, the majority of the literature uses the expression "Standard Development Organizations (SDOs)," rather than SSOs. Within these organizations, in fact, industry players jointly "develop," rather than "select," the technical specifications that are relevant to a new standard. The present article relies on the expression SDOs, in accordance with the view expressed by the majority of the authors.

[7] For a detailed comparison of the governance and decision-making dynamics of different SDOs, see J. Baron, J. Contreras, M. Husovec, P. Larouche (2019), *The Governance of Standard Development Organizations and their Policies on Intellectual Property Rights*. Study carried out on behalf of the Joint Research Centre (JRC) of the European Commission. The text of the study is available at: https://ec.europa.eu/jrc/en/publication/making-rules-governance-standard-development-organizations-and-their-policies-intellectual-property (15.06.2021).

[8] D. Geradin (2013), "The European Commission Policy Towards the Licensing of Standard-Essential Patents: Where Do We Stand?" 9(4) *Journal of Competition Law and Economics:* 1125–1145. At 1127.

agreement.[9] In the context of an SDO, however, the patent holder's exclusive right of exploitation should be balanced against other considerations. The patents that fall within the scope of the standard developed by the SDO are "essential": any firm that intends to rely on the SDO standard should first conclude a license agreement with the holders of the Standard Essential Patents (SEPs) that are relevant to the use of the industry standard. In order to mitigate the strong bargaining power of the SEP holder in the context of license negotiations, the majority of SDOs encourage their members to "disclose" the existence of any SEP during the development process of the standard, as well as to license the SEP to any third party on the basis of "Fair, Reasonable and Non-Discriminatory" (FRAND) terms.[10] Obviously, a patent holder can reject such a commitment. In such a case, however, the SDO will likely modify the standard, to avoid the inclusion of patents that will not be licensed at FRAND terms.

The SDO merely encourages the SEP holder to license its patents on the basis of FRAND terms, but it does not have any active role in the bilateral negotiations between the licensor and the licensees.[11] Consequently, in spite of the FRAND commitment, the SEP holder could rely on its strong bargaining power to ask for "excessive" royalties from its licensees (that is, "patent holdup").[12] According to the theory of patent holdup, the implementers are often unaware of the patents that fall within the standard developed within an SDO. The patent holder often claims its rights after the implementers have already made substantial investments to implement the standard. To avoid the risk of a court injunction, which would stop the distribution of their products, the implementers are de facto "forced" to conclude a license agreement with the SEP holder. From an opposite perspective, the implementers might refuse to negotiate in good faith a license agreement with the patent holder, obliging the latter to enforce its rights through lengthy and costly court proceedings. Meanwhile, the implementers can rely on the innovation in their products without holding a valid license (that is "patent holdout").[13] Through patent holdout, the implementers put pressure on the SEP holder to lower the

[9] J. Padilla, D. Ginsburg, K. Wong-Ervin (2019), "Antitrust Analaysis Involving Intellectual Property and Standards: Implications from Economics", 33(1) *Harvard Journal of Law and Technology:* 1–64. At 3.

[10] U. Petrovcic (2013), "Patent Hold-Up and the Limits of Competition Law" 50 *Common Market Law Review:* 1363–1386.

[11] *Ibid.*

[12] C. Pentheroudakis, J. Baron (2017), "Licensing Terms of Standard Essential Patents. A Comprehensive Overview". Study carried out on behalf of the Joint Research Centre (JRC) of the European Commission. p. 24. The document is available at: https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/licensing-terms-standard-essential-patents-comprehensive-analysis-cases (15.06.2021).

[13] R. Epstein, N. Kayvan B. (2018), "Why Incentives for Patent Hold-Out Threaten to Dismantle FRAND and why it Matters," 32 *Berkeley Technology Law Journal*: 1381.

requested royalty rate, by thus harming the SEP holder's incentive to further invest in innovation.[14]

I.B. The Objectives of the Article and Contribution to the Existing Literature

During the past decade, the interpretation of the FRAND commitment has been at the center of intense academic debate. On the one hand, a number of authors have claimed that patent hold-up is a serious problem that requires antitrust intervention.[15] According to Shapiro and Lemley, patent hold-up is a problem in high-tech industries, where products have to be compatible with the agreed industry standard in order to ensure interoperability, and where each standard is covered by hundreds of patents.[16] According to Shapiro and Lemley, the uncertainty caused by patent holdup discourages the implementers to invest in innovative products in the downstream market.[17] Other authors, by contrast, have challenged the theory of patent holdup, arguing that there is no empirical evidence to support such a theory.[18] According to this second stream of the literature, the FRAND commitment would be sufficient to deal with the "unlikely" issue of patent holdup.[19]

The academic debate has focused on what a "reasonable" royalty might be in the context of the FRAND commitment,[20] and the possible negative effects of patent holdup and holdout on innovation incentives. On the other hand, as recognized by Contreras and Layne-Farrar, "far less attention" has been dedicated to the meaning of the nondiscrimination obligation under the

[14] G. Langus, V. Lipatov, D. Neven (2013), "Standard Essential Patents: How is Really Holding Up? (and When?)" 9(2) *Journal of Competition Law and Economics:* 253–284.

[15] See, for instance:—D. Melamed, Carl Shapiro (2018), "How Antitrust Can Make FRAND Commitments More Effective" 127(7) *The Yale Law Journal:* 2210–2141.—P. Chapatte (2009), "FRAND Commitments—The Case For Antitrust Intervention" 5(2) *European Competition Journal:* 319–346.

[16] C. Shapiro, M. Lemley (2020), "The Role of Antitrust in Preventing Patent Hold-up" 168 *University of Pennsylvania Law Review:* 1–43.

[17] *Ibid.*

[18] S. Kieff, A. Layne-Farrar (2013), "Incentive Effects from Different Approaches to Holdup Mitigation Surrounding Patent Remedies and Standard-Setting Organizations" 9(4) *Journal of Competition Law and Economics:* 1091–1123.

[19] See, for instance:—J. Rills, J. Kress, D. Kallay, H. M. Hollman (2015), "Antitrust and FRAND Bargaining: Rejecting the Invitation for Antitrust Overreach into Royalty Disputes." 30(1) *Antitrust:* 72–79.—K. Gupta (2013), "The Patent Policy Debate in the High-Tech World" 9(4) *Journal of Competition Law and Economics:* 827–858.—D. Geradin, M. Rato (2010), "Frand Commitments and EC Competition Law: A Reply to Philippe Chappatte" 6(1) *European Competition Journal:* 129–174.

[20] For a discussion of the different philosophical approaches to the concept of "reasonable," see G. Sidak (2019), "Fair and Unfair Discrimination in Royalties for Standard-Essential Patents Encumbered by a FRAND or RAND Commitment" 4 *The Criterion Journal on Innovation:* 701–732.

FRAND commitment (that is, the so-called ND prong).[21] This article aims to fill this gap in the literature, by analyzing the meaning of the nondiscrimination principle in SEPs-related disputes, by comparing its assessment under both the ND prong and EU competition law.

Under Art. 102(c) of the Treaty on the Functioning of the European Union (TFEU), an undertaking abuses its dominant position "when applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage."[22] When the SEP holder demands different royalty rates from its potential licensees for the same patent, it implements a strategy of price discrimination; a strategy that could, in principle, fall within the scope of the application of Art. 102 (c) TFEU, as well as representing a breach of the FRAND commitment by the patent holder.

Brooks and Geradin have argued that FRAND is a "contractual" commitment between the SDO and the SEP holders; commitment that benefits a third party (that is, the potential licensees).[23] This view is shared by the majority of the authors. In the *FTC v. Qualcomm*, the US Court of Appeals for the Ninth Circuit "…expressed caution about using the antitrust law to remedy what are essentially contractual disputes between private parties engaged in the pursuit of technological innovation."[24] In Europe, national courts have taken a different stance: as Justice Birss recognized in *Unwired Planet,* EU competition and contract law can be applied "in parallel" in assessing the legality of the royalty rate requested by SEP holder, rather than being mutually exclusive.[25] In particular, EU competition law is applicable only if the SEP holder has market power and the alleged discriminatory behavior can "foreclose" competition in the market, as such conditions do not exist under the FRAND commitment. [26]

[21] J. Contreras, A. Layne-Farrar (2017), "Non-Discrimination and FRAND Commitments." In Jorge Contreras (ed.), *The Cambridge Handbook of Technical Standardization Law* (Cambridge University Press, Cambridge). Chapter 12: 186–208. At 208.

[22] Consolidated version of the Treaty on the Functioning of the European Union. OJ C-326/47, 26.10.2012.

[23] "…a FRAND commitment is the result of a voluntary contract between essential patent holders and a standards-setting organization, with the important corollary that the meaning of that commitment must be determined through the legal methods of contractual interpretation." R. Brooks, D. Geradin (2011), "Interpreting and Enforcing Voluntary FRAND Commitments" 9(1) *International Journal of IT Standards and Standardization Research:* 1–23. At 2.

[24] US Court of Appeal for the Ninth Circuit, *FTC v. Qualcomm,* No. 19–16122, D.C. No. 5:17-cv-00220-LHK. P. 39.

[25] In the judgment, Justice Birss ruled that a FRAND undertaking "…gives implementers legal rights and obligations…" that are "…enforceable in court irrespective of competition law". High Court of England and Wales, *Unwired Planet v. Huawei,* 5 April 2017. [2017] EWHC 711 (Pat). Para. 723.

[26] H. Hovenkamp (2019), "FRAND and Antitrust". University of Pennsylvania, Working Article of the Institute for Law and Economics Research No 19–31. The working article is available at: https://scholarship.law.upenn.edu/faculty_scholarship/2093/ (15.06.2021).

The Court of Justice of the European Union (CJEU) has never clarified the meaning of the nondiscrimination obligation in disputes concerning SEPs, either from a contractual or from a competition law perspective. In particular, in its seminal ruling in *Huawei v. ZTE,* the EU Court of Justice listed a number of steps that the SEP holder and the potential licensees should follow during the license negotiations. If the SEP holder asked for a court injunction without previously complying with such negotiation steps, it would likely abuse its dominant position.[27] Nevertheless, in *Huawei v. ZTE,* the CJEU did not clarify the meaning of the FRAND commitment.

During recent years, a number of German and British courts have analyzed the meaning of the nondiscrimination obligation in a number of judgments concerning SEP-related disputes. In particular, the meaning of the ND prong was extensively discussed by the High Court of England and Wales in *Unwired Planet*.[28] After having been upheld on appeal,[29] the ruling of the UK Supreme Court in August 2020 concluded this long legal saga.[30] Similarly, in its 2020 ruling in *Sisvel v. Haier*, the *Bundesgerichtshof* (that is, BGH, German Federal Court of Justice) further clarified the scope of the ND prong.[31]

The article aims at comparing the standard of assessment of the nondiscrimination obligation under the ND prong and Art. 102(c) TFEU. The topic of this article is relevant in view of the increasing court litigation in Europe related to SEPs,[32] and in light of the limited academic literature on the principle of nondiscrimination. Finally, the paper is timely, in view of the recent ruling of the UK Supreme Court in *Unwired Planet* and of the *Bundesgerichtshof* in *Sisvel v. Haier.*

The article will first review the economics literature, looking at the welfare effect of price discrimination (Section II.A) and discussing the interpretations of the ND prong that are provided by a number of economists (Section II.B). Secondly, the article analyses the CJEU case law on Art. 102(c) TFEU (section III.A) and the *post-Huawei* judgments ruled by German and British courts concerning the scope of the application of the ND prong (Section III.B).

A number of American authors refer to "Reasonable and Non-Discriminatory" (RAND), rather than to FRAND commitment. However, as noted by Justice Birss in *Unwired Planet,* "…there is no material difference between

[27] Case C-170/13, *Huawei Technologies Co. Ltd v ZTE Corp. and ZTE Deutschland GmbH* (2015) ECLI:EU:C:2015:477.

[28] *Supra,* [2017] EWHC 711.

[29] Court of Appeal of England and Wales, *Unwired Planet v. Huawei,* 23 October 2018. Case No. A3/2017/1784, [2018] EWCA Civ 2344.

[30] UK Supreme Court, *Unwired Planet International Ltd and another (Respondents) v. Huawei Technologies (UK) Co Ltd and another (Appellants)*, 26 August 2020. [2020] UKSC 37.

[31] *Bundesgerichtshof*, *Sisvel v. Haier*, ruled on 5.5.2020, ECLI: DE: BGH: 2020: 050520UKZR36.17.0.

[32] For a discussion concerning statistical trends in court litigation concerning SEPs in Europe, see J. Contreras, F. Gaessler, C. Helmer, B. Love (2018), "Litigation on Standard-Essential Patents in Europe: a Comparative Analysis". 32 *Berkeley Technology Law Journal*: 1457.

the two (expressions).”[33] In the context of the present article, we refer to “FRAND” rather than “RAND,” due to the “European” focus of the article.

I.C. The Scope of the Article—A Couple of Disclaimers

This article compares the violation of the nondiscrimination commitment by the SEP holder as a possible breach of the ND prong and as an abuse of dominance under Art. 102 (c) TFEU. On the other hand, the article does not discuss the dominant position of the SEP holder. A number of scholars have extensively debated whether holding a standard essential patent generates a presumption of dominance. In particular, while some authors have argued that the standardization process creates a monopoly right for the SEP holder, which can exercise its market power in the bilateral negotiations with potential licensees,[34] other scholars have pointed out that an SEP does not automatically generate market dominance. By counting how often SEPs are cited in follow-up patent applications, Layne-Farrar and Padilla have concluded that SEPs do not automatically generate market power.[35] According to Layne-Farrar and Padilla, only a limited number of SEPs receive a higher number of citations in follow-up patent applications in comparison to other “nonessential” patents.[36] This is mainly due to the phenomenon of “overdeclaration,” whereby SDOs’ members tend to claim “too often” that one of their patents is “essential” for the standard. Secondly, Layne-Farrar and Padilla point out that standardization is a rather long and complex process, in which different technical specifications are assessed by different SDO working groups. As a consequence of this lengthy process, and in view of the disclosure obligation, patent holders often declare a patent to be “essential,” although the patent refers to a technical specification that will not be included at a later stage by the SDO within the standard.[37] As mentioned above, the issue of SEP market power will not be discussed in the present article: in the following pages, we assume that the SEP holder does indeed have market power, and thus its behavior may trigger the enforcement of Art. 102 TFEU. However, in

[33] *Supra,* [2017] EWHC 711. Para. 89.

[34] For instance, Swanson and Baumol argue that “ . . . while there is no presumption that control of IP rights automatically or necessarily bestows market power or monopoly power on their owners, adopting standards that depend on private IP rights carries the risk of creating a degree of market power that distorts competition and generates return in excess of those contemplated by the IP laws.” D. Swanson, W. Baumol (2005), “Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection and Control of Market Power” 73(1) *Antitrust Law Journal:* 1–58. At 3.

[35] The authors analysed a database of 2674 patents registered in the USA. They checked every patent application in order to identify citations relating to Standard Essential Patents.A. Layne-Farrar, J. Padilla (2011), “Assessing the Link between Standard Setting and Market Power” 9(2) *International Journal of IT Standards and Standardization Research:* 1–40.

[36] *Ibid,* p. 29.

[37] *Ibid,* p. 35.

the "real world," this assumption would not work: a case-by-case assessment of the "essentiality" of each patent should be carried out to determine the market power of the SEP holder.

Economists traditionally differentiate between those forms of price discrimination that harm a rival ("primary line of injury") and those that harm a firm's direct customer ("secondary line injury").[38] According to Advocate General Wahl, cases of price discrimination that only cause a secondary line of injury are "extremely rare":[39] a dominant firm that is not active in the downstream market, in fact, would not have any incentive to discriminate against its customers. In line with this type of argument, Swanson and Baumol have argued that competition law should only sanction forms of royalty rate discrimination when the SEP holder is "vertically integrated."[40] In such a scenario, the SEP holder may require its downstream competitors to pay a higher royalty rate in comparison to its subsidiary, by thus distorting competition in the downstream market. Swanson and Baumol thus suggest that competition law should only sanction a primary line of injury in the context of SEP-related disputes.[41]

In the context of SEPs, royalty rate discrimination is not as "rare" as has been argued by Advocate General Wahl. Royalty rate discrimination is a rather common practice, which can be implemented both by a vertically integrated firm, to exclude downstream competitors, and by a nonvertically integrated firm. In *Unwired Planet v. ZTE,* for instance, *Unwired Planet* was accused of implementing a strategy of price discrimination, as it requested a higher royalty rate from ZTE in comparison to the rate previously agreed with *Samsung* for the same patents portfolio.[42] *Unwired Planet* is an example of a Patent Assertion Entity (PAE): a nonvertically integrated firm that acquires patents from different inventors; after having established a portfolio of complementary patents, a PAE licenses the portfolio to third parties and actively engages in court litigation to safeguard its patent rights.[43] Like any other PAE, *Unwired Planet* may have an incentive to request different royalty rates from its licensees. As Carlton and Shampine recognize, although price discrimination

[38] M. Motta (2004), *Competition Policy—Theory and Practice* (Cambridge: Cambridge University Press). 493.

[39] Opinion of Advocate General Wahl in Case C-525/16, *MEO v. Aurotidade de Concorrência* ECLI:EU:C:2017:1020. Para. 80.

[40] *Supra,* Swanson, Baumol (2005), p. 27.

[41] Geradin and Crane support a similar position. According to the authors, where there is a lack of vertical integration, the SEP holder will have no incentive to discriminate against its licensees.*Supra,* Swanson, Baumol (2005), p. 28. D. Geradin (2009), "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe." 76(1) *Antitrust Law Journal:* 329–357. D. Crane (2008), "Patent Pools, RAND Commitments, and the Problematics of Price Discrimination." *Cardozo Legal Studies Research Article* No. 232. P. 3.

[42] *Supra,* [2017] EWHC 711. Para. 489–490.

[43] For an analysis of the PAEs' business models and possible competition law concerns, see D. Geradin (2019), "Patent Assertion Entities and EU Competition Law" 15(2) *Journal of Competition Law and Economics:* 204–236.

is usually procompetitive, "...it also allows the patent holder to extract the consumer surplus associated with the standard, which can... be an exercise of hold up."[44] As further discussed in Section II.A, certain forms of price discrimination (that is, first-degree price discrimination) may be detrimental to the consumers' welfare. In addition, it is worth reminding the reader that, unlike US antitrust law, Art. 102 TFEU sanctions both exclusionary and exploitative abuses. In particular, Art. 102(c) specifically sanctions forms of secondary lines of injury that are caused by price discrimination.[45] Although there may be efficiency considerations behind a price discrimination strategy, one of the questions investigated in this article is whether, and to what extent, such conduct would breach Art. 102 (c) TFEU when implemented by a nonvertically integrated SEP holder.

A third disclaimer concerns the scope of the nondiscrimination obligation. The royalty rate may be influenced by a number of factors, such as the scope of the license (for example, number of licensed patents, duration and geographic scope of the agreement, and legal entities that are entitled to benefit from the license), standard contractual terms included in the agreement (for example, *arbitration v. court jurisdiction* in case of disputes), and the payment conditions. For instance, the SEP holder might agree on a "lower price," if the agreement included a lump-sum payment, rather than a royalty rate calculated as a percentage of the price of the downstream products sold by the licensee. To assess whether and to what extent the SEP holder has implemented a price discrimination strategy among its licensees, the agreement has to be "unpacked" through an econometric analysis, comparing not only the royalty rates but also the content of the different license agreements concluded by the SEP holder. This type of analysis goes beyond the scope of the present paper, which rather aims at discussing, from a law and economics perspective, whether and under what circumstances a royalty rate discrimination by the SEP holder would breach the ND prong and Art. 102(c) TFEU.

A debate that has recently emerged in the literature concerns whether the SEP holder would be required to "license to all" implementers within the production chain or,[46] alternatively, whether it might decide to license

[44] D. Carlton, A. Shampine (2013), "An Economic Interpretation of FRAND" 9(3) *Journal of Competition Law and Economics*: 531–552. At 549.

[45] D. Gerard (2005), "Price Discrimination under Article 82(2)(c) EC: Clearing up the Ambiguities". Working Paper of the Global Competition Law Centre of the College of Europe, p. 4. The article is available at: https://www.coleurope.eu/content/gclc/documents/GCLC%20Research%20Articles%20on%20Article%2082%20EC.pdf (15.06.2021).

[46] Supporters of the "license to all" mainly argue that, in accordance with *Huawei* case law, the SEP holder is required to start negotiations to license its patent with any "willing licensee." As a consequence, the SEP holder "is not free" to decide to license its patents only to manufacturers of end-users products, rather than to components manufacturers. In support of this view, see:—R. Nazzini (2017), "Level Discrimination and FRAND Commitment under EU Competition Law." 40(2) *World Competition:* 213–240.—T. Kühnen (2019), "FRAND Licensing and Implementation Chains" 14(12) *Journal of Intellectual Property Law and Practice:* 964–975.

the patent only to the manufacturers of the end-users' products, rather than to the components manufacturers (that is "access to all").[47] The latter issue was one of the core aspects of the *FTC v. Qualcomm* case in the United States,[48] and of the recent *Nokia v. Daimler* legal dispute in Germany.[49] The present article, however, will not enter into such a debate: the article analyses whether and to what extent the SEP holder may request different royalty rates from its licensees, rather than discussing whether the SEP holder may lawfully decide to license its patents only to manufacturers of end-users' products, rather than to components manufacturers.

[47] Supporters of the "access to all" approach argue that the FRAND commitment and the IPR policy of the majority of SDOs do not clarify whether level discrimination is prohibited, by thus granting a margin of discretion to the SEP holder to this regard. In addition, the "access to all" is more efficient in terms of fostering innovation: since the royalty rate is calculated on the price of the end-users products, rather than on the price of the individual components, the SEP holder may increase its revenues and thus further invest in R&D expenditures. Among the supporters of the "access to all" approach see:—A. Layne-Farrar, R. Stark (2020), "License to All or Access to All? A Law and Economics assessment of Standard Development Organizations' Licensing Rules." The paper is available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3612954 (15.06.2021).—J. S. Borghetti, I. Nikolic, N. Petit (2021), "FRAND Licensing Levels under EU Law." Pre-published on European Competition Journal https://www.tandfonline.com/doi/full/10.1080/17441056.2020.1862542?src=& (15.06.2021).—A. Gautier, N. Petit (2019), "Smallest Salable Patent Practicing Unit and Component Licensing: Why 1$ Is Not 1$." 15(1) *Journal of Competition Law and Economics:* 690–71

[48] In 2017, the US Federal Trade Commission (FTC) filed a complaint against Qualcomm at the Federal Court of the Northern District of California. Among the allegations put forward by the FTC, Qualcomm breached antitrust rules by licensing its patents only to manufacturers of end-users' products, while refusing to license its patents relevant for 4G and 5G technologies to a number of chip manufacturers (that is, Qualcomm competitors). In May 2019, the Federal District Court upheld the FTC complaint. In August 2020, the US Court of Appeal for the Ninth Circuit reversed the previous ruling of the Federal District Court. In its judgement, the Court of Appeal supported the "access to all" approach. According to the Court of Appeal, the "license to all" approach " . . . would require the company (Qualcomm) to engage in multi-level licensing, leading to inefficiencies and less profits."*Supra, FTC v. Qualcomm,* para. 37.

[49] The dispute concerned a number of patents hold by Nokia, relevant for the implementation of the 5G technology. Nokia accused Daimler of having implemented its patents in a number of electronic devices installed in the Mercedes cars without holding a valid license. During the license negotiations, Nokia followed an "access to all" approach: Nokia insisted on licensing its patent directly to Daimler (that is, calculating the royalty rate on the basis of the retail price of Mercedes cars) rather than to the manufacturers of the electronic devices that relied on the contested patent; devices installed in Mercedes cars. During the negotiations, Nokia sued Daimler at the Higher Regional Courts of Düsseldorf, Mannheim and Munich for violation of its patents. In November 2020, the Düsseldorf Higher Regional Court referred a preliminary ruling request to the CJEU, asking for an interpretation of the FRAND commitment in licensing negotiations. In May 2021, however, Nokia and Daimler achieved an agreement on the license agreement and thus the pending legal disputes were settled. https://www.juve-patent.com/news-and-stories/cases/nokia-and-daimler-settle-all-global-litigation-in-connected-cars-dispute/ (15.06.2021).

II. THE ECONOMISTS' PERSPECTIVE ON THE PRINCIPLE OF NONDISCRIMINATION

Economists have looked at the nondiscrimination principle from two perspectives. From a competition policy perspective, economists have debated the welfare effect of price discrimination. When the SEP holder requests different royalty rates from its licensees, it implements a strategy of price discrimination *vis-à-vis* its customers (that is, the potential licensees). In Section II.A, we discuss what the preconditions are to effectively implement a strategy of price discrimination and the impact of different forms of price discrimination on the consumers' welfare. The economics literature on the welfare effect of price discrimination will be discussed in the light of the peculiarities of discriminatory royalty rates. By contrast, Section II.B compares the economists' views on the ND prong. In particular, this section discusses the circumstances under which the licensees should benefit from the same royalty rate; in other words, what are the conditions whereby a royalty rate discrimination would represent a breach of the ND prong.

II.A. Welfare Effects of Royalty Rate Discrimination

According to Varian, a firm discriminates against its customers when it sells two or more similar goods at prices that are in different ratios to their marginal costs.[50] Traditionally, the economics literature has recognized that a firm can implement an effective strategy of price discrimination when three cumulative conditions are fulfilled:[51] the firm has a high degree of market power; the firm can prevent arbitrage; the firm can estimate the customers' valuation of a product, and thus it can adjust the price accordingly.

As discussed in the previous pages, the SEP holder's market power cannot be presumed, and a case-by-case assessment is required to determine the real "essentiality" of the patent(s). Carlton and Shampine point out that the SEP holder's market power "…is exacerbated when manufacturers make significant investments based on the standard…"[52] In such a case "…the manufacturers can become 'locked in' to the standard."[53] If the market power condition is fulfilled, however, the SEP holder will be able to limit arbitrage and to estimate the licensee's evaluation of patent value. The license agreement, in fact, determines the geographic areas and the legal persons who are entitled to use the patent—that is, the license cannot be traded and thus it cannot be the subject of arbitrage. Secondly, the number of potential licensees is

[50] H. Varian H. (1989), "Price Discrimination", in Richard Schmalensee, Robert Willig (eds.), *Handbook of Industrial Organization, Vol. 1* (Elsevier Science Publisher: Amsterdam). Chapter 10, 597–654. At 598.

[51] OECD Secretariat, *Price Discrimination—Background Note by the Secretariat.* DAF/COMP(2016)15, published on 13.10.2016. P. 9.

[52] *Supra,* Carlton, Shampine (2013), p. 535.

[53] *Supra,* Carlton, Shampine (2013), p. 535.

rather "limited": a limited number of implementers are usually interested in developing retail products that build upon the SDO standard. In light of the bilateral nature of the licensing negotiations and the limited number of market players, the SEP holder can estimate the customer's reservation price: on the basis of industry practices and the history of previous license agreements, the SEP holder has sufficient information to determine a royalty rate that matches the maximum willingness to pay of each potential licensee. In the presence of market power, the SEP holder is thus likely to have the necessary tools to implement an effective strategy of price discrimination by differentiating the royalty rate requested from its licensees.

Since the work of Pigou,[54] economists have traditionally identified three degrees of price discrimination:

- First-degree price discrimination takes place when a firm is able to perfectly discriminate among its customers, adjusting the price of the product to the individual customer's willingness to pay. First-degree price discrimination is equivalent to "personalized pricing": every customer pays a different price for the same product.
- Second-degree price discrimination means that the firm discriminates between its customers by granting discounts once a specific purchase quota is achieved (that is, "nonlinear pricing"). This form of price discrimination includes two-part tariffs as well as "versioning"—that is, offering the "same" product at different quality levels and prices.
- Third-degree price discrimination occurs when the firm charges different prices to different groups of customers. Third-degree price discrimination is rather common in the "real" economy, and it is generally justified by fairness considerations. For example, a movie theater grants a special tariff to certain categories of "vulnerable" consumers, such as retired people, students, or children below a certain age.

Each degree of price discrimination has a different impact on the consumers' welfare. In particular, economists generally agree that the second and third forms of price discrimination are generally procompetitive, as they are justified by efficiency considerations (that is, second degree) and they can enlarge the potential number of customers who can afford a product (that is, third degree).[55] On the other hand, first-degree price discrimination has an "ambiguous" effect on the consumers' welfare.[56] Firstly, personalized pricing may increase the product affordability for a larger number of consumers and thus facilitate the welfare redistribution among the different categories of consumers. The seller, in fact, might charge a lower price to "budget

[54] A. C. Pigou (1920), *The Economics of Welfare* (London: Macmillan).
[55] *Supra,* OECD Background Note (2016), p. 10.
[56] *Supra,* Gerard (2005).

conscious consumers," who have a lower reservation price, and who are also expected to be "poorer" in terms of personal income.[57] Secondly, first-degree price discrimination can eliminate deadweight losses that are associated with monopolies. By increasing product affordability, first-degree price discrimination increases the overall product output, thus maximizing the total welfare.[58] First-degree price discrimination would thus be justified both on the basis of efficiency considerations and on welfare redistribution arguments. Nevertheless, it is worth remembering that the objective of price discrimination is to "capture as much consumer surplus as possible", while welfare distribution is only a side effect of such a strategy.[59] Through personalized pricing, in fact, the seller will match the maximum reservation price of each customer: while increasing the total welfare, first degree price discrimination thus shifts the consumers' welfare to the seller.[60]

The ambiguous effect of first-degree price discrimination has only been discussed in the economics literature; there has never been any case of antitrust enforcement *vis-à-vis* personalized pricing. The reason is simple: economists have always assumed that personalized pricing is possible in theory, but not in practice; in the real world, the seller would not have enough information about the maximum reservation price of every customer to implement a strategy of personalized pricing. As Varian argued almost twenty years ago,[61] the digital economy is challenging this assumption: the increasing flow of data allows the seller "to better know" its customers and to implement pricing schemes that are on the borderline with first-degree price discrimination.

According to a number of authors, personalized pricing is also relevant in the context of negotiations concerning the licensing of SEPs. As recognized by Padilla and Wong-Ervin, "... with respect to SEPs, first and third degree differential pricing are most often observed."[62] Similarly, Layne-Farrar has recognized that first-degree price discrimination is a common practice in

[57] D. Bergemann, B. Brooks, S. Morris (2015), "The Limits of Price Discrimination". 105(3) *American Economic Review*: 921–957.

[58] *Ibid.*

[59] D. Carlton, J. Perloff (1999), *Modern Industrial Organization* (Boston: Addison-Wesley). At 280.

[60] This conclusion is also supported by the recent working paper by Bergemann, Castro and Weintraub. By comparing first- and third-degree price discrimination, the authors argue that the monopolist maximizes its profits in case of personalised pricing, by thus increasing its welfare.D. Bergemann, F. Castro, G. Weintraub, "Third-degree Price Discrimination Versus Uniform Pricing." Working paper published in December 2019, available at: https://arxiv.org/abs/1912.05164 (13.11.2020).

[61] H. Varian (2003), "Economics of Information Technology" Article presented at the Raffaele Mattioli Lecture delivered at Bocconi University, in Milan, on 15.05.2001. P. 13–16. The article is available at: people.ischool.berkeley.edu/~hal/Articles/mattioli/mattioli.pdf (15.06.2021).

[62] J. Padilla, K. W. Wong-Ervin (2019), "An Economic Approach to Antitrust Analysis of Discriminatory Licensing, Grantbacks and Cross-Licenses, No-Challenge Clauses and Patent Thickets." 3 *Concurrences:* 44–51. At 45.

industries that are characterized by standardization.[63] According to the author, this is due to the fact that license negotiations are usually conducted at a bilateral level between the SEP holder and the "limited" number of implementers who are interested in licensing the portfolio of patents: "if (bilateral) negotiations reveal enough information (to the SEP holder), patent licensing may approach first-degree price discrimination."[64] When the patent holder sets "individual" royalty rates for each of the licensees, a case-by-case analysis of the welfare effect of such a strategy would thus be required.

Not every author agrees that first-degree price discrimination is common in the context of SEP license negotiations. According to Contreras and Layne Farrar, for instance, volume discounts prevail in SEP licensing agreements:[65] the patent holder grants a rebate to the licensee in case where the latter accepts to license the entire patents portfolio, rather than individual SEPs (that is, second-degree price discrimination).[66] In addition, Contreras and Layne Farrar notice that the SEP holder often sets different royalty rates for different geographical markets, by thus "dividing" the potential licensees into different groups on the basis of the geographical area in which the license agreement will be enforced (that is, third-degree price discrimination).[67] As argued above, second- and third-degree price discrimination strategies do not harm the consumers' welfare; this assumption is also true in relation to the discriminatory royalty rates relating to SEPs.

Unfortunately, there is no systematic empirical study concerning the relevance of first-, second-, and third-degree price discrimination in the context of SEP licensing negotiations. The relevance of "personalized royalty rates" in the context of such negotiations is based on the views expressed by different experts in the field; views that are rather divergent on this issue.

To sum up, if the SEP holder has market power, it has the necessary tools to implement an effective strategy for price discrimination. In particular, the SEP holder may implement a first-degree price discrimination: the SEP holder charges a different royalty rate to every potential licensee, by matching the maximum reservation price of every licensee. As argued above, first-degree price discrimination has an "ambiguous" effect on the consumers' welfare: "personalized royalty rates" could lead to a transfer of welfare from the licensees to the SEP holder. The goal of competition law is the consumers' welfare standard; "personalized royalty rates" may hamper the welfare of some licensees, but not necessarily the welfare of the final consumers. As further discussed in Section III.A, an analysis of the effect of royalty rate discrimination on the welfare of final consumers, rather than on the welfare

[63] A. Layne-Farrar (2010), "Non-Discriminatory Pricing: Is Standard Setting Different?" 6(4) *Journal of Competition Law and Economics:* 811–838.
[64] *Ibid,* p. 817.
[65] *Supra,* Contreras, Layne-Farrar (2017), p. 192.
[66] *Supra,* Contreras, Layne-Farrar (2017), p. 192.
[67] *Supra,* Contreras, Layne-Farrar (2017), p. 192.

of the licensees, would be required in any competition law investigation. In other words, a royalty rate discrimination strategy would be harmful only if it distorted downstream competition among implementers, thus harming final consumers. This would be the case, for instance, if an implementer decided not to release a new product onto the market, because it would be required by the SEP holder to pay a higher royalty rate in comparison to its competitors. In such a context, the consumers' welfare would be harmed, due to the decrease in the choice of products available on the market.

II.B. The Scope of the ND Prong: When Can the SEP Holder Discriminate?

Economists have discussed the meaning of the "ND prong," debating the circumstances under which the SEP holder could discriminate against its licensees. In particular, three interpretations of the nondiscrimination obligation have been put forward in the literature. The first considers the nondiscrimination obligation as an "absolute" obligation for the SEP holder: after having accepted the FRAND commitment, the patent holder will have to license the essential patent to every licensee under the same royalty rate and the same licensing conditions.[68] As a result of such an interpretation, the nondiscrimination principle is de facto equivalent to a Most Favourite Nation (MFN) obligation.[69] The MFN approach would create a level-playing field among all licensees; on the other hand, it would be a rather inefficient approach.[70] First of all, aware of the MFN obligation, the SEP holder would rather ask initially for a "high" royalty rate; "higher" than the average rate that the patent holder would likely demand if it could discriminate its licensees. In addition, the royalty rate would remain "fixed," independently by the long-term success/failure of the retail products implementing the patented technology. After sometimes, the patented technology gets inevitably outdated by new technological developments. However, due to the MFN obligation, the SEP holder would be forced to keep the same royalty rate, though no implementer would be interested anymore in licensing the patent. The MFN approach is thus inefficient, as it does not incentivize the diffusion of

[68] G. Sidak (2017), "Fair and Unfair Discrimination in Royalties for Standard-Essential Patents Encumbered by a FRAND or RAND Commitment" 2 *The Criterion Journal on Innovation:* 301–370. p. 316.

[69] The expression "Most Favourite Nation (MFN) obligation" is common in international trade law. In particular, in the context of the WTO/GATT rules: when State A concludes a trade agreement with State B to lower bilateral custom duties/import quotas, State A is required to extend the same conditions to every WTO Member State. The objective of the MFN obligation is to encourage multilateral, rather than bilateral, trade negotiations. Exceptions to the application of the MFN clause are allowed only in the case of regional free trade agreements. The meaning of the MFN obligation can be applied *mutatis mutandis* to license negotiations in the case of a 'literal' interpretation of the non-discrimination obligation.

[70] *Supra*, [2017] EWHC 711, Para. 497.

the patented technology and it does not adapt to market and technological developments. In addition, the MFN approach is also "unfair":[71] a "small" implementer, manufacturing products where the essential patent has only a marginal importance, will have to pay the same royalty rate like a "major" implementer, which manufactures products that mostly rely on the essential patent. By way of example, according to the MFN approach, manufacturers of smart phones would have to pay the same royalty rate for a patent "essential" for the implementation of a WIFI technology like a manufacturer of washing machines. Most of the new washing machines connect to the Internet through a WIFI connection, to allow the remote control of the device. However, a washing machine still primarily aims at "washing" clothes rather than communicating with the world—that is, the "relevance" of a patent essential for WIFI technology is much lower for a washing machine than for a smart phone. In view of its inefficiency and its unfairness, it is not surprising that the MFN interpretation of the ND prong has not been supported by any author in the literature.

A second interpretation of the nondiscrimination obligation has been put forward by Mariniello.[72] The author suggests that "the FRAND commitment waives the patent holder's right to refuse to license its IP rights to anybody seeking such a license".[73] On the other hand, the patent holder could differentiate the royalty rate on the basis of the specific circumstances of each licensee.[74] As recognized by Justice Birss in *Unwired Planet,* this interpretation "...is very weak. Since the FRAND undertaking already obliges licensors to offer licenses to everyone, it does not add anything."[75] In view of these considerations, it is not surprising that no other author has supported the view expressed by Mariniello.

According to the third interpretation of the ND prong, the nondiscrimination obligation is applicable only if the licensees are "similarly situated." Such interpretation was first proposed by Gilbert;[76] the author, however, did not define when licensees are "similarly situated." Other authors have built upon the concept introduced by Gilbert. According to Carlton and Shampine, "...competing firms are similarly situated if *ex ante* they expect to obtain the same incremental value from the patented technology compared with the best alternative available to be incorporated into the standard."[77] Coming back to our previous example, a manufacturer of washing machines and a producer of

[71] R. Gilbert (2011), "Deal or No Deal—Licensing Negotiations in Standard-Setting Organizations" 77(3) *Antitrust Law Journal:* 855–888. At 875.

[72] M. Mariniello (2011), "Fair, Reasonable and Non-Discriminatory (FRAND) Terms: A Challenge for Competition Authorities" 7(3) *Journal of Competition Law and Economics:* 524–541.

[73] *Ibid,* p. 525.

[74] *Ibid,* p. 532.

[75] *Supra,* [2017] EWHC 711. Para. 498.

[76] *Supra,* Gilbert (2011), p. 875.

[77] *Supra,* Carlton, Shampine (2013), p. 546.

smart phones would be "similarly situated" only if they would expect to gain the same benefit from the patented WIFI technology. The expectation should be formed *ex-ante:* before the standard is defined within the SDO; before the relevant patents become "essential" for the standard implementation. The test elaborated by Carlton and Shampine is based on an *ex-ante* hypothetical scenario; it would be quite difficult to implement such approach in practice: industry standards, in fact, are usually developed quite ahead in comparison to the release of retail products that implement them. Therefore, it would be hard for the implementers to determine *ex-ante* the value of the patented technology and thus assessing if two potential licensees are indeed "similarly situated."

A number of authors have argued in favor of a "narrow" interpretation of "similarly situated" standard. To this regard, Sidak recognizes that licensees are similarly situated only if they implement the relevant standard in products in the same market (that is, competing products).[78] Secondly, different implementers are "similarly situated" only if the license agreements concern the same patents portfolio.[79] Thirdly, licensees would be "similarly situated" only if the cost of licensing faced by the SEP holder would be comparable in both transactions.[80] For instance, the SEP holder would engage in "shorter" negotiations to license the entire patents portfolio to implementer A (that is, lower the transaction costs) rather than negotiating multiple agreements with implementer B, who is interested in concluding separate license agreements concerning individual patents that are included in the portfolio. According to Sidak, in view of the different transaction costs faced by the SEP holder in this hypothetical scenario, implementers A and B would not be "similarly situated"—that is, the patent holder could thus request different royalty rates from its licensees.

A narrow interpretation of the ND prong de facto makes the nondiscrimination obligation meaningless. As Cano Perez notes, with the advent of the Internet of Things (IoT)[81] and 5G technologies, a large number of manufacturers from different industries have to engage in license negotiations with the holders of patents that are relevant to the new communications standards.[82] The latter standards will only be relevant for smart phone producers; car manufacturers and producers of home appliances (for example, TVs, washing machines, and fridges) need to obtain a license for the use of patents that are relevant to IoT devices. If the licensees had to implement the standard in the same product

78 *Supra,* Sidak (2017), p. 359.

79 *Supra,* Sidak (2017), p. 361.

80 *Supra,* Sidak (2017), p. 363.

81 5G technology will allow the development of automated cars and new home appliances that communicate with each other thanks to IoT—that is, Internet of Things. In the coming years, smartphone producers, car manufacturers and producers of home appliances (for example, TVs, washing machines, fridges . . .) will need to conclude a license agreement for the use of patents that are relevant to the 5G technology.

82 R. Cano Perez (2019), "Non-Discrimination under FRAND Commitment: One Size Fits All, or Does not Fit at All?" 54(4) *Journal of the Licensing Executives Society:* 257–267.

market to be considered "similarly situated" (that is, as suggested by Sidak), the manufacturers of smart phones, home appliances, and cars would not be considered "similarly situated"—that is, the nondiscrimination obligation would not be applicable.

As Sidak recognizes, "there is no generally accepted test (in the literature) to determine whether two implementers are similarly situated".[83] As further discussed in Section III.B, courts in Europe have generally accepted the "similarly situated" standard for the interpretation of the ND prong. However, there is no common view on the factors that have to be taken into consideration to apply such a standard.

III. THE LEGAL PERSPECTIVE ON THE PRINCIPLE OF NONDISCRIMINATION

As mentioned in the introduction, a dominant firm breaches Art. 102(c) TFEU when it applies "dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage." Price discrimination clearly falls under the scope of "dissimilar conditions." The discrimination can take different forms: besides classical discrimination, in the form of different retail/wholesale prices, the dominant company can discriminate against its customers through selective price cuts and target rebates. Art. 102(c) TFEU clarifies that price discrimination is not abusive *per se:* a dominant company breaches this provision if it differentiates the price of its products/services in relation to "equivalent transactions," and by placing certain customers at a "competitive disadvantage" in comparison to "other trading partners." Finally, as further discussed in the following paragraphs, the CJEU case law has recognized that the dominant company can put forward "objective justifications."

In Section III.A, we review the CJEU case law concerning Art. 102 (c) TFEU, to determine an applicable standard for the analysis of a strategy of royalty rate discrimination that is carried out by an SEP holder *vis-à-vis* its licensees. In particular, we discuss the CJEU case law on "equivalent transactions," "competitive disadvantage," and "objective justifications" in the context of royalty rates discrimination. As mentioned in the introduction, we take for granted that the SEP holder has market power, to trigger the enforcement of Art. 102(c). In the "real world," however, such a conclusion cannot be taken for granted. The analysis carried out in Section III.A is purely "speculative": to date, no court in Europe has ever sanctioned any SEP holder for a breach of Art. 102(c). In *Unwired Planet,* for instance, the High Court of England and Wales rejected the argument that *Unwired Planet* breached Art. 102(c) TFEU, though the royalty rate requested from ZTE was substantially

[83] *Supra,* Sidak (2017), p. 359.

higher than that one previously agreed with Samsung.[84] According to the High Court, *Unwired Planet* did not breach Art. 102(c), as the royalty rate discrimination did not distort competition between ZTE and Samsung in the downstream market.[85] Section III.A thus aims to identify the possible steps of the analysis of such hypothetical case, on the basis of the CJEU case law and in light of the discussion on the welfare effects of price discrimination that was carried out in Section II.A.

In Section III.B, on the other hand, we review a number of recent rulings by German and British courts. A number of national tribunals have recently analyzed the nondiscrimination obligation of the SEP holder as a possible breach of the ND prong. Section III.B thus compares recent national rulings on the ND prong with the economists' views that were discussed in Section II.B, to identify common trends in the interpretation of the nondiscrimination obligation by the national courts of the EU Member States.

III.A. The CJEU Case Law on Art. 102(c) and Its Relevance for Royalty Rate Discrimination

III.A.1. Equivalent Transactions

The concept of "equivalent transactions" was first interpreted by the CJEU in *United Brands*.[86] According to the Court, to determine whether transactions involving the same product are indeed "equivalent," the European Commission should analyze the "differences in transport costs, taxation, customs duties, the wages of the labour force, the conditions of marketing, the differences in the parity of currencies, the density of competition . . . ".[87] On the other hand, the Court pointed out that the different levels of demand for bananas in different EU Member States would not be sufficient to justify a persistent price disparity within the EU common market.[88] The *United Brands* case law has been consistently upheld in the subsequent CJEU jurisprudence: the Court has generally looked at the nature of the product/service that is sold by the dominant company to its customers and the supply costs faced by the dominant company to determine if the transactions were indeed "equivalent." For instance, in *British Airways,* the CJEU concluded that the sale of airline tickets by British Airways to different travel agents in the United Kingdom represented "equivalent transactions."[89] Although the tickets concerned different

[84] *Supra,* [2017] EWHC 711. Para. 518.
[85] *Supra,* [2017] EWHC 711. Para. 518.
[86] Case 27/76, *United Brands Company and United Brands Continentaal BV v. Commission* (1978) ECLI:EU:C:1978:22.
[87] *Ibid,* para. 228
[88] *Ibid,* para. 229.
[89] Case C-95/04 P, *British Airways plc v. Commission* (2007) ECLI:EU:C:2007:166.

destinations, the CJEU considered the services provided by *British Airways* to different travel agents to be "equivalent."[90]

The reference of Art. 102(c) to "equivalent transactions" mirrors the "similarly situated" standard discussed in Section II.B. Since *United Brands*, in fact, the Court has emphasized that the scope of the nondiscrimination rule, under Art. 102(c), is not "unlimited"; it is applicable only if the dominant firm engages in "equivalent transactions" with its customers. From this perspective, the "MFN approach" to royalty rate discrimination would not fit with the CJEU case law on "equivalent transactions."

In view of the CJEU case law, we might argue that agreements concluded by the SEP holder with different licensees are "equivalent transactions" when they concern the same patents portfolio (that is, the same product). Secondly, the *United Brands* case law emphasizes the importance of comparing the costs faced by the dominant undertaking to supply different customers, rather than differences caused by product demand. In the IP world, the marginal cost of licensing is close to zero: the major cost faced by the patent holder is the initial R&D investment that is faced to develop the new technology. Once the technology is patented, the SEP holder can conclude an almost unlimited number of license agreements—that is, the marginal cost of each license agreement is limited to the negotiation time that is taken up by the SEP holder with each potential licensee. As discussed in Section II.B, the SEP holder would face a lower "cost" in negotiating a license agreement that covered the entire patents portfolio than in negotiating multiple agreements covering the individual patents that are included in its portfolio.[91] In view of this consideration, the license agreement covering the entire patents portfolio would not be an "equivalent transaction" to the one covering a "bundle" of agreements relating to individual patents within the portfolio. In such a scenario, therefore, Art. 102(c) would not be applicable.

Finally, it is doubtful that the additional factors put forward by the economists to narrow down the scope of the application of the "similarly situated" standard would fit with the CJEU case law on "equivalent transactions." Firstly, the criterion that the licensees should expect *ex-ante* the same value from the licensed technology to be considered "similarly situated" does not find any correspondence in the CJEU case law on "equivalent transactions."[92] Similarly, Sidak's proposal that the licensed standard has to be implemented in the same product market does not fit with the *United Brands* case law.[93]

90 *Ibid,* para. 136–141.
91 *Supra,* Sidak (2017), p. 363.
92 *Supra,* Carlton, Shampine (2013), p. 546.
93 *Supra,* Sidak (2017), p. 359.

III.A.2. Competitive Disadvantage

The concept of "competitive disadvantage" has also been interpreted by CJEU case law. In *British Airways*, the Court ruled that a price discrimination strategy implemented by a dominant firm *vis-à-vis* its customers is not *per se* in breach of Art. 102 (c): price discrimination can be abusive only if "...it tends to distort the competitive relationship" among the customers of the dominant firm.[94] The distortion of competition in the downstream market, in fact, can harm the consumers' welfare. Traditionally, the Court "presumed" the distortion of competition in the downstream market if one of the customers had to pay a higher price in comparison to an "other trading partner" (that is, competitors). In particular, the Court of Justice ruled in *British Airways* that the European Commission was not required to prove that the price discrimination caused "an actual quantifiable deterioration in the competitive position" of the discriminated customer.[95] Similarly, in *Clearstream*, the General Court did not assess whether the price discrimination had resulted in a loss of market share for the customers who were discriminated against.[96]

The case law on "competitive disadvantage" has been revised by the CJEU in *MEO*.[97] Similarly to *British Airways*, the Court ruled that Art. 102(c) TFEU does not require the European Commission/National Competition Authority (NCA) to "quantify" the competitive disadvantage suffered by the customer discriminated against.[98] Nevertheless, unlike *British Airways*, the Court pointed out that there is no presumption that the competitive disadvantage suffered by the discriminated customer distorts competition in the downstream market. According to the CJEU:

> "... the mere presence of an immediate disadvantage affecting operators who were charged more, compared with the tariffs applied to their competitors for an equivalent service, does not, however, mean that competition is distorted or is capable of being distorted." [99]

In particular, in line with the more effects-based approach to Art. 102 TFEU followed by the CJEU since *Intel*,[100] in *MEO*, the Court added that the competition enforcer should take into consideration "all the relevant circumstances" to determine whether price discrimination may produce a competitive disadvantage that distorts competition in the downstream market.[101] By

[94] *Supra,* Case C-95/04 P, para. 144.
[95] *Supra,* Case C-95/04 P, para. 145.
[96] Case T-301/04, *Clearstream Banking AG and Clearstream International SA v. Commission* (2009) ECLI:EU:T:2009:317. Para. 194.
[97] Case C-525/16, *MEO—Serviços de Comunicações e Multimédia SA v. Autoridade da Concorrência* (2018) ECLI:EU:C:2018:270.
[98] *Ibid,* para. 27.
[99] *Ibid,* para. 26.
[100] Case C-413/14 P, *Intel Corp. v. European Commission* (2017) ECLI:EU:C:2017:632.
[101] *Supra,* Case C-525/16, para. 28.

analogy with *Intel*, the CJEU ruled that the competition agency should take the following elements into consideration in its analysis:[102]

- The negotiating power of the customer of the dominant firm as regards the tariffs
- The conditions for charging those tariffs
- The duration and amount of the tariffs
- The existence of a strategy by the dominant firm that aims to exclude from the downstream market one of the trading partners "which is at least as efficient as its competitor"

The relevance of *MEO* on the interpretation of the "competitive disadvantage" condition has been debated in the literature. While some authors have pointed out that *MEO* has substantially increased the burden of proof faced by a competition agency to prove the existence of a competitive disadvantage,[103] others have argued that the ruling does not substantially change the previous case law. Ritter, for instance, notices that "*MEO* sets a low threshold for the required level of harm".[104] Ritter notices that, in *MEO,* the CJEU ruled that the competitive disadvantage should be "capable of distorting competition,"[105] rather than being "likely to cause a restriction of competition"—that is, a higher threshold of abuse.[106]

In view of the CJEU case law discussed in the previous paragraphs, we might argue that the discriminated licensee would not automatically suffer a "competitive disadvantage" as a result of the payment of a "higher" royalty rate in comparison to its competitors. The royalty rate discrimination should be "capable of distorting" competition among the licensees in the downstream market. As a consequence, there should be a causal link between the royalty rates discrimination, the competitive disadvantage suffered by the licensee who is discriminated against, and the distortion of competition in the downstream market. On the other hand, in the light of *MEO,* the competition agency would not be required "to quantify" the distortion of competition among licensees, but simply to prove the "potentially" negative effect of the royalty rate discrimination on the competition in the downstream market (that is, being "capable" of distorting competition).

A hypothetical case matching these conditions would be the following: due to the royalty rate discrimination, the discriminated licensee would not be able

[102] *Supra,* Case C-525/16, para. 31.

[103] See, for instance, R. O'Donoghue (2018), "The Quiet Death of Secondary-Line Discrimination as an Abuse of Dominance: Case C-525/16 MEO" 9(7) *Journal of European Competition Law and Practice:* 443–445.

[104] C. Ritter (2019), "Price Discrimnation as an Abuse of a Dominant Position under Article 102 TFEU: *MEO*" 56 *Common Market Law Review:* 259–274. At 273.

[105] *Supra,* Case C-525/16, para. 37.

[106] *Supra,* Ritter (2019), p. 273.

to conclude a license agreement with the SEP holder, and thus it would not be able to launch a new product in the retail market, as initially planned. The latter would represent a competitive disadvantage that would be "capable" of distorting competition in the downstream market and that would negatively affect the consumers' welfare—that is, final consumers would not benefit from the release of a new retail product implementing the standard.

An open question, after *MEO,* concerns the welfare effects of different forms of price discrimination. As argued in Section II.A, economists agree that only first-degree price discrimination (that is, personalized royalty rates) would have a negative effect on the consumers' welfare. On the other hand, second- (that is, discounts granted to license the entire patents portfolio) and third-degree price discrimination (that is, setting different royalty rates in different geographical areas) would not negatively affect the consumers' welfare. In view of the well-established economics literature in this field, we could argue that only a strategy of individual royalty rates could fall under the scope of the application of Art. 102(c). In particular, in light of *MEO,* the personalized royalty rates should cause a "competitive disadvantage" to the discriminated licensee, to be "capable" of distorting competition in the downstream market. Nevertheless, this remains a purely academic speculation: in *MEO,* in fact, the Court of Justice did not draw any distinction between different degrees of price discrimination. As a consequence, further guidance from the Court of Justice in this regard would be welcome.

III.A.3. Efficiency Justifications

In *MEO,* the CJEU emphasized that while the competition agency faces the burden of proof concerning the existence of "equivalent transactions," and it has to prove that the "competitive disadvantage" is capable of distorting competition in the downstream market, the dominant firm can put forward "objective justifications," to argue that the price disparity is legal.[107]

Unlike Art. 101(3) TFEU, Art. 102 does not provide for a list of conditions through which to justify an abusive behavior. Nevertheless, the CJEU has recognized that the dominant firm can put forward some "objective justifications" to explain why its market behavior does not breach Art. 102 TFEU.[108] In *Post Danmark I,* the CJEU recognized that the dominant firm may refute the finding of abuse by putting forward some efficiency justifications.[109] In line with the requirements under Art. 101(3) TFEU, efficiencies have to "counteract" any likely anticompetitive effect, and they are "likely" to take place in the near future. In addition, the contested conduct has to be "necessary" to achieve the

[107] *Supra,* Case C-525/16, para. 31.

[108] For a detailed analysis of the CJEU case law on objective justifications, see A. Albors-Llorens (2007), "The role of objective justification and efficiencies in the application of Article 82 EC" 44 *Common Market Law Review:* 1727–1761.

[109] Case C-209/10, *Post Danmark A/S v. Konkurrencerådet* (2012) ECLI:EU:C:2012:172. Para. 42.

alleged efficiencies, so that it "does not fully eliminate competition from the market."[110]

In the context of our hypothetical case, the patent holder could argue that the royalty rate discrimination was needed to recover the sunk R&D investments; without being able to discriminate, the patent holder would not have enough resources to further invest in innovation. Furthermore, the SEP holder could argue that the royalty rate differentiation leads to forms of optimal prices that benefit the implementers, by thus increasing the consumers' welfare. In line with *Post Danmark I* criteria, the SEP holder should prove that the added value of its SEP "counteracts" the negative impact of the discriminatory rate on the consumers' welfare. From this point of view, the SEP holder should prove that its patent is indeed "essential" for the implementation of the standard, and thus for the release of new end-users' products into the market. Secondly, the alleged efficiencies have to be "likely" (for example, the dominant firm can identify the date when a new end-user's product implementing the SEP will be released onto the market). Thirdly, the discriminatory royalty rate should be "necessary," to compensate the SEP holder for its R&D investments. From this point of view, the SEP holder could thus provide evidence of its past R&D investments that have resulted in the "essential" patent. Finally, the discriminatory royalty rate should not "fully eliminate competition." The latter condition would require the SEP holder to show that the royalty rate discrimination will not cause patent holdup and thus that the potential licensee would still be able to implement the standard by relying on "alternative" patents.

While efficiency justifications are possible in theory, in practice, they have rarely been accepted by the CJEU and by the European Commission. As argued by Friederiszick and Gratz,[111] even after the recognition of an efficiency defense in the 2009 Guidance Paper on Art. 102, the European Commission has rarely seriously assessed the efficiency arguments put forward by the dominant firms during the antitrust investigations.[112] As argued in the previous sections, price discrimination often increases the consumers' welfare and thus it is often procompetitive. Therefore, in assessing a case of royalty rate discrimination under Art. 102(c) TFEU, the NCA/European Commission should seriously take in consideration the efficiency arguments put forward by the SEP holder and analyze such arguments in the light of *Post Danmark I* framework.

[110] T. Van der Vijver (2014), "Justifications and anti-competitive unilateral conduct: an international analysis" 37(1) *World Competition:* 27–51. At 37.

[111] H. Friederiszick, L. Gratz (2015), "Hidden efficiencies: the relevance of business justifications in abuse of dominance cases" 11(3) *Journal of Competition Law and Economics:* 671–700.

[112] European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. OJ C-45/7, 24.2.2009. Para. 89–90.

III.B. Interpretation of the ND Prong by the Courts of the EU Member States

III.B.1. Scope of the Application of the ND Prong

British and German courts have discussed the scope of the application of the ND prong in SEP-related disputes. Most of the tribunals have pointed out that the principle of nondiscrimination is applicable only to "comparable situations," thus endorsing the "similarly situated" licensees standard discussed in Section II.B.[113] The Düsseldorf *Landgericht* (LG, Düsseldorf District Court), for instance, has emphasized that "... the dominant company can react differently to different market conditions. (In such a case), unequal treatment (of its licensees) is therefore objectively justified." Similarly, in its landmark judgment in *Sisvel v. Haier,* the *Bundesgerichtshof* ruled that the application of the FRAND commitment "... depends on a variety of circumstances."[114] According to the German Federal Court of Justice, the SEP holder is not required to grant a "uniform tariff which grants equal conditions to all users."[115] Through its ruling, the *Bundesgerichtshof* has thus de facto endorsed the "similarly situated" licensees standard in the application of the FRAND commitment. However, German courts have generally failed to discuss under what circumstances different licensees are indeed "similarly situated."

In *Unwired Planet*, the High Court of England and Wales ruled that the ND prong implies a "general," rather than a "hard-edged" nondiscrimination principle.[116] The High Court, therefore, endorsed the "similarly situated" licensees standard. However, after having reviewed the three interpretation of the ND prong discussed in Section II.B, Justice Birss argued that the application of the nondiscrimination obligation requires the calculation of a "... benchmark' FRAND rate ... ", "... which is applicable to all licensees seeking the same kind of license."[117] In other words, potential licensees would be entitled to ask for an "average" license rate from among the rates that had previously been concluded by the SEP holder with other licensees in relation to the same patents portfolio. Rather than listing the conditions whereby two licensees would be "similarly situated," Justice Birss relied on the benchmark approach to identify discriminatory royalty rates that substantially deviated from such benchmark rate.

As argued by Geradin, the approach followed by Justice Birss is debatable, and it finds no endorsement in the CJEU case law.[118] The benchmark

[113] LG Dusseldorf, case n. 4c O 81/17, ruled on 11.07.2018. para. 271.
[114] *Supra*, *Bundesgerichtshof*, *Sisvel v. Haier*, para. 81
[115] *Supra*, *Bundesgerichtshof*, *Sisvel v. Haier*, para. 81
[116] *Supra,* [2017] EWHC 711. Para. 502.
[117] *Supra,* [2017] EWHC 711. Para. 503.
[118] D. Geradin (2020), "SEP Licensing after Two Decades of Legal Wrangling: Some Issues Solved, Many Still to Address". Published on *Competition Policy International* on 24.3.2020. P. 11. The text of the paper is available at: https://www.competitionpolicyinternational.com/se

approach relies on a benchmark among the rates previously granted by the SEP holder to "all" licensees—that is, the implementers that are active in different industries. Coming back to the example of the WIFI standard discussed in Section II.B, in such case, the benchmark would be the average rate previously agreed by the SEP holder in the license agreements concluded with smart phone and washing machine manufacturers. Due to the greatly divergent relevance of WIFI technology for these electronic devices, the benchmark approach runs the risk of being "unfair." The benchmark approach does not take into consideration the relevance of the patent for each licensee. By relying on the average rate previously granted by the SEP holder, the washing machine producers would pay a "too high" rate in comparison to their willingness to pay for the license. On the other hand, the smart phone producers would benefit from the benchmark approach, because they would be able to ask for a royalty rate that was "far below" the expected value of the patented technology that is implemented in their products.

The "general" nondiscrimination principle proposed by the High Court was later upheld both by the Court of Appeal of England and Wales,[119] and by UK Supreme Court in their rulings in *Unwired Planet*.[120] In its judgment, the Supreme Court first noticed that IPR Policy of the European Telecommunications Standards Institute (ETSI—that is, the SDO involved in the dispute between *Unwired Planet* and *Huawei*) does not expressly mention any "hard-edged" nondiscrimination obligation.[121] Secondly, the Supreme Court stressed that a "general" nondiscrimination obligation " . . . is the norm within the IP licensing"—that is, the approach corresponds to a well-established industry practice.[122] As a consequence, in case ETSI had wished to deviate from such an industry practice, it should have expressly mentioned the "hard-edged" discrimination approach in its IPR Policy.[123]

In *Unwired Planet,* the Supreme Court thus endorsed the "comparable licensees" standard, considered by the UK Supreme Court a well-established industry practice. On the other hand, the Supreme Court failed to define clear criteria to determine "when" licensees are "similarly situated." In particular, in its landmark judgment, the UK Supreme Court did not analyze the benchmark approach previously proposed by Justice Birss in *Unwired Planet*.

p-licensing-after-two-decades-of-legal-wrangling-some-issues-solved-many-still-to-address/ (15.06.2021).

119 *Supra,* [2018] EWCA Civ. 2344. Para. 177–207.For a comment of the ruling of the Court of Appeal of England and Wales in *Unwired Planet,* see S. Lawrance, F. Brooks (2019), "*Unwired Planet v. Huawei:* the UK Court of Appeal Upholds FRAND Determination." 10(3) *Journal of European Competition Law & Practice:* 180–186.

120 *Supra,* [2020] UKSC 37. Para. 105–127.

121 *Supra,* [2020] UKSC 37. Para. 116.

122 *Supra,* [2020] UKSC 37. Para. 123.

123 *Supra,* [2020] UKSC 37. Para. 124.

The rulings of the German and British courts show that the "comparable licensees" standard is generally accepted in Europe as the appropriate interpretation of the ND prong: national courts thus accept a "certain degree" of royalty rates differentiation, justified by the peculiarities of different licensees. On the other hand, there is currently no consensus on the criteria to follow in determining when two licensees are "similarly situated." In particular, it is unclear whether two implementers are 'similarly situated' only if they are direct competitors in the downstream market.

III.B.2. The Burden of Proof: the Disclosure Obligation of the SEP Holder

The German courts have introduced a far-reaching interpretation concerning the applicable burden of proof for a discriminatory behavior by the SEP holder. In *Sisvel v. Haier,* the Düsseldorf Oberlandesgericht (OLG, Düsseldorf Higher Regional Court) pointed out that the burden of proof lies with the party putting forward the allegation of discriminatory behavior by the SEP holder (that is, the potential licensee).[124] Nevertheless, the court also recognized that the licensee does not have any regular knowledge of the licensing practice of the SEP holder, as license negotiations are usually conducted on a bilateral level.[125] Consequently, when the potential licensee puts forward an allegation of discriminatory behavior, the SEP holder has the duty to provide evidence of the terms that have previously been agreed with other licensees.[126] The interpretation of the OLG Düsseldorf has been recently upheld by the *Bundesgerichtshof* in its ruling in *Sisvel v. Haier.*[127]

The German courts have thus recognized a de facto "disclosure" obligation by the SEP holder in relation to the royalty rates previously agreed with other licensees concerning a specific patents portfolio. The LG Düsseldorf has further emphasized that the disclosure should be "full"—that is, providing detailed information about the licensing conditions, as well as the name of the parties with whom the SEP holder has previously concluded a license agreement.[128] In case the disclosed documents provide *prima facie* evidence of discrimination, it would be up to the SEP holder to justify the different treatment, by explaining that the potential licensee was not "similarly situated" to the previous licensees.[129]

According to the OLG Karlsruhe, the reversed burden of proof is justified by the CJEU ruling in *Huawei.* In the latter judgment, in fact, the Court of Justice pointed out that the SEP holder has the duty to make the first license offer, specifying "... the amount of the royalty and the way in which

[124] OLG Düsseldorf, case n. I-15 U 66/15, ruled on 30.03.2017. Para. V.2.d.aaa.
[125] *Ibid*.
[126] *Ibid.*
[127] *Supra*, *Bundesgerichtshof*, *Sisvel v. Haier*, para. 76–77.
[128] *Supra,* LG Düsseldorf, 4a O 15/15, para. 393.
[129] OLG Düsseldorf, case n. I—2 W 8/18, ruled on 25.04.2018.

that royalty is to be calculated."[130] According to the OLG Karlsruhe, the SEP holder would thus have the duty to disclose information concerning previous license agreements, to show that its offer is indeed FRAND, and thus nondiscriminatory.[131]

The OLG Karlsruhe has also pointed out that the scope of the disclosure obligation depends on the specific circumstances of the case. In a case where the alleged discriminatory terms correspond to a standard contract that has been previously accepted by third parties, it would be sufficient for the SEP holder to prove that the new license agreement complies with the standard contract, without disclosing further information about the other licensees.[132] By contrast, if the SEP holder has previously concluded several license agreements including divergent conditions, the SEP holder would have to disclose the contracts in the context court proceedings and prove that the alleged discriminatory terms are either substantially similar to previous ones, or that they are "justified"—that is, the potential licensee is not "similarly situated" compared with other licensees.[133]

Obviously, the disclosure obligation by the SEP holder might affect trade secrets. At the start of every license negotiation, in fact, the SEP holder usually requests that the implementer to sign a "Non-Disclosure Agreement" (NDA), to safeguard its trade secrets. According to OLG Düsseldorf, the refusal by the implementer to conclude an NDA during the initial phase of the negotiations does not release the SEP holder from its obligation, under *Huawei* case law, to include a price calculation method in its initial license offer.[134] However, in case no NDA was concluded, the SEP holder would have to provide less detailed explanations of the calculation methods of the FRAND rate.[135] In a number of cases, the OLG Düsseldorf has ordered the implementer to conclude an NDA with the SEP holder covering the documents disclosed during the court proceedings.[136] The court introduced this obligation when the SEP holder had to disclose the license agreements previously concluded with third parties to justify the "fair" and "nondiscriminatory" nature of the rates requested, and when the parties had not previously concluded any NDA during the license negotiations. According to Makris and Tapia, the approach followed by the OLG Düsseldorf is not effective:[137] although it is correctly motivated by the need to safeguard confidential information, it fails to safeguard the interests of the SEP holder. The implementer, in

[130] *Supra*, Case C-170/13, Para. 63.
[131] OLG Karlsruhe, case n. 6 U 183/16, ruled on 30.10.2019. Para. 132.
[132] *Ibid*, para. 133.
[133] *Ibid*, para. 133.
[134] OLG Düsseldorf, case n. I-2 U 23/17, ruled on 18.07.2017. Para. 22.
[135] *Ibid.*
[136] OLG Düsseldorf, case n. I-2 U 31/16, ruled on 22.03.2019. Para. 1–5.
[137] S. Makris, C. Tapia (2018), "Confidentiality in FRAND Licensing after *Huawei v. ZTE:* National Courts in Europe Searching for Balance" 3(3) *Les Nouvelles:* 210–220. At 214.

fact, could misuse the information disclosed during the court proceedings to gain a commercial advantage. Makris and Tapia have argued in favor of an "attorneys'-eyes-only" approach, an approach that has so far been rejected by the German courts.[138]

To sum up, German courts have thus recognized a reversed burden of proof in case of *prima facie* discrimination, to compensate for the information asymmetry between the SEP holder and the potential licensee. Such asymmetry is indeed a relevant issue in the context of court proceedings concerning a breach of the ND prong. However, taking in consideration the lack of clarification of the application of the "similarly situated" licensees standard, the disclosure obligation might become a burden for the SEP holder. The SEP holder, in fact, would be required to disclose information about "all" of the license agreements previously concluded in relation to a specific patents portfolio, even though the potential licensee might not be "similarly situated" to the previous ones.

IV. CONCLUSIONS: ND PRONG v. ART. 102 (C) TFEU

As mentioned in the introduction, the nondiscrimination obligation in SEP-related disputes has generally received less attention in the literature, if compared with the issue of what is a "fair" and "reasonable" royalty rate. The present article aimed to fill this gap in the literature by analyzing, from a European perspective, the principle of nondiscrimination under contract (that is, the "ND prong") and EU competition law (that is, Art. 102 TFEU).

By comparing these two legal fields, we have noticed that their application threshold is rather different: while the ND prong is a general obligation (that is, a commitment undertaken by every SEP holder during the standardization process within the SDO), Art. 102(c) TFEU is applicable only if the SEP holder has market power. As argued in Section I.C, due to the phenomenon of patents "overdeclaration," the market power of the SEP holder cannot be presumed. Secondly, Art. 102(c) TFEU can sanction a strategy of royalty rate discrimination by the SEP holder *vis-à-vis* its licensees only in case such a strategy may "distort" competition among licensees in the downstream market. In accordance with *MEO* case law, while the extent of the distortion of competition does not need to be "quantified," the latter cannot be presumed *a priori* to be a result of the "higher" rate paid by the discriminated licensee. Thirdly, the distortion of competition should harm the consumers' welfare. On the basis of the economics literature reviewed in Section II.A, only personalized royalty rates (that is, first-degree price discrimination) may hamper the consumers' welfare in certain circumstances. The latter condition has never been openly recognized by the CJEU case law on discriminatory pricing. On the other hand, it is well accepted in the economics literature that only first-degree price discrimination may have an

[138] *Ibid*, p. 213.

"ambiguous" effect on the consumers' welfare, while second- and third-degree price discrimination are harmless. In addition, it is worth to bear in mind that there is no systematic empirical study concerning the relevance of first-, second-, and third-degree price discrimination in the context of SEP license negotiations. Authors disagree on how common are "personalized royalty rates" in the context of such negotiations. Finally, the SEP holder may put forward objective justifications. For example, the dominant firm could argue that the discriminatory royalty rates aim to compensate previous investments in R&D; in other words, the discriminatory strategy was intended to foster innovation by the SEP holder.

A strategy of royalty rate discrimination may be considered a breach of the ND prong if the licensees are "similarly situated" and if there is evidence that the requested terms are indeed different (that is, discriminatory). The "similarly situated" licensees standard is supported by the majority of the economists. Similarly, both UK Supreme Court and the German *Bundesgerichtshof* have ruled that the SEP holder is not required to grant to every licensee the same royalty rate (that is, rejection of the MFN interpretation of the ND prong). Finally, to compensate the information asymmetry between the SEP holder and the licensees, German courts have introduced a far-reaching disclosure obligation: in the context of court proceedings, the SEP holder is required to disclose previously license agreements concerning the same patents subject of the dispute. In case of *prima facie* discrimination, the SEP holder faces the burden of justifying the different royalty rates—that is, the SEP holder should prove that the licensees are not "similarly situated" and thus the royalty rates differentiation is not unlawful.

Although economists and courts agree that the ND prong should be interpreted in accordance with the "similarly situated" licensees standard, there is currently no agreement on the application of such a standard. As discussed in Section II.B, economists have failed to provide an exhaustive list of conditions to determine when two licensees are "similarly situated." Similarly, the case law of the German and British courts has revealed that there is no common understanding of the scope of application of the "similarly situated" licensees standard. In particular, it is unclear whether licensees are "similarly situated" when they are not competitors in the downstream market. To return to the example discussed throughout the article, the question is whether the manufacturers of washing machines and smart phones can be considered to be "similarly situated" even though they are not competitors in the same retail market. This issue is particularly relevant in view of the advent of IoT and 5G technologies: the open question is whether licensees from different industries should pay the same licensee's fee to the holder of SEPs relevant for these new communication standards.

Unlike Art. 102(a) TFEU, the ND prong does not require evidence of market power, distortion of competition, harm of consumers' welfare, and assessment of efficiency justifications. In view of these considerations, it is not surprising that no case of royalty rate discrimination has ever been sanctioned in Europe under Art. 102(c) TFEU, either in case of "public" (that is, decision of a National Competition Authority/European Commission) or "private" enforcement of EU competition law (that is, the requests of court injunctions/awards of damages by the discriminated licensee). To sum up, the ND prong and Art. 102(c) TFEU "coexist," as they can both sanction royalty rate discrimination by the SEP holder, but the enforcement of EU competition law is "unlikely," due to the higher burden of proof faced by the claimant. Discriminatory pricing is an exploitative abuse: a "rare" type of abuse that should be assessed under the case-by-case approach that characterizes the enforcement of EU competition policy.