

Chapter 14

Towards a Transaction Cost Approach to the Essential Facilities Doctrine



Yugank Goyal, Padmanabha Ramanujam and Anmol Patel

1 Introduction

Most problems facing a policy maker involve tradeoffs. She chooses legal tools to tilt the balance in favor of one action against the other. The essential facility doctrine (EFD) is one such tool. However, before utilizing the tool, one has to decide which side needs tipping. This chapter discusses how to make that decision, with regard to EFD (and specifically with respect to intellectual property rights (IPRs)). Borrowing from the ideas that have emerged in US and Europe, the chapter proposes specific suggestions for India, which, without loss of generality, can be applied to most other developing nations as well. The doctrine is used to address the anticompetitive behavior of a firm with market power, which owns ‘an essential facility’ and refusing to license it to competitors or new entrants. Using the doctrine, government may mandate the firm to share the facility. The issues addressed here are significant and with debates on this issue gaining momentum in developing countries, there is a need for rigorous analysis.

Y. Goyal (✉)

Jindal School of Liberal Arts & Humanities, Jindal Global Law School,
International Institute for Higher Education Research & Capacity Building,
Sonapat, India
e-mail: ygoyal@jgu.edu.in

P. Ramanujam · A. Patel
School of Law, AURO University, Surat, India
e-mail: paddy@aurouniversity.edu.in

A. Patel
e-mail: anmol.patel795@gmail.com

Study of EFD has had its own share of conflicts. It has attracted dissimilar sentiments from various scholars. Areeda famously called it ‘an epithet in need of limiting principles,’¹ and many others have been critical of its scope.² Yet host of scholars defend its importance in relevant policy designs.³ Given that the doctrine advocates granting access to competitors, it has generated significant debates in academia, for both its desirability and applicability.⁴

From economic consideration, the issue is complex. It usually applies to firms, which are vertically integrated, and perhaps natural monopolists in one market

¹Phillip Areeda, ‘Essential Facilities: An Epithet in Need of Limiting Principles’ (1990) 58(4) *Antitrust LJ* 841.

²See, eg, David Reiffen and Andre N Klett, ‘Terminal Railroad Revisited: Foreclosure of an Essential Facility or Simple Horizontal Monopoly’ (1990) 33(2) *JL & Econ* 419; Keith N Hylton, ‘Economic Rents and Essential Facilities’ (1991) 1991(3) *BYU L Rev* 1243; Abbott B Lipsky, Jr and J Gregory Sidak, ‘Essential Facilities’ (1999) 51(5) *Stan L Rev* 1187; Herbert J Hovenkamp, ‘Unilateral Refusals to Deal, Vertical Integration, and the Essential Facility Doctrine’ (2008) University of Iowa Legal Studies Research Paper No 08–31 <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1144675>; Steven Anderman, ‘The epithet that dares not speak its name: the essential facilities concept in Article 82 EC and IPRs after the Microsoft case’ in Ariel Ezrachi (ed), *Article 82 EC: Reflections on Its Recent Evolution* (Hart Publishing 2009) 87–98.

³See, eg, Robert Pitofsky and Donna Patterson and Jonathan Hooks, ‘The Essential Facilities Doctrine under US Antitrust Law’ (2002) 70(2) *Antitrust LJ* 443; Spencer Weber Waller, ‘Areeda, Epithets, and Essential Facilities’ (2008) 2008(2) *Wis L Rev* 359; Brett Frischmann and Spencer Weber Waller, ‘Revitalizing Essential Facilities’ (2008) 75(1) *Antitrust LJ* 1; Marina Lao, ‘Networks, Access, and Essential Facilities: From Terminal Railroad to Microsoft’ (2009) 62(2) *SMU L Rev* 557.

⁴Michael Boudin, ‘Antitrust Doctrine and the Sway of Metaphor’ (1986) 75(2) *Geo L J* 395; Gregory J Werden, ‘The Law and Economics of the Essential Facility Doctrine’ (1987) 32(2) *St Louis U LJ* 433; James R Ratner, ‘Should There be an Essential Facility Doctrine’ (1988) 21(2) *UC Davis L Rev* 327; David J Gerber, ‘Rethinking the Monopolist’s Duty to Deal: A Legal and Economic Critique of the Doctrine of Essential Facilities’ (1988) 74(6) *Va L Rev* 1069, with Daniel E Troy, ‘Unclogging the Bottleneck: A New Essential Facility Doctrine’ (1983) 83(2) *Colum L Rev* 441; Phillip Areeda, ‘Essential Facilities: An Epithet in Need of Limiting Principles’ (1990) 58(4) *Antitrust LJ* 841; Keith N Hylton, ‘Economic Rents and Essential Facilities’ (1991) 1991(3) *BYU L Rev* 1243; David McGowan, ‘Regulating Competition in the Information Age: Computer Software as an Essential Facility under the Sherman Act’ (1995) 18(4) *Hastings Comm & Ent LJ* 771; Richard J Gilbert and Carl Shapiro, ‘An Economic Analysis of Unilateral Refusals to License Intellectual Property’ (1996) 93 *Proceedings of the National Academy of Sciences* 12,749; Allen Kezsbom and Allen V Goldman, ‘No Shortcut to Antitrust Analysis: The Twisted Journey of the Essential Facilities Doctrine’ (1996) 1 *Colum Bus L Rev* 1; Abbott B Lipsky, Jr and J Gregory Sidak, ‘Essential Facilities’ (1999) 51(5) *Stan L Rev* 1187; Robert Pitofsky and Donna Patterson D and Jonathan Hooks, ‘The Essential Facilities Doctrine under US Antitrust Law’ (2002) 70(2) *Antitrust LJ* 443; Glen O Robinson, ‘On Refusing to Deal with Rivals’ (2002) 87(5) *Cornell L Rev* 1177; Paul D Marquardt and Mak Leddy, ‘The Essential Facilities Doctrine and Intellectual Property Rights: A Response to Pitofsky, Patterson, and Hooks’ (2003) 70(3) *Antitrust LJ* 847; Lawrence A Sullivan and Warren S Grimes, *The Law Of Antitrust: An Integrated Handbook* (2d edn, Thomson West 2006) 124–31; Marina Lao, ‘Networks, Access, and Essential Facilities: From Terminal Railroad to Microsoft’ (2009) 62(2) *SMU L Rev* 557.

attempting to refuse in providing a monopolised input to a rival in a related competitive market. While at one level, their refusal is justified in preventing efficiency losses, free-riding tendencies by rivals, double marginalization problem and ensuring that there are incentives to invest/innovate⁵; at another level, such denials have potential to thrust anticompetitive effects in the market.⁶ Chicago school thinkers are primary sources for benign academic view of EFD. They propose a ‘single monopoly profit theorem,’ according to which, if the products are used in fixed proportion, then a monopolist in one market cannot increase its profits in an adjacent market through extension.⁷ In some ways, the approach proposes that such extensions are driven by efficiency considerations and therefore hardly anti-competitive.⁸ However, recent scholarship contends that Chicago School’s thinking went too far, grounded on unrealistic assumptions, because neither products are necessarily used in fixed proportions, nor the static efficiency merits such a short-term view.⁹ The denial for sharing the services could be motivated by rising rival’s costs and in short-term, there are no substitutes for essential facilities.¹⁰ Even Areeda, in his famous critique, accepted the economic value of the doctrine in under certain circumstances—for instance, he agreed with court’s decisions in *MCI* and *Otter Tail* cases because of the natural monopoly of the issue.¹¹

⁵See Michael H Riordan and Steven C Salop, ‘Evaluating Vertical Mergers: A Post-Chicago Approach’ (1995) 63(2) Antitrust LJ 513.

⁶See *ibid* 519 (‘Vertical mergers can lead to exclusionary effects by increasing rivals’ costs of doing business. This may involve raising their input costs by foreclosing their access to important inputs or foreclosing their access to a sufficient consumer base.’).

⁷See, eg, Robert H Bork, Book Review (1978) *The Antitrust Paradox: A Policy at War with Itself*; Richard A Posner, ‘The Chicago School of Antitrust Analysis’ (1979) 127(4) *U Pa L Rev* 925:

The tie-in analysis, for instance, was extended to vertical integration in general. To illustrate, it makes no sense for a monopoly producer to take over distribution in order to earn monopoly profits at the distribution as well as the manufacturing level. The product and its distribution are complements, and an increase in the price of distribution will reduce the demand for the product. Assuming that the product and its distribution are sold in fixed proportions, the conclusion is reached that vertical integration must be motivated by a desire for efficiency rather than for monopoly.

⁸See Posner, *ibid* 927.

⁹See Einer Elhauge, ‘Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory’ (2009) 123(2) *Harv L Rev* 397.

¹⁰See Thomas G Krattenmaker and Steven C Salop, ‘Anticompetitive Exclusion: Raising Rivals’ Costs to Achieve Power over Price (1986) 96(2) *Yale LJ* 209, 234.

¹¹Areeda (n 1) 845–848. *MCI Communications v American Telephone & Telegraph Co* 7th Circuit 708 F2d 1081, cert denied 464 US 891 (1983) and *Otter Tail Power Co v United States* (1973) 410 US 366.

Perhaps the pivot over which EFD cases revolve is to decide when the shared use becomes essential. Further, questions like whether in denial of the license, is there a threat to competition, and how to draw the guiding principles which help identify the exceptional circumstances that may justify the competition authority's intervention, without undermining the objective justifications by a dominant undertaking in refusing to allow such access. The legislative design in Europe, which refers to 'refusal to deal' cases are dealt as exclusionary abuse of dominance, under Article 82, EC Treaty establishing the European Community (hereinafter, Article 82 EC). Section 4 of the Competition Act 2002¹² and Section 2 of the Sherman Act 1890 are the corresponding provisions under Indian law and US law respectively. Needless to mention, Competition Act 2002 is nascent and is yet to evolve in matters involving abuse of dominance.

The rest of the chapter is divided as follows: Part two illustrates the evolution of the doctrine through last century, in the US and the EU. It examines the case law driven jurisprudence and shows the trajectory of the attitude of the judiciary in both regions. This part serves to give an account of the path dependency of the doctrine and allay the surprises that may emerge from a time-restricted view of the doctrine. Part three compares Article 82 EC and Section 2 of Sherman Act in order to understand the (differing) EU and US approaches to encouraging competition. This chapter will carve out the principles on which Indian approach should (or should not) be based. Part four delves into how the doctrine has been invoked in India and in Part five, criticizes its present scope and design. Part six proposes that India needs a proactive application of the doctrine, which needs to be modeled on EU's line. To support the proposal, this part builds an analytical argument, examining EFD in alternative theoretical set-ups. Authors analogise EFD as a legal institution with liability rule, which intervenes in a property framework. Drawing from the famous Calabresi and Melamed paper¹³ this chapter shows how EFD could be located in this scholarship. This chapter utilizes the concept of transaction cost from the perspective of bargaining power between transacting parties and investigate its variation in different scenarios that produce (dis)incentives to refusing to license. Authors conclude that India needs to adopt expansive view of the doctrine particularly by its competition authorities because Indian IPRs regime is weak, which exhibits high transaction costs and therefore requires liability rule of EFD. Part seven concludes, mainly recognizing the limitations of the proposed model.

¹²The Competition Act 2002, No 12 of 2003, as amended by The Competition (Amendment) Act 2007 (Competition Act 2002), s 4.

¹³Guido Calabresi and A Douglas Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85(6) Harv L Rev 1089.

2 Historical Overview

It can fairly be said that ‘refusal to deal’ under competition law is a manifestation of the ‘freedom of contract’ of contracting parties,¹⁴ which was the essence of freedom from undue restraint on the right to contract.¹⁵ Clauses of contract not to compete received considerable judicial attention in the 1880s in US just as they do today.¹⁶ It may at first seem that freedom of contract would support enforcement of these agreements because parties ought to be able to set the terms of their contracts.¹⁷ However, enforcement of these contracts can prevent formation of many other contracts.¹⁸ It could, therefore, be argued that a court may actually increase the level of contract activity by refusing to enforce such contracts, as is the case with some ‘restraint of trade’ contracts and this would be an increase in the freedom of contract under some connotations of that term.¹⁹

2.1 Doctrine’s Origin in the US

As largely driven from American judgements, the doctrine is usually seen to have originated in US Supreme Court’s 1912 *Terminal Railroad*²⁰ decision, in which denial of third party usage of railroad bridges to St. Louis, owned and maintained by the defendant was challenged. The court opined that ‘the inherent conditions are such as to prohibit any other reasonable means of entering the city, the combination of every such facility under the exclusive ownership and control of less than all of the companies under compulsion to use them violates’²¹ Section 1 and Section 2 of the Sherman Act. Note that the defendant here was an Association that comprised of fourteen railroads serving St. Louis, and therefore invoked a strong sense of competition concerns. However, the Supreme Court did not agree to prosecutor’s (government’s) contention to dissolve the Association and proposed alternate institutional safeguards.²² The idea of invoking antitrust concerns was logical, but

¹⁴Albeit the contrary was also believed for some time as is evident from old scholarship. See, eg, Joseph A Joyce, *Treatise on Monopolies and Unlawful Combinations or Restraints: Embracing Every Contract, Combination in the Form of Trust, Pool or Otherwise in Restraint of Trade or Commerce* (New York, Banks 1911).

¹⁵W W Thornton, *Treatise on Combinations in Restraint of Trade* (W H Anderson Company 1928).

¹⁶Pettit M, ‘Freedom, Freedom of Contract, and the Rise and Fall’ (1999) 79(2) BU L Rev 263.

¹⁷*ibid.*

¹⁸*ibid.*

¹⁹*ibid.*

²⁰*United States v Terminal R.R. Ass'n of St. Louis* (1912) 224 US 383, 409.

²¹*ibid* 409.

²²*ibid* 409–411.

there was no explicit mention of the doctrine, and the courts had differing viewpoints on how strictly they want to come out on monopolies.²³ Comparable reliefs were granted by the US Supreme Court in subsequent years, solidifying the existence of doctrine.

In *Associated Press*²⁴ (AP) case, where AP had prohibited member newspapers to provide any news to nonmember organizations, the court held AP's practice as an unreasonable restraint of trade violating Section 1 of Sherman Act, even though there was no monopolization that AP exhibited.²⁵ The court's view was that AP's bylaws served 'seriously to limit the opportunity of any new paper to enter', and that its services 'give many newspapers a competitive advantage over their rivals.'²⁶ In both these influential cases, there was an element of unfairness rather than fear of market power. Yet, the essentiality of goods/services was pivotal in both the cases. Many cases provide precedents to the similar reasoning: for instance, *Eastern States Lumber Dealers' Association v United States*²⁷ and *Klor's, Inc. v Broadway-Hale Stores, Inc.*²⁸ Of particular interest is *Silver v NYSE*²⁹ where the court held the Exchange's decision to terminate two brokers' direct wire connection was violating Section 1 of Sherman Act, holding that 'valuable service germane to petitioner's business and important to their effective competition with others was withheld from them by collective action.'³⁰

The courts have been cautious however, by avoiding blanket mandates to declare all group-boycotts illegal. For instance, in *Northwest Wholesale Stationers, Inc. v Pacific Stationery and Printing Co.*³¹ the court expressly held that, 'Unless the cooperative possesses market power or exclusive access to an element essential to effective competition, the conclusion that expulsion is virtually always likely to have an anticompetitive effect is not warranted.... Absent such a showing with respect to a cooperative buying arrangement, courts should apply a rule-of-reason analysis.'³² Notice that not all cases had issues pertaining to competition but definitely with essential goods/services, unilateral refusals to deal with which was imposing severe fairness considerations.

²³See, for instance, *United States v New England Fish Exch.*, 258 F 732 (D Mass 1919), which was somewhat similar to Terminal Railroad case, but the court declared illegal the fish exchange made by comprising of all local fish wholesalers.

²⁴*Associated Press v United States* (1945) 326 US 1, 8, 21.

²⁵*ibid* 11–12.

²⁶*ibid* 13, 17.

²⁷*Eastern States Lumber Dealers' Association v United States* (1914) 234 US 600.

²⁸*Klor's, Inc. v Broadway-Hale Stores, Inc.* (1959) 359 US 207.

²⁹*Silver v NYSE* (1963) 373 US 341.

³⁰*ibid* 349.

³¹*Northwest Wholesale Stationers, Inc. v Pacific Stationery and Printing Co* (1985) 472 US 284.

³²*ibid* 296–297.

However, a clearer jurisprudence evolved from interpreting Section 2 of the Sherman Act,³³ where one party's alleged control of some 'essential facility' is enough to invoke the doctrine. Consider *United States v Griffith*,³⁴ which invalidated the monopoly power of theatres in one geographical market to use their positions and occupy monopoly power in another market. The court stated that 'the use of monopoly power, however lawfully acquired, to foreclose competition, is unlawful.'³⁵ Note that in both cases, courts were trying to prevent monopoly power to beget further monopoly power. This is indeed the case in owning essential rival goods/services, sole access to which can greatly enhance monopoly power of firms that own them. After *Otter Trail*³⁶ and *Aspen Highlands*³⁷ cases, the doctrine was etched in legal memory to be invoked frequently in subsequent cases. In the former case, Otter Trail, which was an integrated electric utility company attempted to prevent entry of distribution players in the business by refusing to sell or transmit wholesale power to them. Even though not specifically articulated in the EFD context, the court held the conduct unlawful because the '[u]se of monopoly power 'to destroy threatened competition' is a violation of the 'attempt to monopolise' clause of Section 2 of the Sherman Act'³⁸ and therefore paved way for broader understanding of EFD. Similarly in *Aspen Highlands* case, the court declared the refusal to access the three skiing mountains by the owners to the owner of a fourth mountain who wanted to offer a joint lift ticket in cooperation with the three, anticompetitive and therefore unlawful.³⁹ Interestingly, that even in *Aspen Highlands*, the court never explicitly mentioned EFD. On the contrary, it went to suggest that it was 'unnecessary to consider the possible relevance of the 'essential facilities' doctrine...'⁴⁰ This view is noteworthy for another reason—many firms engage in unilateral actions everyday, both to accept and refuse and there is no reason to believe that all such actions warrant similar judicial reactions.⁴¹ Yet, the common binding factor is that of how refusing access to essential facility could result in potential anticompetitive effects. Scholars have located the doctrinal original in cases including this one and these precedents structure how judicial viewpoints are shaped in time.

³³US Sherman Act 1890, s 2.

³⁴*United States v Griffith* (1948) 334 US 100.

³⁵*ibid* 107. The reasoning is very similar to *Berkey Photo, Inc v Eastman Kodak Co* (1979) 2nd Circuit 603 F2d 263, cert denied 444 US 1093 (1980).

³⁶*Otter Tail* (n 11).

³⁷*Aspen Highlands Skiing Corp v Aspen Skiing Co* (1984) 10th Circuit, 738 F2d 1509.

³⁸*ibid* 377.

³⁹*ibid* 610–611.

⁴⁰*ibid* 611.

⁴¹See for instance, Phillip Areeda, 'Essential Facilities: An Epithet in Need of Limiting Principles' (1990) 58(4) Antitrust LJ 841, 844. See also Philip E Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and their Applications* (3rd edn, Wolters Kluwer Law & Business 1995), which shows that there is no general conclusion from Supreme Court's pronouncements that firms should always make its facilities available.

Therefore, which cases will strictly fall under EFD could be disputable. Werden⁴² makes a logical categorization and other than *Terminal Railroad* and *Otter Trail*, suggests that two other major cases be considered under the category of strictly EFD: *Gamco, Inc. v Providence Fruit and Produce Building, Inc.*⁴³ and *Hecht v Pro-Football, Inc.*⁴⁴ but the latter deserves special mention because it was the first case to expressly use the term, ‘essential facility doctrine.’ In *Hecht*, a covenant prohibiting leasing the stadium to any other professional football team was challenged and the court opined, ‘essential facility doctrine would also support an allegation that the Redskins’ refusal to waive the restrictive covenant constituted illegal monopolization under section 2’.⁴⁵ The definitional impact of this judgement for EFD was also recognised by Sixth Circuit in 1979.⁴⁶

Perhaps the most significant case that rests entirely on EFD and proposes a systematic test to establish liability for the doctrine is the famous *MCI* case.⁴⁷ The case involved AT&T refusing access to its local Bell facilities to MCI, which the latter challenged. The court of appeals sustained the jury opinion that AT&T’s action constituted violation of Section 2 of Sherman Act. The court stated that:

the case law sets forth four elements necessary to establish liability under the essential facilities doctrine: (1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.⁴⁸

This four-part test was subsequently adopted by the court in *Aspen Highlands* case.⁴⁹ The doctrine has subsequently been extensively applied in cases involving

⁴²Gregory J Werden, ‘The Law and Economics of the Essential Facility Doctrine’ (1987) 32(2) St Louis U LJ 433.

⁴³*Gamco, Inc. v Providence Fruit and Produce Building, Inc.* 1st Circuit, 194 F2d 484, cert denied 344 US 817 (1952).

⁴⁴*Hecht v Pro-Football, Inc.* (1977) DC Circuit 570 F2d 982, cert denied 436 US 956 (1978).

⁴⁵*ibid* 993. The court also mentioned before reaching the conclusion that:

The essential facility doctrine, also called the ‘bottleneck principle,’ states that ‘where facilities cannot practicably be duplicated by would-be competitors, those in possession of them must allow them to be shared on fair terms. It is illegal restraint of trade to foreclose the scarce facility.’ This principle derives from [*Terminal Railroad*] and was recently reaffirmed in [*Otter Trail*]; the principle has regularly been invoked by the lower courts. (See *ibid* 992, footnotes omitted).

⁴⁶In dictum, the Sixth Circuit stated, ‘There also exists a... line of cases which has been styled as promulgating the ‘bottleneck theory of antitrust law.’ Under this approach, a business or group of businesses which controls a scarce facility has an obligation to give competitors reasonable access to it.’ See *Byars v Bluff City News Co* (1979) 6th Circuit, 609 F2d 843, 856.

⁴⁷*MCI* (n 11).

⁴⁸*ibid* 1132–33. The case cited *Hecht, Otter Trail, Terminal Railroad*.

⁴⁹Two other quick follow up cases which invoked the EFD—as categorised in Werden (n 42) 446–447 are *Fishman v Estate of Wirtz* ((1986) 7th Circuit, 807 F2d 520) and a district case,

non-tangible assets.⁵⁰ After the four-part test, the lower courts have construed it rather narrowly.⁵¹

However, recently, American jurisprudence in favor of EFD has suffered limiting checks, especially in appreciating the role of regulatory bodies to address the issue, and encouraging EFD only for those cases where regulation has not been able to settle points of contentions. Of particular importance is the famous *Trinko*⁵² case. It was a class action suit brought against Verizon (local telephone monopolist), alleging antitrust violations since Verizon had not shared its network with rivals, even when this was mandated in Telecommunications Act 1996.⁵³ The court declined that there was an antitrust liability⁵⁴ while opining that the defendant had no general duty to deal with rivals with whom it did not have a prior course of dealing.⁵⁵ The court announced that the doctrine only ‘crafted by some lower courts’⁵⁶ and that it had ‘never recognized such a doctrine...and find no need either to recognize it or to repudiate it here’.⁵⁷ Post-*Trinko* era has been characterized by increasing scepticism of EFD, and only those cases have survived the EFD claims who have been operating in unregulated market.⁵⁸ In 2007, the Antitrust Modernization Commission recommended that ‘[r]efusals to deal with horizontal rivals in the same market should rarely, if ever, be unlawful under antitrust law, even for a monopolist’.⁵⁹ The Justice Department in 2008 suggested that EFD be out rightly abolished.⁶⁰

Consolidated Gas Co of Florida v City Gas of Florida, Inc ((1987) SD Fla, 1987–2 Trade Cas 1 67,741).

⁵⁰*BellSouth Advertising & Publishing Corp v Donnelly Information Publishing, Inc*, (1991) 11th Circuit, 933 F2d 952 (holding that the doctrine applies to both ‘physical structures’ and ‘services’, such as ‘information wrongfully withheld,’ including the service of providing business classifications for telephone directories), vacated, (1992) 11th Circuit, 977 F2d 1435, and reversed en banc on other grounds, (1993) 11th Circuit, 999 F2d 1436, cert denied 114 S Ct. 943 (1994).

⁵¹Lao (n 3) 565.

⁵²*Verizon Commc’ns Inc v Law Offices of Curtis V Trinko, LLP* (2004) 540 US 398.

⁵³*ibid* 402, 404. Also note that the Federal Telecommunications Commission had already fined Verizon for breaching its statutory obligations. This was expressly recognised in the judgement, see *ibid* 413.

⁵⁴*ibid* 407.

⁵⁵*ibid* 410.

⁵⁶*ibid* 410.

⁵⁷*ibid* 411.

⁵⁸See, eg, *Nobody in Particular Presents, Inc v Clear Channel Commc’ns, Inc* (2004) 311 F Supp 2d 1048, 1113–14.

⁵⁹Antitrust Modernization Commission, Report and Recommendations, 101–04 (2007), cited in Spencer Weber Waller and William Tasch, ‘Harmonizing Essential Facilities’ (2010) 76(3) Antitrust LJ 741, 744.

⁶⁰US Department of Justice, Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act 127–29 (2008) cited in Spencer and Tasch, *ibid* 744.

2.2 Doctrine's Origin in Europe

EFD as it appeared in the US inspired many jurisdictions at multiple levels. Yet, since the doctrine expressly relies on its ability to read issues through competition law lens, there is a need to understand the legal framework that deals with competition law in US and Europe. Section 2 of the Sherman Act in US not only assumes the name of Section 82 of the European Commission (EC), but also differs markedly in spirit.⁶¹ While Section 2 of the Sherman Act punishes willful acquisition or maintenance of monopoly power by the use of exclusionary conduct,⁶² Article 82 EC prohibits abuse of dominant position by an undertaking in the common market.⁶³ In several ways, EC's approach is more sympathetic to the cause of EFD more than that of US.

It is important to note that the genesis of competition law in Europe reflected a desire to break down trade barriers and promote economic integration, in the hope that this would lead to a period of stability and peace in the post-war European environment.⁶⁴ That is why, the core objectives of Article 82 EC are to protect competition on the market as a means of enhancing consumer welfare, ensuring an efficient allocation of resources⁶⁵ and to ensure fairness and protect small and medium-sized firms.⁶⁶ Basic notions of fairness⁶⁷ and the idea that small and medium sized firms need protection feature more prominently under Article 82 EC than the equivalent provision in US, Section 2 of the Sherman Act. The origins of 'fairness' concerns under Article 82 EC reflect the impact of German *ordoliberal* thinking,⁶⁸ which attached importance to the notion that large firms should not unfairly limit their rivals' production and access to markets-on the initial drafting of Article 82 EC.⁶⁹

⁶¹See J Bruce McDonald 'Section 2 and Article 82- Cowboys and Gentlemen' (Second Annual Conference, College of Europe, Global Competition Law Centre, Brussels, 16–17 June 2005) <<https://www.justice.gov/atr/speech/section-2-and-article-82-cowboys-and-gentlemen>> accessed 25 September 2017. See also Robert O'Donoghue and Atilano Jorge Padilla, *The law and economics of Article 82 EC* (Hart 2006) 11–12.

⁶²See *United States v Grinnell Corp* (1966) 384 US 563.

⁶³See EC Treaty, art 82.

⁶⁴McDonald (n 61).

⁶⁵See 'DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses' (Brussels 2005), para 4.

⁶⁶McDonald (n 61) 7.

⁶⁷Courts were like the spectators. Adam Smith aptly describes in Adam Smith, *The Theory of Moral Sentiments* (first published 1959, Penguin 2010) 101, 'In the race for wealth, and honours, and preferments, he may run as hard as he can, and strain every nerve and every muscle, in order to outstrip all his competitors. But if he should jostle, or throw down any of them, the indulgence of the spectators is entirely at an end'.

⁶⁸John Kallaugh and Brian Sher, 'Rebates revisited: Anticompetitive effects and exclusionary abuse under Article 82' (2004) *European Competition Law Review* 263.

⁶⁹McDonald (n 61) 7.

On the other hand, US antitrust law, which is much older, was borne of the desire to dismantle a number of cartels and conglomerates, or ‘trusts’ as they were known, that had come to dominate late 19th century economic life in the US, with adverse effects for consumers. Over a period of time, influenced by the vagaries of Great Depression,⁷⁰ post-war reconstruction efforts,⁷¹ and academic writings, particularly of the Chicago School⁷² informed the fundamental purpose of US antitrust law to protect the public from the failure of the market. As noted by the Supreme Court, ‘the law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself.’⁷³ American antitrust laws ‘are for the benefit of competition, not competitors.’⁷⁴

This is precisely why Section 2 of the Sherman Act adopts a more minimalist, or less interventionist, approach to enforcement than Article 82 EC. Section 2 of the Sherman Act encourages a monopolist even, to compete aggressively on merits.⁷⁵ Even if such aggressive competition harms less efficient firms, it is the sort of competition that promotes the consumer interests that the Sherman Act aims to foster.⁷⁶ The underlying principle of US antitrust law is that striving for monopoly is an important element of the free-market system because it induces risk taking that produces innovation and economic growth.⁷⁷ The successful competitor, having been urged to compete, must not be turned upon when he wins.⁷⁸ In contrast, in Europe, dominant firms must be mindful of their rivals and not necessarily celebrate their successes in isolation.⁷⁹ Dominant undertakings have a ‘special responsibility’ not to allow its conduct to impair genuine undistorted competition on the common market.⁸⁰

It is easy to imagine from preceding discourse that the intervening doctrine of essential facility will find more conducive environment in Europe. This is indeed the case. The doctrine was openly introduced by the EC in early 1990s and has indirectly inspired the legislation concerning deregulation of traditional natural

⁷⁰See Wayne D Collins, ‘Regulation, Deregulation and Antitrust Law’ (1985) 7(1) Antitrust (Newsletter) 8.

⁷¹See James May, ‘Historical Analysis in Antitrust Law’ (1990) 35(4) N Y L Sch L Rev 857, refer to the economic policy during the post-war period.

⁷²See Alan Devlin, ‘Antitrust in an Era of Market Failure’ (2010) 33(2) Harv J L & Pub Pol’y 557.

⁷³*Spectrum Sports, Inc v McQuillan* (1993) 506 US 447, 458.

⁷⁴*Ball Mem'l Hosp, Inc v Mutual Hosp Ins, Inc* (1986) 7th Circuit, 784 F2d 1325, 1338.

⁷⁵See *Olympia Equip Leasing Co v Western Union Tel Co* (1986) 7th Circuit, 797 F2d 370, 375.

⁷⁶See *Copperweld Corp v Independence Tube Corp* (1984) 467 US 752, 767.

⁷⁷See *Verizon Communications Inc v Law Offices of Curtis v Trinko, LLP* (2004) 540 US 398, 407.

⁷⁸*United States v Aluminum Co of Am* (1945) 2nd Circuit, 148 F2d 416, 430.

⁷⁹McDonald (n 61) 4.

⁸⁰Case T-219/99 *British Airways plc v Commission* (2003) Court of First Instance 2003 ECR 242.

monopolies.⁸¹ A nontrivial scholarly literature emerged alongside⁸² and only bolstered the existence of the doctrine in the EU. Like in the US, where judicial pronouncements decided the scope and institutional heaviness of the doctrine, in the EU, the Commission has developed an extensive case law referring to the doctrine expressly, and sometimes subtly.

The first case in which the principle was applied in 1974: *Commercial Solvents Corp v Commission of the European Communities*.⁸³ The judgement proposed that a dominant supplier of an input abused its dominant position when it refused to supply the input to a customer, the supplier's competitor in the downstream derivative market. *B&I/Sealink*⁸⁴ was one of the very first case in which the doctrine was explicitly applied. The case concerned Sealink as the owner of the port changed the timings in a way that its vessels obstructed B&I's loading procedure. A similar case was that of *Sea Containers/Stena Sealink*,⁸⁵ where the complainant was a new comer desiring entry into the market. The Commission granted interim measures in favour of the complainants in both cases. Up to this point, only a faint picture of 'essential facilities' could be drawn including any facility or infrastructure without access to which competitors could not provide services to their customers. There had to be some test to determine which facilities would be truly 'essential' or 'indispensable' rather than merely desirable. At the same time, the questions pertaining to actual access or sharing of facilities were also not yet answered. It was pertinent to decide whether the parties themselves or some authority, like the Commission, should dictate the terms of such an arrangement.

Other infrastructure related cases involve tunnels,⁸⁶ airports and ports. For instance, in *London European/Sabena*,⁸⁷ a Belgian firm was asked by the Commission to grant access to its computerized reservation systems to a British firm. In *FAG-Flughafen Frankfurt/Main AG*,⁸⁸ the company operating the airport

⁸¹Vassilis Hatzopoulos, 'The EU Essential Facilities Doctrine' (Research Papers in Law 2006) 3 <https://lsa.umich.edu/content/dam/ces-assets/ces-docs/Hatzopoulos_EU_Essential_Facilities.pdf> accessed 11 May 2018. Even though the authors note that the doctrine has only received limited and indirect support from Court of First Instance and European Court of Justice.

⁸²See generally, Daniel Glasl, 'Essential Facilities Doctrine in EC Antitrust Law: A Contribution to the Current Debate' (1994) ECLR 306; Mark Furse, 'The essential Facilities Doctrine in Community Law' (1995) ECLR 469; Leo Flynn, 'The Essential Facilities Doctrine in the Community Courts' (1999) Commercial Law Practitioner 245.

⁸³Joined Cases 6/73 and 7/73, *Commercial Solvents v Commission* 1974 ECR 223.

⁸⁴*B&I/Sealink*, Decision (interim measures) of 11 June 1992, EC Bull 6-1992, para 1.3.30. On this decision see Nick Maltby, 'Restrictions on Port Operators: Sealink/B&I Holyhead' (1993) ECLR 223.

⁸⁵*Sea Containers/Stena Sealink*, Decision (interim measures) of 21 December 1993, 94/19/EC, EE L 15, 18-1-94, 8.

⁸⁶See, eg, *European Night Services Ltd (ENS) v Commission*, Joined Cases T-374/94, T-375/94, T-384/94 & T-388/94, 1998 ECR II-3141, [1998] 5 CMLR 718.

⁸⁷*British Midland/Aer Lingus*, Decision (1992) 92/213/EEC, EE L 96/34.

⁸⁸*FAG-Flughafen Frankfurt/Main AG*, Decision of 14 January 1998, 98/190/EC, EE L 72, 11-3-98, 30.

was also engaged in ground-handling services without allowing other companies to enter and compete. Notably, Commission's general attitude in this regard has not changed regardless of whether the defendant is a private party of public authority—something clear from the case of *Port of Rødby*⁸⁹ and that of *ICG/CCI Morlaix (Port of Roscoff)*,⁹⁰ where the defendants were Danish government and Chamber of Commerce of Morlaix in Brittany.

European approach to EFD is most visibly pronounced in IPR related cases, and in particular by the famous *Magill*⁹¹ case, which was not only affirmed by European Court of Justice (ECJ) but has generated a significant amount of scholarship.⁹² The case investigated and confirmed that three broadcasters of television programs in their refusal to grant licenses to Mr. Magill for publication of their weekly listing by him were considered engaging into abusive and anticompetitive practices. *IMS Health*⁹³ case has also given rise to a heated debate.⁹⁴ It involved access of IMS Health's (a market research company) patented database structure (brick structure) to other firms on market research to produce a more competitive database. The court said that 'on the premise ... that the use of the 1860 brick structure is indispensable to allow a potential competitor to have access to the market'.⁹⁵

Perhaps the most significant case in the segment of IPR is that of *Microsoft*.⁹⁶ After a lengthy investigation, in 2004, the EC issued its decision against Microsoft. The Commission identified two infringements of Article 82 EC: (a) refusal to supply interface information to competitors to achieve client-to-client and server-to-server interoperability and leveraging its dominant position in the PC-client operating system market into the market for work-group server operating system under Article 82(b) EC, and (b) technological integration or 'tying' of Windows with Windows Media Player under Article 82(d), EC. The Commission imposed a record fine of €497 million, in addition to requiring Microsoft to provide the interoperability information and to produce Windows without Windows Media Player. Microsoft appealed and on 17 September 2007, the European Court of First Instance upheld the Commission's decision that Microsoft had abused its dominant position.

⁸⁹*Port of Rødby*, Decision of 21 December 1993, 90/119/EC, EE L 55, 26-2-94, 52.

⁹⁰*ICG/CCI Morlaix (Port of Roscoff)*, Decision (interim measures) of 16 May 1995 (IV/35.388) 5 CMLR (1995), 177.

⁹¹*Magill TV Guide/ITP, BBC & RTE*, Decision of 21 December 1989, OJ L 78, 43.

⁹²See Richard Whish, *Competition Law* (5th edn United Kingdom, Butterworth & Co Publishers 2003) 665 and its bibliography.

⁹³*NDC Health/IMS Health*, Decision (interim measures) of 3 July 2001 OJ 2002 L 59, 18.

⁹⁴Valentine Korah, 'The Interface between Intellectual Property and Antitrust: The European Experience' (2001) 69(3) Antitrust LJ 801 (asking how there could be copyright in a list). See also Frank Fine, 'NDC/IMS: In Response to Professor Korah' (2002) 70(1) Antitrust LJ 247; John Temple Lang, 'Comment on Professor Korah's Paper Essential Facilities and Duty to License-IMS' (10th Annual Conference on International Intellectual Property Law and Policy, Fordham University School of Law, 2001).

⁹⁵*NDC Health* (n 93), para 22.

⁹⁶Commission Decision of 24 March 2004, COMP/C-3.37.792, C(2004) 900 final.

The case of *Bronner*⁹⁷ reflects the shift in courts' priorities. It not only restricts the scope of the doctrine by limiting its usage in situations where owner has more than a dominant position but also imposes a forward looking test, thereby ascertaining whether refusal to deal will lead to monopolization in downstream market.⁹⁸ In a way therefore, this case represents a bridging effort of Section 82 of EC Treaty that talks of abuse of dominant position and Section 2 of Sherman Act in US which centralises monopolization in its context.⁹⁹ The case involved Austria's leading newspaper publishing company refusing to allow another newspaper its delivery services. In addition to addressing the issue on grounds that emerged from existing case laws, the court also held that it is important to observe the refusal is likely to eliminate all competition, and the service being indispensable (there is no actual or potential substitute for home-delivery scheme).¹⁰⁰

Overall, in a way, with *Trinko* and *Bronner* cases, the uncertainty in excavating reasonableness in potential EFD cases seems to have increased. It is in this light that the chapter proposes alternative theoretical benchmarks against which one can view the issues. But before that, it may be useful to highlight how EFD legislations and case law have impressed upon regulatory thought in few other jurisdictions.

3 Application of the Doctrine in IPR Cases: Comparing US and EU Approach

Because of the aggressive competition encouraged by US and the responsible competition standard adopted by Europe, they have been regarded as *cowboy capitalists* and *gentlemen competitors* respectively.¹⁰¹ Close inspection of the legislative language itself surfaces their inherent subtle differences in approach. The European Act is hinged on prohibiting '...abuse by ... undertakings of a dominant position...';¹⁰² while American counterpart forbids actions of '[e]very person who shall monopolise, or attempt to monopolise...'.¹⁰³ Hence, while one attacks dominant position, the other, monopoly. Dominance can be presumed if a single undertaking owns more than 50% of the market share, which reflects in European

⁹⁷Case C-7/97 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG* 1998 ECR I-7791, [1999] 4 CMLR 112.

⁹⁸See Sebastien J Evrard, 'Essential Facilities in the European Union: Bronner and Beyond' (2004) 10(3) Colum J Eur L 491.

⁹⁹*ibid* 491.

¹⁰⁰*ibid*, para 41.

¹⁰¹McDonald (n 61).

¹⁰²Article 82 of EC.

¹⁰³Section 2 of Sherman Act, courts have interpreted that monopolization requires (1) the willful acquisition or maintenance of monopoly power (2) by the use of exclusionary conduct.

approach¹⁰⁴ while in US, any share less than 70% will make it highly unlikely to be appreciated as an antitrust case. Divergent treatment of tying by Microsoft exemplifies this amply. Even though the company had 90% market share and pure monopoly in operating system market, the appeals courts in US required that regardless of the market share, it should be evaluated under a rule of reason, whether there was actual proof of anticompetitive effects in the downstream browser markets.¹⁰⁵ The EC decision on contrast, considered the tie between operating system and downstream media player as outrightly unlawful without delving into excavating proof of impact on consumers.¹⁰⁶ The case laws will help us generalize this observation.

The earlier American approach in deciding the framework of EFD in IPR related cases, was derived in by precedents set by court of Appeals and three different circuits and had presumed the legality of refusal to license cases in nearly absolute terms. The first case in this regard was that of *Data General*,¹⁰⁷ which was a computer manufacturing company, and it declined to license copyrighted diagnostic software to independent service organizations that competed with it in maintenance and repair of its computers. Even though the First Circuit acknowledged that ‘cases in which antitrust liability is unlikely to frustrate the objectives of the Copyright Act are certainly rare’¹⁰⁸ it suggested that this can happen only if there is enough evidence that monopolist had acquired IP protection unlawfully. This was not the case here and affirmed that ‘author’s right to exclude others from use of its copyrighted work is presumptively valid business justification.’¹⁰⁹

This judicial view was further reinforced by Ninth Circuit’s case of *Kodak*,¹¹⁰ in which the legality of refusal to license was extended to even patents, largely based on the fact that presumption of legality could be rebutted by evidence of anti-competitive intent on the part of IP holder who is refusing to license.¹¹¹ The Federal Circuit has crystallised this narrow view in form of a rule, in a case involving Xerox¹¹² that involved Xerox refusing to sell and license its protected replacement parts and software maintenance, driving the plaintiff out of the service market. The court held that a patent holder is free to exclude competition altogether in more than one antitrust market, absent exceptional circumstances.¹¹³

¹⁰⁴See, eg, Case 27/76 *United Brands v Commission* (1978) ECJ 1978 ECR 207, para 65.

¹⁰⁵*United States v Microsoft Corp* (2001) DC Circuit, 253 F3d 34, 84.

¹⁰⁶Case COMP/C-3/37.792 *Microsoft*, para 5.3.2.1.4 (24 March 2000); *ibid*.

¹⁰⁷*Data General Corp v Grumman Systems Support Corp* (1994) 1st Circuit, 36 F3d 1147.

¹⁰⁸*ibid* 1187.

¹⁰⁹*ibid*.

¹¹⁰*Image Technical Services, Inc v Eastman Kodak Co* (1997) 9th Circuit, 125 F.3d 1195.

¹¹¹*ibid* 1218.

¹¹²*In re Independent Services Organizations Antitrust Litigation (CSU v Xerox)*: (2000) Federal Circuit, 203 F3d 1322.

¹¹³*ibid* 1327.

The US therefore, appeared to grant immunity to firms refusing to license, in view of stronger support for rights-based-framework as deciding factor between justified and unjustified restraints of competition.¹¹⁴ Such views, which favor one area of law (IPR) compared to another (competition) rest on assuming that relationship between IPR and competition law is conflicting—a myopic outlook for appreciating their complementary set up to promote innovation.¹¹⁵ Although it appears that courts have generally been inclined to recognise the loss of incentives to innovate and invest rather than antitrust duty to license.¹¹⁶

This need to ensure companies' IP incentives are not diluted was further observed by the Supreme Court in *Trinko* case.¹¹⁷ The court argued that while invoking Sherman Act's Section 2 is plausible, but its applicability is limited by (a) enabling the firm to be free in using their property thereby incentivizing them to innovate, (b) court's ill-equipped competence to determine terms of dealing, and (c) possibility of collusion in compelled negotiation.¹¹⁸ This judgement shows American legal system's inclination to tilt in favor of IP rights and its acceptance of certain degree of market power that could spur innovation.¹¹⁹ There are good reasons to doubt these viewpoints and scholarly work has shown that innovation may actually be higher in competitive markets.¹²⁰ Regardless of the merits in arguments, the insulation of IPR against application of antitrust law in American judgements stifles EFD's fertility.

The European approach (driven by the Commission and ECJ) is fairly different from the American.¹²¹ This has been mentioned in the preceding part of the chapter, but authors look at it more closely here. Even though considerations of long-term incentives and contractual freedom is espoused regularly, the imposition of duty to license that interferes with the IPR is common—giving it an IP-friendly color. Even though EFD principle has been implemented in judgements of European courts from 1988, a major thrust to evolving jurisprudence in this regard came in *Magill* case.¹²² The three broadcasters of TV programs in Ireland used to provide their

¹¹⁴Beatriz Conde Gallego, 'Unilateral refusal to license at indispensable intellectual property rights—US and EU approaches' in Josef Drexler (ed), *Research handbook on intellectual property and competition law* (Edward Elgar Publishing 2010) 218.

¹¹⁵*ibid* 219.

¹¹⁶*ibid*.

¹¹⁷For a critical analysis of *Trinko* decision, see Josef Drexler, 'IMS Health and Trinko—Antitrust placebo for consumers instead of sound economics in refusal-to-deal cases' (2004) 35 *IIC—International Review of Intellectual Property and Competition Law* 788.

¹¹⁸*ibid*.

¹¹⁹*ibid*.

¹²⁰The argument was made first, very powerfully, in Kenneth Arrow, 'Economic Welfare and the Allocation of Resources for Innovations' in Richard R Nelson (ed), *The Rate and Direction of Inventive Activity* (Princeton University Press 1962).

¹²¹For a quick overview of case law of the ECJ on refusal to license, see Richard Whish, *Competition Law* (London: LexisNexis 2003) 758–762.

¹²²*Magill* (n 91).

copyrighted program schedules to daily newspapers free of charge, but there was no comprehensive weekly listing guide. When Mr. Magill attempted to produce an Irish guide of all channels, he was refused the copyright license. He complained to the EC. The Commission considered it violating Article 86 of Rome Treaty,¹²³ and this view was endorsed by the ECJ, which stated, ‘prevented the appearance of a new product, a comprehensive weekly guide to television programmes, which the appellants did not offer and for which there was a potential consumer demand.’¹²⁴ Further, it argued that the appellant had monopolized ‘the secondary market of weekly television guides by excluding all competition in that market since they denied access to the basic information which is the raw material indispensable for the compilation of such a guide.’ It explained why this case fits into the ‘exceptional circumstances’ where a refusal to license prevented the appearance of a new product. The reading of the case clearly depicts European approach to be far more considerate towards competition issues in comparison to its IPR counterparts.

Several uncertainties arising out of *Magill* case were put to an end in the next landmark judgement, *IMS Health* case.¹²⁵ It concerned a copyrighted ‘1860-brick-structure’ for processing regional sales data becoming *de facto* industry standard in Germany. The copyright holder’s refusal of the license, even though acknowledged as non-abusive in nature generally, was held to constitute as a violation of Article 82 EC. It laid out three cumulative conditions to be satisfied for refusal to license to constitute an abuse, namely (a) refusal must prevent emergence of new product for which there is a potential consumer demand, (b) it must be unjustified, and (c) it must exclude any competition on a secondary market.¹²⁶ In addition to offering legal certainty to gaps left unfilled from *Magill* case, the ECJ in this judgement, broadly interpreting *Magill*, also ‘does away with leveraging of market power between two distinct markets as an independent form of abuse in cases involving IPRs.’¹²⁷

The attitude of Commission only resonates that of the judiciary, in its willingness to affirm a duty to license under Article 82 EC. Even though the Commission did not consider *IMS Health* case as that involving leveraging, it did so in the *Microsoft* case.¹²⁸ Moreover, it applied a new balancing test, comparing the possible negative impact that duty to license may have on right holder’s incentives to innovate, and the positive impact of this duty on the level of innovation of the whole industry.¹²⁹ This reasoning is also reflected in Commission’s Discussion

¹²³art 86 prohibits all kinds of ‘Abuse by one or more undertakings of a dominant position within the common market.’

¹²⁴*Magill* (n 91), para 54.

¹²⁵*NDC Health* (n 93).

¹²⁶*ibid*, para 48.

¹²⁷Gallego (n 114) 223.

¹²⁸See European Commission of 24 March 2004, *Microsoft* (n 106).

¹²⁹See Francois Leveque, ‘Innovation, Leveraging and Essential Facilities: Interoperability Licensing in the EU Microsoft Case’ (2005) 28 *World Competition* 28 71-75.

Paper¹³⁰ on exclusionary abuses, which mentions that for refusal to license to be abusive, following conditions¹³¹ have to be met: (a) there is a refusal to license (it also includes license with unreasonable terms,¹³² or dilatory tactics by dominant firm¹³³), (b) right holder has a dominant position in the relevant (mostly upstream) market, (c) the IPR is indispensable, (d) there is likely market-distortory foreclosure effect on downstream market, (e) no negative effects on long-run incentives to innovate, and (f) refusal to license prevents the emergence of a new product. Indeed, EC's decision in the *Microsoft* case¹³⁴ was to make available, on reasonable and non-discriminatory terms, proprietary information on certain Windows communication protocols since it refused to supply them to a rival, was not a surprise.

This suggests a very broad understanding of how EFD could be interpreted and incorporated into the legal thought process of the EC or judiciary. In their expansive approach, the Commission has relied on not just the precedence but adequate economic analysis to understand tension (if at all) between IPR and competition law, and sought to resolve it by means of sculpturing informed judgement on how to determine whether a specific case falls under the exceptional criteria. The interventionist approach of EC reflects its obsession with false negatives and more confident in predicting outcomes. On the other hand, US Supreme Court feels that 'cost of false positives counsels against an undue expansion of Section 2 liability.'

4 Application of the Doctrine in India

Interestingly, India witnesses application of EFD not through competition framework, but through intervention of sectoral regulatory institutions. And in post-*Trinko* era, having regulatory agencies manage the doctrine in their respective industries, is no unusual in the West either.¹³⁵ The regulatory agencies do possess superior competence and information over competition courts for managing

¹³⁰DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuse' (Brussels—European Commission 2005) <<http://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>> accessed 24 April 2018.

¹³¹*ibid* 64–67.

¹³²*Deutsche Post AG-Interception of Cross Border Mail*, OJ 2001 L 331/40, para 103. See also Discussion paper, para 225.

¹³³See Commission Decision of Jun. 4, 2004, Case COMP/38.096, *Clearstream* (Clearing and Settlement); see also *Sea Containers v Stena Sealink-Internal measures*, OJ 1994 L 15/8, paras 70–74.

¹³⁴*Microsoft* (n 106), paras 4.1.2, 5.3.1, 6.1.1. *United States* (n 105).

¹³⁵Joseph D Kearney and Thomas W Merrill, 'The Great Transformation of Regulated Industries Law' (1998) 98(6) *Colum L Rev* 1323.

complex access arrangements.¹³⁶ These sector regulators are intimately linked with infrastructure provisions, and therefore relate to physical assets more than non-tangible ones. Primary legislative frameworks in this regard are that of the Telecom Regulatory Authority of India Act (TRAI) 1997, the Electricity Act 2003 and the Petroleum and Natural Gas Regulatory Board Act (PNGRB) 2006.¹³⁷

Section 11(1) (c) and Section 11(1) (l) of the TRAI Act, mandate interconnection and technical compatibility between various service providers and maintain a register of such agreements.¹³⁸ Enacting the *Telecommunication (Broadcasting and Cable Services) Interconnection Regulation 2004* where the arrangements to guide the interconnection and revenue share among service providers is enumerated, is a step in this direction.¹³⁹ In addition, TRAI has also enacted *The Telecommunication Interconnection (Reference Interconnect Offer) Regulation 2002* which specified the terms and conditions on which interconnection of its network with that of other service providers seeking interconnection rests. In 2003, the *Telecommunication Interconnection Usage Charges (IUC) Regulation* was passed that encouraged regular consultation with stakeholders to preserve coherence in the interconnection regime was followed.¹⁴⁰

The Petroleum and Natural Gas Regulatory Board Act (PNGRB) 2006 Act exhibits the idea of essential facilities in the definition of ‘common carrier’ or ‘contract carrier. Section 2(j) mentions that there is non-discriminatory open access given by the Board from time to time to pipelines for transportation of petroleum and related products. Section 2(m), which defines ‘contract carrier’ as ‘such pipelines for transportation of petroleum, petroleum products and natural gas by more than one entity pursuant to firm contracts ... as may be declared by the Board...’. The board can also regulate the open access and transportation rate under Section 61(e).¹⁴¹ Further, in 2008, the Ministry of Petroleum and Natural Gas

¹³⁶Philip J Weiser, ‘The Relationship of Antitrust and Regulation in a Deregulatory Era’ (2005) 50 (4) Antitrust Bull 549.

¹³⁷For an illustrative account, see Pradeep Mehta, ‘Is there a Case for Essential Facility Doctrine in India?’ in Pradeep S Mehta (ed), *Competition and Regulation in India 2011: Leveraging Economic Growth Through Better Regulation* (Jaipur: CUTS International & CIRC 2012).

¹³⁸The Telecom Regulatory Authority of India Act 1997 (TRAI), ss 11 (1)(c), 11 (1)(l).

¹³⁹s 3(2) of the Act asserts that ‘Every broadcaster shall provide on request signals of its TV channels on non-discriminatory terms to all distributors of TV channels...’.

¹⁴⁰This success of the interconnect regime engineered by the telecom regulator is reflected in the growth of the sector as well. The number of subscribers has increased to 764.77 million in 2010 from merely 76.54 million in 2004. Private sector participation which was 5% in 1999 has increased to 84.5% in 2010. Growth rate of rural telephones has also increased from 16% in 2004 to 32.81% in 2010 of which 84.5% of telephone connections are provided by the private operators. See Economic Survey (2010–11), Government of India.

¹⁴¹The Petroleum and Natural Gas Regulatory Board Act (PNGRB) 2006, s 61(e).

issued a draft regulation according to which, once an infrastructure is declared common user facility, it is compulsory for the body owning the capacity to share it with the other users.¹⁴²

The Electricity Act 2003 captures elements of EFD by defining what it terms, 'open access' (stated under Section 42(2) and 47(2) of the Act).¹⁴³ Open access implies non-discriminatory provision of distribution or transmission to any licensee, consumer or a person engaged in generation in accordance with the regulations specified by the Appropriate Commission. Further, the Act under Section 38(2)(d) directs the Central Transmission Utility to provide non-discriminatory access of transmission to the licensee or generating company on payment of transmission charges and to any consumer when open access is provided by State Commission.¹⁴⁴ A similar provision is made for the State Transmission Utility and Transmission Licensee under Section 39(2)(d) and 40(2)(d) respectively.¹⁴⁵

In the context of IPR, relevant statutory provision in Competition Act 2002 is 3 (5), which immunises those from competition law, who are protecting their IPR, as long as such protection is reasonable.¹⁴⁶ However, even though there is no suggestive list of what actions would be unreasonable, one can craftily interpret exclusive licensing or no licensing (given certain necessary conditions) as one of those actions. This was affirmed by the High Court of Delhi, in *Gramophone Company of India Ltd. v Super Cassette Industries Ltd.*¹⁴⁷ The Supreme Court, in *Entertainment Network (India) Ltd. v Super Cassette Industries Ltd.*,¹⁴⁸ noted that even though the copyright owner has complete freedom to decide the licensing provisions, this right is not absolute and is subject to the compulsory licensing schemes. The *Bayer v Natco* case which involved first issuance of compulsory license in India is one major case that has potential to create strong precedent. The case law is rather scanty with little help to estimate the general ideological pattern that seems to be emerging in IP-competition law conflict. And perhaps more importantly, no case as yet has been filed with the Commission invoking EFD.

¹⁴²The industry has responded positively to these interventions leading to explorations off the East coast and development of new Liquefied Natural Gas terminals like Dabhol and Kochi. See D Bhattacharyya and D Singh, 'India' in Geoffrey Picton-Turberville (ed), *The International Comparative Legal Guide to: Gas Regulation 2010* (Global Legal Group: UK 2010).

¹⁴³The Electricity Act 2003, ss 42(2), 47(2).

¹⁴⁴*ibid*, s 38(2) (d).

¹⁴⁵State Transmission Utility and Transmission Licensee Act, ss 39(2)(d), 40(2)(d).

¹⁴⁶Competition Act 2002, s 3(5).

¹⁴⁷*Gramophone Company of India Ltd. v Super Cassette Industries Ltd.* MIPR 2010 (2) 349.

¹⁴⁸*Entertainment Network (India) Ltd. v Super Cassette Industries Ltd.* (2008) Supreme Court, (4) ALD 47.

5 Problems with the Indian Approach

While it appears that infrastructure provision has in spirit, captured the essence of EFD in India, there are inherent conflicts in this setting. Firstly, the impact has not been uniform. For instance, the said ‘open access’ in electricity has not translated facility sharing in reality for a variety of complex reasons.¹⁴⁹ Secondly, and at principle level, regulatory response is *ex-ante* as compared to intervention by competition authorities, which is usually *ex-post* in such cases.¹⁵⁰ The regulatory agencies aim to ‘build’ markets and the competition commissions are expected to ‘repair’ them. In countries like India, where concept of regulatory institutions is rather new (as imported from Washington Consensus) the need to repair is high because of fossilised structure of markets that has high likelihood of being anti-competitive and distortionary. Consider the pre-liberalization monopolists still seeking rent that began in the *license raj*.¹⁵¹ Scholarly literature on regulatory institutions of Global South is emerging slowly,¹⁵² and there is little doubt in the scepticism shared by scholars in its nascent position and modest success.¹⁵³ *Ex-ante* approaches should be preferred when old market structures are in sync with contemporary growth trajectory of the country—this is clearly not the case with India. After experimenting with first stage of reforms,¹⁵⁴ India is witnessing paradigm shifts in which interactions between state and the market are occurring. In such dynamic shifts, *ex-ante* regulation needs a very crucial support of ex post monitoring, and ‘remedy’ the fissures that surface in time. Competition authorities, by nature and definitional mandate, have been equipped to provide these very remedies.

Thirdly, there are significant overlaps between sector regulators and Competition authorities in India, and their resolution is important.¹⁵⁵ This was clear in a suit brought by Reliance Industries Ltd. to Competition Commission of India (CCI) for alleged cartel of its three competitors in supplying fuel to an airline. However, the defendants challenged the jurisdiction of CCI to deal with the matter, in Delhi High

¹⁴⁹See Pradeep Mehta (n 137) 149.

¹⁵⁰Marie-Anne Frison-Roche, ‘Regulation v Competition’ (2011) *The Journal of Regulation*, I-1.30:550.

¹⁵¹Phillipe Aghion and others, ‘The Unequal Effects of Liberalization: Evidence from Dismantling the License Raj in India’ (2008) 98(4) *American Economic Review* 1397.

¹⁵²Navroz K Dubash and Bron Wen Morgan, *The Rise of the Regulatory State of the South: Infrastructure and Development in Developing Economies* (Oxford University Press 2013).

¹⁵³*ibid*.

¹⁵⁴Financial Sector Legislative Reforms Commission, *Report of the Financial Sector Legislative Reforms Commission* (2013).

¹⁵⁵See, for an overview of the issue, Pradeep Mehta and Natasha Nayak, ‘Harmonising Regulatory Conflicts’ (CUTS International 2012) <<http://oldwebsite.iica.in/images/Harmonising%20Regulatory%20Conflicts.pdf>> accessed 10 May 2018.

Court and argued that sector regulator was a more competent authority. The court passed an interim order in favour of the three companies' claim.¹⁵⁶ Similar treatment was suffered by CCI yet again in its case involving investigation of abuse of dominant position by three electricity companies when the state electricity regulatory commission intervened in the investigation claiming its sole jurisdiction to deal with these matters.¹⁵⁷ In the banking sector as well, Reserve Bank of India has argued that issues of mergers in banks should be kept outside the purview of CCI.¹⁵⁸ Even though the Competition Act 2002 encourages cooperation between sector regulators and CCI, particularly in Section 21 and 21 A,¹⁵⁹ little has been achieved on that front.

With regard to non-tangible products, which invokes EFD for IPR related competition issues, the framework is restricted squarely to the concepts of compulsory licensing. Even though the Patent Act 2005 possesses clauses in favor of compulsory licensing, it has only been used once for pharmaceutical products.¹⁶⁰ In terms of pharmaceutical innovation, India never needed compulsory licensing until WTO emerged, because Indian Patents Act 1970 follows a process patent system. Although law permitted process patents on medicines,¹⁶¹ it was rarely sought and had limited scope.¹⁶² This therefore gave rise to a number of local pharmaceutical firms increasing their share of the market.¹⁶³ Indian pharmaceutical firms became larger and more sophisticated. They employed reverse engineering methods to develop new processes for the drugs. Over the next three decades, Indian pharmaceutical industry became extremely competitive and diverse¹⁶⁴ and by 1990s, India started producing the most inexpensive medicines in the world.¹⁶⁵ This way,

¹⁵⁶ibid 28.

¹⁵⁷ibid.

¹⁵⁸ibid 29.

¹⁵⁹Competition Act 2002, ss 21, 21(a).

¹⁶⁰*Bayer Corporation v Union of India, Controller of Patents and NATCO Pharma Limited* MIPR 2013 (2) 97.

¹⁶¹See The Patents Act 1970, No. 39, s 53(1) (a). For example, such patents only lasted for the shorter of five years from the date of grant or seven years from the date the patent was filed.

¹⁶²H Ashok Chandra Prasad and Shripad Bhat, 'Strengthening India's Patent System: Implications for Pharmaceutical Sector' (1993) 28 Economic and Political Weekly 1037.

¹⁶³This was accompanied by other regulatory and policy measures that the government took to encourage building local markets against foreign firms.

¹⁶⁴For an overview of how pharmaceutical industry developed after patent law was enacted, see Sudip Chaudhuri, *The WTO and India's Pharmaceutical Industry: Patent Protection, TRIPS and Developing Countries* (Oxford University Press, New Delhi 2005). See also Aradhna Aggarwal, 'Strategic Approach to Strengthening the International Competitiveness in Knowledge Based Industries: The Indian Pharmaceutical Industry' (Research and Information System for Developing Countries 2004) Discussion paper no 80 <<http://www.ris.org.in/strategic-approach-strengthening-international-competitiveness-knowledge-based-industries-indian-0>> accessed 24 April 2018.

¹⁶⁵ibid.

from patent policy's perspective, access to medicines was not a concern¹⁶⁶—meaning Patent Act 1970 has produced a favored system for access to medicine in India.¹⁶⁷

In 1995, WTO introduced TRIPS, setting up minimum standards of IP regulation,¹⁶⁸ specifying enforcement mechanisms, dispute resolution features and remedies. India opposed TRIPS initially,¹⁶⁹ but finally acceded to the Agreement, since staying out of WTO framework was a difficult choice. However, India bought time until 2005 to comply with TRIPS. By this time, Doha Development Agenda had been carved out as well. In 2005, India adopted TRIPS, and thereby institutionalised *product patent* regime in pharmaceutical sector, supplanting the earlier *process patent* approach in pharmaceutical industry in the Patents Act 2005. But at the same time, invoked the flexibility provided for in the TRIPS Agreement¹⁷⁰ and provide for compulsory licensing regime.¹⁷¹ The compulsory licensing provisions in the Act could be broadly classified into (a) general compulsory licensing provisions; (b) a provision relating to pharmaceutical patents in case of emergency; and (c) a license to export pharmaceuticals to countries with insufficient manufacturing

¹⁶⁶For the role of patents in the evolution of the Indian pharmaceutical industry, see Biswajith Dhar and Niranjana Rao, 'Transfer of Technology for Successful Integration into the Global Economy: A Case Study of the Pharmaceutical Industry in India' (2002) UNCTAD/UNDP Programme on Globalization, Liberalization and Sustainable Development, New Delhi. See also Sudip Chaudhuri, *WTO and India's Pharmaceutical Industry: Patent Protection, TRIPS and Developing Countries* (New Delhi: Oxford University Press 2006).

¹⁶⁷Access to medicines has been a primary concern from the perspectives of affordability though, and largely so. India is overburdened by communicable and infectious diseases alongside an emerging epidemic of non-communicable diseases. But public health spending constitutes around 0.9% of Gross Domestic Product. Government expenditure of health in India is 17.9% of the total health expenditure and remaining 82.1% is private in nature. See Central Bureau of Health Intelligence, *National Health Profile* (New Delhi: Ministry of Health and Family Welfare, Government of India 2005) 77–79. For the details of health financing in India, see also Ministry of Health and Family Welfare, 'National Health Accounts of India 2001–2002' (New Delhi: Ministry of Health and Family Welfare 2005). The World Health Organization's *World Medicine Situation Report* based 1999 data state that out of (the then) 998 million people in India, only 17% has the access to medicine. For an overview, see K M Gopakumar, 'Product Patents and Access to Medicines in India: Critical Review of Implementation of TRIPS Patent Regime' (2010) 3 Law and Development Review 325.

¹⁶⁸TRIPS contains requirements that nations' laws must meet for copyright rights, including the rights of performers, producers of sound recordings and broadcasting organizations; geographical indications, including appellations of origin; industrial designs; integrated circuit layout-designs; patents; monopolies for the developers of new plant varieties; trademarks; trade dress; and undisclosed or confidential information.

¹⁶⁹George K Foster, 'Opposing Forces in a Revolution in International Patent Protection: The US and India in the Uruguay Round and Its Aftermath' (1998) 3(1) UCLA J Int'l L & Foreign Aff 283.

¹⁷⁰See TRIPS Agreement, art 31.

¹⁷¹For a broad overview of Indian patent structure and compulsory licensing, see N S Gopalakrishnan and T G Agitha, 'The Indian Patent System: The Road Ahead' in Ryō Shimanami (ed), *The future of the patent system* (Edward Elgar Publishing 2012).

capabilities; and the grounds on which a general compulsory license can be requested by an interested person after the expiry of three years from the granting of a patent are: (a) the reasonable requirements of the public have not been satisfied; (b) the patented invention is not available to the public at a reasonably affordable price; or (c) the invention is not worked in the territory of India.¹⁷² However, in the last eight years after the enactment of the law, barely any legislation has emerged in this regard. The only case, which has been very popular, is that of *Natco v Bayer*, decided in 2012 which raised significant reactions.¹⁷³ Yet, given how multinational companies are engaging vigorously in making generic drugs and entering into strategic alliance with Indian companies, it is difficult to say with certainty how the judgement will impact the general application of principle of EFD in IPR in India.¹⁷⁴

Until date, there has not been a single competition law case that has invoked the principle of EFD.¹⁷⁵ Yet, the legislative framework on which competition authority is built provides sufficient possibilities for EFD to be explored. For instance, Section 4(c) of the Competition Act 2002, which asserts that denial of market access to others by a dominant player would be an abuse of dominant position, furnishes a fertile platform to invoke EFD. More precisely, Section 4(2)(e) of the Competition Act 2002¹⁷⁶ in India stipulates that an enterprise shall be considered to

¹⁷²Indian Patents Act 2005, ss 84, 87, 92, 92A. See also s 107A, which is also known as Bolar exception rule, which permits activities for the development of information required by the authorities for approval of a generic version of a patented medicine.

¹⁷³See Peter Roderick and Allyson M Pollock, 'India's patent laws under pressure' (2012) *The Lancet* 380.9846: e2-e4 <[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)61513-X/fulltext?rss=yes](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)61513-X/fulltext?rss=yes)> accessed 11 May 2018. See also, Betsy Vinolia Rajasingh, 'India's First Compulsory Licence Over Bayer's Patent' (2012) *Journal of Intellectual Property Law and Practice* 482.

¹⁷⁴See for instance, Sudip Choudhary, 'Multinationals and Monopolies: Pharmaceutical Industry in India After TRIPS' (2012) 48 (12) *Economic and Political Weekly* 46.

¹⁷⁵Something akin to the essential facilities doctrine has been noted by the Supreme Court, albeit not in the context of antimonopoly law but the duty of private bodies performing public functions. In the case of *VST Industries Limited v VST Industries Workers' Union and Anr* (2001) 1 SCC 298 it was held that:

It is noticed that not all the activities of the private bodies are subject to private law, e.g., the activities by private bodies may be governed by the standards of public when its decisions are subject to duties conferred by statute or when by virtue of the function it is performing or possible its dominant position in the market, it is under an implied duty to act in the public interest (emphasis added)....

Further, the court asserted that any private company in India that is controlling infrastructure facility through concession agreement as awarded by the government will be considered as performing a public function and thus is expected to act in public interest. If the company refuses to deal with any competitor then it would be under judicial scrutiny for performing an arbitrary action of a body discharging public functions.

¹⁷⁶The Competition Act 2002 (n 12).

have abused its dominant position if it uses its dominant position in one market to enter another market. Under the EC Treaty, Section 82 may involve markets where there is no dominant company,¹⁷⁷ and ‘leveraging’ may occur when a monopolist uses power in one market to induce or foreclose sales in another market and thereby monopolise both.¹⁷⁸

Leveraging is a label for various types of conduct that have in common the feature that they involve a firm that is active in two or more related markets.¹⁷⁹ A monopolistic firm may assert or ‘leverage’ its power to extend its monopoly to other markets and thereby increase the social harm caused by the initial monopoly.¹⁸⁰ In the *Microsoft* case, leveraging was read into both infringements, regarding refusal to supply interoperability information under Article 82(b) EC and tying of Windows and Windows Media Player under Article 82(d) EC.

Leveraging, even though characterised by specificities and not universally anticompetitive,¹⁸¹ affords very powerful way to justify application of EFD.

The CCI can make creative use of few other clauses to rest its case on EFD principles. Section 18 provides for duty of the Commission to ‘eliminate practices having adverse effect on competition’ and it should be construed broadly. Article 19 (3) and 19 (4) allow Commission to have regard with several factors that may potentially threaten competition viz. barriers to new entrants, vertical integration of the enterprise, etc. The Commission also has the liberty to make new regulations, which could be done to conceptualise and produce a statutory understanding of EFD.

¹⁷⁷See, eg, ‘DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses’ (2005) 8 <<http://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>> accessed 10 May 2018.

¹⁷⁸Robin Cooper Feldman, ‘Defensive Leveraging in Antitrust’ (1999) 87(6) *Geo LJ* 2079.

¹⁷⁹McDonald (n 61) 207. See also, Louis Kaplow, ‘Extension of Monopoly Power through Leverage’ (1985) 85(3) *Colum L Rev* 515.

¹⁸⁰See Phillip E Areeda, Louis Kaplow and Aaron S Edlin, *Antitrust Analysis: Problems, Text and Cases* (6th edn, Aspen 2004) 382.

¹⁸¹There is a need to distinguish pro-competitive and anticompetitive leveraging. A firm indulging in activities in several markets would constantly leverage. Not all leveraging conduct is violative of competition law. For example, economies of scope-where it is cheaper to produce the two products together than to make each separately-are an example of legitimate leveraging. See Donoghue and Padilla (n 61) 208. The traditional belief that a firm with a monopoly in one market always an incentive to extend that monopoly to a market for a complementary product, and thereby get two monopoly profits instead of one has been positively influenced by the Chicago School’s ‘single monopoly profit theorem’, according to which, a monopoly can choose to exercise its power in other markets or can link markets, but in doing so it does not earn more than one monopoly profit, it does not gain monopoly power over additional markets, and it does not increase the harm caused to the society (see *ibid*). But recent developments rearticulate the design of leveraging and proposed that it was possible to develop models in which leveraging behaviour could be shown to harm consumer welfare (Donoghue and Padilla (n 61) 179).

6 Why should Indian Practice be Sympathetic to a Liberal Interpretation of EFD

There are several compelling reasons that warrant the Indian law on refusal to deal to be modeled on the lines of European law. In fact, a plain reading of Article 82(b) EC and Section 4(2)(b) of the Competition Act 2002 (which are the provisions relating to refusal to deal), bring to notice the stark similarities in the language of the provisions. A basic objective of Article 82 EC is to ensure fairness and protect small and medium-sized firms. For instance, rules relating to predatory pricing were justified on the basis that, below-cost prices could drive away undertakings as efficient as dominant firms but which, because of their smaller financial resources, are incapable of withstanding the competition waged against them.¹⁸² Several prominent members who laid the foundation for the European Community belonged to the *ordoliberal* school of thought, which believed that collaboration between the Nazi regime and several private cartels led to the disintegration of Germany.¹⁸³ They believed that social welfare was achievable only through an economic order based on competition, where law would have the specific role of creating and maintaining the conditions under which competition could function properly. Ordoliberal thinking¹⁸⁴ on the goal of competition law was based on notions of ‘fairness’ and that firm with market power should behave ‘as if’ there was effective competition. Dominant firms were commercially free to compete on the merits. But small and medium-sized enterprises were important to consumer welfare and should receive some protection. Such an objective is consistent with the Indian policies. The Indian Micro, Small and Medium Enterprises Development Act has been enacted ‘to provide for facilitating the promotion and development and enhancing the competitiveness of micro, small and medium enterprises.’¹⁸⁵ The number of micro, small and medium enterprises in India is estimated to be around 361 lakh, which contribute about 37.5% to GDP, over 40% to the manufacturing output and around 40% to the national exports.¹⁸⁶ Thus a competition policy in India will have to protect and foster the small and medium enterprises and not stifle their growth.

This part will develop a theoretical framework, in order to explain why countries like India are in need to following EU approach towards EFD. Refusal to license

¹⁸²See Case C-62/86, *AKZO Chemie BV v Commission* [1991] ECR I-3359, para 72.

¹⁸³McDonald (n 61) 8–9. See also David J Gerber, *Law and Competition in Twentieth Century Europe: Protecting Prometheus* (Oxford, Clarendon Press 1998).

¹⁸⁴McDonald (n 183).

¹⁸⁵The Micro, Small and Medium Enterprises Development Act 2006, No 27 of 2006.

¹⁸⁶Annual Report 2015–16, Government of India, Ministry of Micro, Small and Medium Enterprises <<http://msme.gov.in/sites/default/files/MEME%20ANNUAL%20REPORT%202015-16%20ENG.pdf>> accessed 18 August 2017, which used the data collected in the Fourth All India Census of MSMEs 2006–2007, Government of India, Development Commissioner (MSME), Ministry of Micro, Small and Medium Enterprises <<http://www.dcmsme.gov.in/publications/census10.pdf>> accessed 18 August 2017.

cases could be costlier for India (and other developing nations), where IPR regime is weak, and incurs high transaction costs. Following part shows that EFD is a liability regime, compared to the property regime of voluntary licensing, and compare the two regimes from transaction costs perspective. From theories of bargaining power, it is clear that refusal to license is a result of high transaction costs. Further, chapter also shows, through nontrivial empirical work that refusal to license results from weak IPR regime of the society. This way, authors connect weakness of IPR regime with high transaction cost, and because liability rules are suitable for societies with high transaction costs, there is merit in appreciating the value of EFD in those societies. India is one such society, given the weakness of its IPR regime. Through such analytical framework, this chapter builds a powerful tool of transaction costs as a determinant of deciding, which judicial direction should be taken as regards EFD.

6.1 The Property-Liability Framework as Explained Through Transaction Costs

An interesting theoretical treatment of ‘need for EFD’ can be developed from property-liability dichotomy.¹⁸⁷ The elegant difference between property rules and liability rules was set in the analytical manner in Calabresi-Melamed’s seminal paper published in 1972.¹⁸⁸ This was an interesting and convincing analytical tool stimulating scholars in various disciplines—most notably in law and economics—to cross-navigate beyond established terminology to appreciate functional and formal differences/congruence between two different areas of law—property and liability.¹⁸⁹ The property-liability rule framework has inspired a range of scholarship in issues related to legal protection of information goods,¹⁹⁰ and has been

¹⁸⁷This framework is developed in detail, in Padmanabha Ramanujam and Yugank Goyal, ‘One View of Compulsory Licensing: Comparative Perspectives from India and Canada’ (2014) 18(2) *Marq Intell Prop L Rev* 369.

¹⁸⁸Calabresi and Melamed (n 13).

¹⁸⁹It was because of this article, along with his other seminal work in tort law that he is considered to be a founder of law and economics movement, along with Ronald Coase and Richard Posner. Under his influence (he was the Dean of Yale Law School) Yale Law School became one of the leading centre for economics influenced legal scholarship.

¹⁹⁰See Roger D Blair and Thomas F Cotter, ‘An Economic Analysis of Damages Rules in Intellectual Property Law’ (1998) 39(5) *Wm & Mary L Rev* 1585 (for demonstrating using Cathedral’s paper how should baseline recovery in case of IP infringement be decided—plaintiff’s damages or defendant’s profits accrued from infringement). For a critical argument utilizing Cathedral paper in favour of injunctive relief in internet context, see Dan L Burk, ‘The Trouble with Trespass’ (2000) 4(1) *J Small & Emerging Bus L* 27. See also, in context of copyright law, Alex Kozinski and Christopher Newman, ‘What’s So Fair about Fair Use—The 1999 Donald C. Brace Memorial Lecture Delivered at Fordham University School of Law on November 11, 1999’ (1999) 46(4) *J Copyright Society USA* 513.

extremely useful in understanding copyright collectives,¹⁹¹ determining appropriate protection of incentives to innovate¹⁹² and explaining relationship between several property, including IP regimes.¹⁹³

Calabresi-Melamed's work differentiates property and liability approach to entitlement in a fairly neat way:

An entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the value of the entitlement is agreed upon by the seller. It is the form of entitlement which gives rise to the least amount of state intervention: once the original entitlement is decided upon, the state does not try to decide its value. It lets each of the parties say how much the entitlement is worth to him, and gives the seller a veto if the buyer does not offer enough... Whenever someone may destroy the initial entitlement if he is willing to pay an objectively determined value for it, an entitlement is protected by a liability rule... Obviously, liability rules involve an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves.¹⁹⁴

Hence, a property rule is a legal entitlement that can be bought only after bargaining with the entitlement holder and the price for the transaction is mutually decided by the buyer (holder) and seller of the right. Under a liability rule on the other hand, a tribunal (third party) will determine the appropriate compensation in an *ex-post* proceeding.

But how does one choose which rule to be employed. Their paper establishes that transaction cost¹⁹⁵ is the primary determinant of that choice. Whenever market transaction costs are low, property rules are preferred; while liability rules are favoured when the transaction costs are high.¹⁹⁶ This is easy to understand. Whether parties can negotiate for the transaction of the right is a direct function of how costly the bargaining process is. In other words, transaction costs will determine whether price discovery will be a result of negotiation or a third party will impose prices it has determined on the basis of (so-called) objective criteria. The doctrine asserts that low transaction costs favour negotiation and reaching a

¹⁹¹Robert P Merges, 'Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations' (1996) 84(5) Cal L Rev 1293.

¹⁹²Mark Schankerman and Suzanne Scotchmer, 'Damages and Injunctions in Protecting Intellectual Property' (2001) 32 Journal of Industrial Economics 199.

¹⁹³J H Reichman, 'Legal Hybrids between the Patent and Copyright Paradigms' (1994) 94(8) Colum L Rev 2432.

¹⁹⁴Calabresi and Melamed (n 13).

¹⁹⁵Simply put, transaction costs in terms of law and economics are those costs that are incurred in making an economic exchange. These may include search and information costs, bargaining costs, enforcement costs, contracting costs, negotiation costs. Transaction cost economics has led to series of development in law and economics scholarship. See for first theoretical reference to it, Ronald R Coase, 'The Nature of the Firm: Origin' (1988) 4(1) J L Econ & Org 3. See also, Oliver E Williamson, 'The Economics of Organization: The Transaction Cost Approach' (1981) 87 American Journal of Sociology 548.

¹⁹⁶Calabresi and Melamed (n 13).

Coasian bargain,¹⁹⁷ while high transaction costs will impede any such solution to be achieved.¹⁹⁸ Therefore in case of high transaction costs, parties will not be able to come to a mutually agreeable solution, and hence the need of a third party (tribunal or any government institution) which can declare the damage quantum and ensure the same. Low transaction costs facilitate negotiation and adjustments, so there is no need of a third party to enforce a bargain. The parties themselves can contract mutually. However, when institutional design of voluntary negotiation is ineffective due to high transaction costs, liability rule (third party enforcement) suits best. Low transaction costs would imply that (a) parties to a transaction are easily identifiable to each other, (b) there is no significant difference in bargaining power between the parties so negotiations could conclude favorably, and (c) a third party setting the terms of the exchange would have a difficult time doing so quickly and cheaply, given the specialized nature of the assets and the varied and complex business environments in which the assets are deployed.¹⁹⁹ This approach generally builds the argument that property rules are better suited to protect IP as opposed to liability rules in case of low transaction cost. Liability rules always come with an efficiency loss and their application in presence of low transaction costs does not make sense since the objective can be achieved at a lesser cost. One can imagine such efficiency losses in costs imposed by incomplete information of the third party, inefficient fixation of price, diminished utility of the parties, procedural delays and constraints, administrative expenses, flaws in institutional design, generation of perverse incentives, possibilities of errors, political economy factors, psychological costs or perhaps, the transaction not taking place at all (which happens to be the case many a times). On the other hand, in presence of high transaction costs, liability rules are employed to avoid the danger of adopting a suboptimal solution, a result that flows naturally if Coase theorem is modified and viewed from a non-zero transaction cost perspective.²⁰⁰ The cost of incorporating liability rule in a property rule set-up is offset by the exercise of the transaction, which should yield a higher optimal outcome.

An EFD framework kicks in, when one of the parties has to be forced to offer access to its facility/facilities. This can be viewed as a standard application of liability rule approach to have a property transaction be concluded. Indeed, if the owner of a facility is principally free to decide who to contract with and who to avoid in sharing the facility, an enforced obligation by either the regulatory

¹⁹⁷Coase in his seminal article suggested that if initial entitlements are clear, they do not matter in absence of transaction costs. Efficient solution will always be reached no matter who has the entitlement. This is famously called *Coase Theorem*. He proposed that if transaction costs are negligible, parties can effectively negotiate and contract to buy the right. Whoever values it more will get it, and that in fact is efficient solution. See Ronald Coase, 'The Problem of Social Cost' (1960) 3 *Journal of Law and Economics* 1.

¹⁹⁸Calabresi and Melamed (n 13) 1106–8.

¹⁹⁹Robert P Merges, 'Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents' (1994) 62(1) *Tenn L Rev* 75.

²⁰⁰See Coase (n 197) 23.

institutions or competition courts, is imposing liability rule. From theoretical treatment of property-liability framework flowing from Calabresi-Melamed's paper, it is easy to view EFD from the lens of transaction costs.

EFD therefore portrays liability framework because the rights holders are protected by a 'liability rule' (royalty set by the government) instead of a 'property rule' (receipt of an injunction with the rights holder then negotiating the price out with potential buyers).²⁰¹ Hence, while EFD stands as a true liability rule, property rule is invoked whenever licenses are given on voluntary basis. From purely legal standpoint, the significant leap that this framework achieves is an alternative view of EFD, justified by theoretical considerations and providing a technical impetus towards sustained usage of the doctrine.

6.2 *Refusal to License and Transaction Costs: View from Bargaining Power Differences*

Careful examination of the scope, complexity and quantum of individual transactions involved makes it easier to believe that indeed, transaction costs are very important. These transaction costs rests not necessarily on the ability to identify who owns the property, or on the synchronization of their willingness to pay and accept, but on the difference in bargaining power between the contracting parties. To elaborate on this, authors rely on simple economic framework of bargaining power.

Consider a bargaining space in Cartesian coordinate framework as illustrated in Fig. 1, as simple representation of bargaining space.²⁰² A and B are two players who have their respective reserve levels in the absence of reaching any agreement (or concluding a bargaining process successfully). These reserve levels can be considered as initial endowments. The X-axis shows the utility that B receives in executing the agreement and Y-axis refers to utility of A—this also shows preference orders of both parties—A wants the agreement to be reached as high up along Y-axis, while B would like to stretch bargaining to take the agreement as far along X-axis.

The circle shows all possible sets of outcomes possible. But the bargaining can happen only in the zone of possible alternatives where players are better off in reaching an agreement than without it. This space in Fig. 1 is shown by cross-hatched area. Bargaining can conclude anywhere in this space. A subset of this space from where no further gains are possible without incurring at least one of the players lose is called Pareto frontier, denoted by the arc in the bargaining space. Movement towards the frontier creates value for both parties (even if in different sizes) and movement along the frontier changes redistributes the surplus. The Nash

²⁰¹Calabresi and Melamed (n 13).

²⁰²See Andreas Wamntjen, 'Bargaining', *Encyclopedia of Power* (1st edn, 2011).

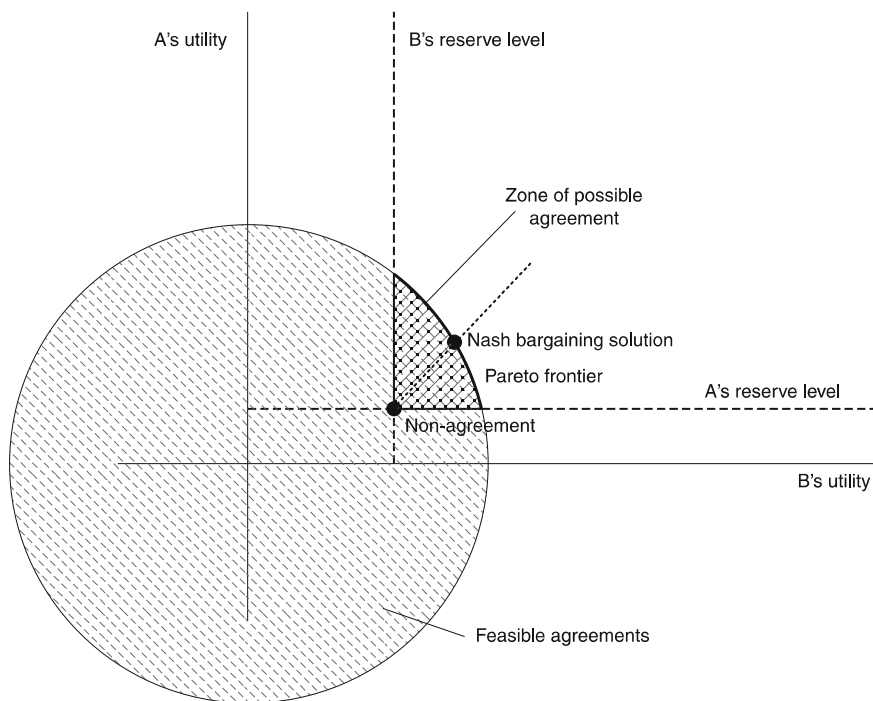


Fig. 1 Bargaining Space with reserve levels and Nash Bargaining Solution (NBS)

bargaining solution (NBS) in the figure is also shown, which is a Pareto efficient solution to this problem.²⁰³

Bargaining power also stems from events outside the bargaining process. This is the concept of outside options in a bargain.²⁰⁴ Outside options are those events that may affect the player’s behaviour towards bargaining process. Mathematical models are shown in which actors restrict the bargaining space in their favor by eliminating some unfavourable outcomes as principally unacceptable.²⁰⁵ A new

²⁰³Nash bargaining solution is an approach to find how is the bargaining surplus split between the parties, and follows cooperative game theory. Mathematically, in mathematical terms, is a solution that satisfies: (a) independence to affine transformations, (b) Pareto optimality, (c) independence of irrelevant alternatives, and (d) symmetry. The seminal paper in this regard is John F Nash, ‘Equilibrium Points in N-Person Games’ Proceedings of the national academy of sciences 36.1 (1950) 48. Even non-cooperative game theory yields surprisingly similar solutions, under appropriate conditions.

²⁰⁴See Avner Shaked and John Sutton, ‘Involuntary Unemployment as a Perfect Equilibrium in a Bargaining Model’ (1984) 52 (6) *Econometrica* 1351. Martin J Osborne and Ariel Rubinstein, *Bargaining and markets* (Academic Press, San Diego 1990). Clara Ponsatí and József Sákovics, ‘Rubinstein Bargaining with Two-Sided Outside Options’ (1998) 11 (3) *Economic Theory* 667.

²⁰⁵See also Thomas C Schelling, *The Strategy of Conflict* (Cambridge MA: Harvard University Press 1960).

outside option tends to increase the non-agreement value for one player, and this player achieves a higher bargaining power during the transaction. The outside options increase reserve utility or initial endowment of the player. This pattern is easy to visualise from Fig. 2, where the new NBS has shifted to the right, in favor of B, because B's initial endowment increased. If the reserve levels increase further, they can actually fall outside the bargaining space, meaning player B will not engage into the bargaining process at all, since payoffs in no-agreement are higher for her, compared to the payoffs in any agreeable situation.

This is exactly what happens in a situation where EFD comes into picture. The transaction costs of engaging into bargaining are so high that property rule approach ceases to act. Liability rule takes over, and solutions are sought after a third party's intervention. Even though the owner of the facility can take license fee for access to its facility to another party, the total surplus it can gain by retaining/capturing its dominant position in the market is much larger than the revenues accrued from licensing fee. This is indeed, a social loss. The solution therefore comes in the form of an involuntary contract enforced by a third party, invoking EFD. The government authorises itself to allow other parties to use the facility, without the voluntary consent of the owner of the facility, and sets out to dictate licensing agreements and fees. In these cases, the public interest in broader access to the invention is

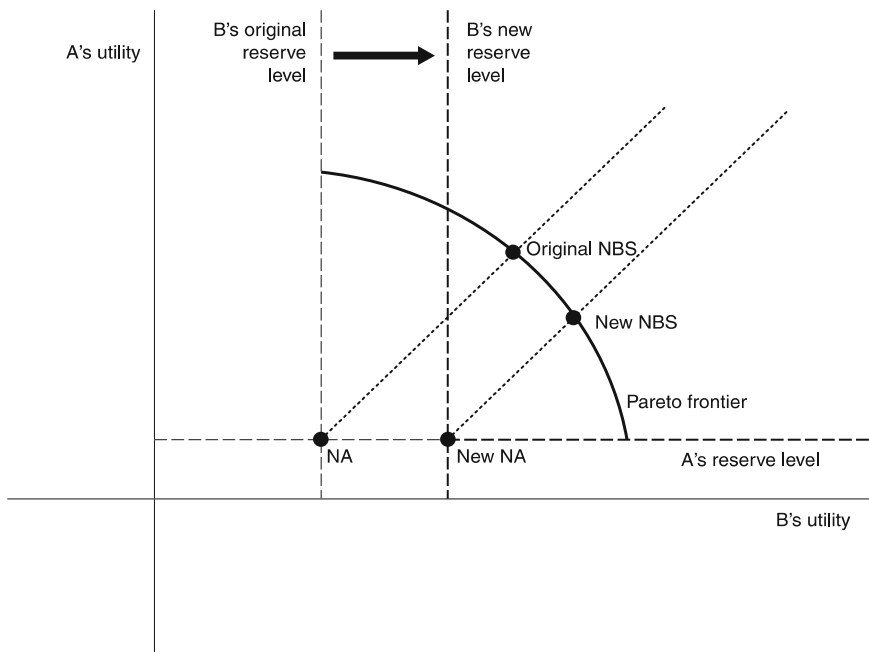


Fig. 2 Outside option shifts bargaining solution in favour of the player, which has increased initial endowment/reserve level

considered more important than the private interest of the right holder to fully exploit his exclusive rights.²⁰⁶

The preceding discussion helps us imagine refusal to license as an act of a party, which has very high bargaining power, relative to the other party. If the difference in bargaining power of randomly selected transacting parties in a society is fairly high, it can be understood to be reflective of high transaction costs of the society.²⁰⁷ This is evident in say, feudal or rural societies where the difference in bargaining power forces non-elites to be evicted from the market and transactions between elites and non-elites become unaffordable for the non-elites.²⁰⁸ In similar vein, the structure of transaction costs can be understood from how a large difference in bargaining power exists between transacting parties. In other words, bargaining power differences act as a robust proxy for how high transaction costs are, in a society.

6.3 Strength of IPR Regime as Explained through Occurrence of Refusal to License

From the preceding discussion it can be concluded that (a) liability approach is warranted if the transaction costs are high, and (b) high transaction costs result in refusal to license. Refusal to license is a proxy to understand the strength of IPR regime of a society.

A license is a commercial contract between licensor and licensee. Primarily, it specifies two basic features—the subject material which has an intellectual property (IP) and functional use of the subject material. The licensee compensates the licensor for use of licensed subject by a flat fee (lump-sum) and/or through royalties based on income earned by the licensee. The royalty rate can be fixed or varying percentage of licensee's value of output, units of output, profits or sales.²⁰⁹ Licensees save the expense of independent research and development (R&D) for the licensee and licensor derive fees and royalties.

²⁰⁶See for compulsory licensing, Jerome H Reichmann and Catherine Hasenzahl, 'Non-Voluntary Licensing of Patented Inventions' UNCTAD-ICTSD Project on IPRs and Sustainable Development (Issue Paper No 5 June 2003) <<http://www.iprsonline.org/resources/docs/Reichman%20-%20Non-voluntary%20Licensing%20-%20Blue%205.pdf>> accessed 19 August 2017.

²⁰⁷See Duncan Kennedy, 'Distributive and Paternalist Motives in Contract and Tort Law with Special Reference to Compulsory Terms and Unequal Bargaining Power' (1982) 41(4) *Md L Rev* 563 for Inequality of bargaining power.

²⁰⁸*ibid.* Jim Chen, 'The Nature of the Public Utility: Infrastructure, the Market, and the Law' (2004) 98(4) *Nw U L Rev* 1617 which dwells upon the premise that rural markets are high in cost, from a consumer-service provider bargaining perspective. However, an analogy can be drawn with competitors in rural or feudalistic societies relying upon the notion of unequal bargaining power increasing the transaction cost.

²⁰⁹For a useful working description, see Alan S Gutterman, *The Law of Domestic and International Strategic Alliances: A Survey for Corporate Management* (Quorum Books, Westport, CT 1995). See also Bharat N Anand and Tarun Khanna, 'The Structure of Licensing Contracts' (2000) 48 *Journal of Industrial Economics* 103.

If IPR regimes are strong—respect for property rights is high, identification of right holder and contours of rights is clear, uncertainties and bargaining costs are low, enforcement is high and there is emphasis on incentives to innovate over access, there is low likelihood that licenses will be reduced. This is simply because as long as willingness to pay is higher than willingness to accept, the trade will happen, and there are no intervening factors that can thwart it. All intervening factors for transaction to be successful—in strong IPR structures—favour the transaction, keeping the costs low. On the other hand, weak IPR regimes are characterised by under-enforcement, blurred and uncertain scope of rights, impetus on access rather than innovation, thinly designed institutions, lack of political will to make IPR stronger and high bargaining costs (which leads to stealth and piracy). In such societies, licensing will be difficult to achieve due to prevalent uncertainty and nebulous character of how rights are drawn. People have incentives to simply get around the system rather than engaging into negotiation. Intuitively also, it is not difficult to understand why licensing thrives in strong IP regimes.²¹⁰ Since stealing is cheaper, and observing infringement is costly, it builds incentives to refuse license. In extreme situations, it leads to situations that invoke EFD.

There have been several studies taking different approaches but arriving at the same conclusions. In 1984, Farok Contractor attempted to correlate patent protection and licensing using cross-sectional data, which explained the determinants of the ratio of receipts in the US of royalties and licensing fees from unaffiliated sources to various measures of direct investment activity.²¹¹ The study defined patent intensity of a nation by flows of new patents in force. Technology transfer on the other hand was used as proxy for licensing. The study found that patent intensity did attract licensing. The argument behind this observation is that patent protection increases the income extractable from licensing. In another well-cited study, Edwin Mansfield established²¹² that multinationals are less likely to engage in technology transfer (licensing) with firms of countries where IP protection is weak.²¹³ In yet another study, Pamela Smith infers²¹⁴ that the effect of stronger

²¹⁰For an elaborate theoretical discussion that started very early on, see Nancy T Gallini, 'Patent Policy and Costly Imitation' (1984) 23 *Rand Journal of Economics* 52.

²¹¹Farok J Contractor, 'Choosing Between Direct Investment and Licensing: Theoretical Considerations and Empirical Tests' (1984) 15 *Journal of International Business Studies* 167.

²¹²Edwin Mansfield, 'Intellectual Property Protection, Foreign Direct Investment, and Technology Transfer' (International Finance Corporation 1994) Discussion Paper No 19 <<http://documents.worldbank.org/curated/en/888591468739296453/pdf/multi-page.pdf>> accessed 27 September, 2017.

²¹³However, this finding depends on the industry or nature of the technology. US firms in the chemicals and electronics industries appeared to place a greater emphasis on intellectual property protection, whereas firms in the metals and transportation industries were seen to be less reliant on it. *ibid* 2.

²¹⁴Pamela Smith, 'How Do Foreign Patent Rights Affect US Exports, Affiliate Sales, and Licenses?' (2001) 48 *Journal of International Economics* 151.

IPRs on international licensing depends on the imitative capabilities of host countries, by drawing on cross-sectional data on US multinationals' licensing activities in 50 countries.²¹⁵

Even after extending the scope and methodology, it is found that strong patent rights and licensing activities are positively correlated. Yang and Maskus extended the analysis of US foreign licensing to a panel data set covering three time periods (1985, 1990 and 1995) and 23 partner countries, of which approximately ten are emerging market economies. They found that countries with stronger patent rights attract larger volumes of licensed technology.²¹⁶ More recently, Michael Nicholson finds that R&D intensive firms are more apt to license when patent protection is strong.²¹⁷ His approach—which involved cross-sectional empirical analysis and it pools together data for 1995 from 49 destination countries and 82 industries—was to focus on count data rather than value data.

While previous studies were using Bureau of Economic Analysis aggregated industry or national level data, Branstetter and others conducted a study using Bureau of Economic Analysis micro-data. A key finding was that IPR reforms—signifying strength of patent protection—stimulate US firms to license abroad to affiliated parties.²¹⁸ Anand and Khanna attempted to explore how much is licensing dependent on IPR protection levels. The study employed data on international licensing contracts from the Joint Ventures and Strategic Alliances database of the Securities Data Company,²¹⁹ and finds that while in some sectors (semiconductor), the dependence is low, but in many others (pharmaceutical and chemical, for instance), IPR levels significantly determine activity in licensing.²²⁰

²¹⁵In situations where imitative risk is low, stronger IPRs serve primarily to raise rents to rights holders. In countries where imitative capabilities are high, stronger patent rights stimulate licensing to unaffiliated foreign firms.

²¹⁶Guifang Yang and Keith E Maskus (2001), 'Intellectual Property Rights and Licensing: An Econometric Investigation' (2001) 137 *Weltwirtschaftliches Archiv* 58.

²¹⁷Michael Nicholson, 'The Impact of Industry Characteristics on International Technology Transfer' (2003) Bureau of Economics, Washington, DC, Federal Trade Commission Working Paper as referred to in Keith E Maskus, *Intellectual Property, Growth and Trade: Frontiers of Economics and Globalization*, vol 2 (Emerald Group Publishing Limited 2007).

²¹⁸Lee G Branstetter, Raymond Fisman and C Fritz Foley, 'Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U. S. Firm-Level Panel Data' (2006) 121 (1) *The Quarterly Journal of Economics* 321.

²¹⁹Anand (n 209).

²²⁰See, however, Andrea Fosfuri, 'Country Risk and the International Flows of Technology: Evidence from the Chemical Industry' (2000) Universidad Carlos III de Madrid Working Paper <<https://e-archivo.uc3m.es/bitstream/id/63/wb022514.pdf>> accessed 11 May 2018. This paper established weak effects of IPRs on international licensing and found that patent rights have an insignificant or negative effect on licensing. It used firm-level data for the world chemical industry. However, this study was focusing only on firms with process innovations. And for such innovations, patents may not be the most effective mechanism. In fact, it has been noted that biotechnology—a standard process innovation—firms prefer trade secrecy to patent protection. See, eg, Nikolaus Thumm, 'Research and Patenting in Biotechnology: A Survey in Switzerland' (2003) Swiss Federal Institute of Intellectual Property, Publication No 1 (12.03)

A research conducted by OECD,²²¹ deserves our special attention because of its elaborate methodology, recent nature and effectiveness of control variables.²²² This study considered the relationship between strengthening of IPR and licensing activities, particularly in 1990s, in developing countries. It employed a regression analysis to draw on an international data set to consider the relationship over time between changes in the host-country patent regime and changes in the number of licensing transactions between developed and developing countries. The strength of IPR was measured by different IP index, like patent rights,²²³ copyrights²²⁴ and trademarks,²²⁵ and finally the fourth index examines enforcement effectiveness.²²⁶ The study finds general support for the proposition that strengthening of IPRs has a net positive effect on technology transfer via licensing. It is interesting to note that licensing fees and royalties were found to vary positively with stronger patent rights and effectiveness of the enforcement.²²⁷

6.4 Connecting the Variables

The three analytical statements are:

- (a) Liability rules are favored in high transaction cost scenario (and low transaction costs are fertile for property rule approach)

<https://www.ige.ch/fileadmin/user_upload/dienstleistungen/publikationen_institut/j10005e.pdf> accessed 11 May 2018. Process innovations are harder to enforce compared to product innovations.

²²¹Walter Park and Douglas Lippoldt, 'The Impact of Trade Related Intellectual Property Rights on trade and Foreign Direct Investment in Developing Countries' (OECD Papers, Paris 2003) Special Issue on Trade Policy, vol 3 No 11, Paper No 294.

²²²The study is conducted first using aggregate data, then the firm-level data. Variables that needed controlling were, for e.g., gross productivity, corruption, tariff rates and country risks.

²²³The measure of patent rights index was taken from Juan C Ginarte and Walter G Park, 'Determinants of Patent rights: A Cross National Study' (1997) 26 Research Policy 283; and Walter G Park and Smita Wagh, 'Chapter 2: Index of Patent Rights' in James Gwartney and Robert A Lawson (eds), *Economic Freedom of the World Annual Report 2002* (Fraser Institute, Vancouver, BC 2002) 33–42 <<https://object.cato.org/pubs/efw/efw2002/efw02-ch2.pdf>> accessed 11 May 2018.

²²⁴Copyrights index is taken from Taylor W Reynolds, 'Quantifying the Evolution of Copyright and Trademark Law' (doctoral dissertation paper, American University 2003).

²²⁵ibid.

²²⁶No formal study has been done to measure enforcement effectiveness, but some information collected by Park and Lippoldt comes from reports filed with US Trade Representatives. See the annual USTR reports entitled *National Trade Estimate: Report on Foreign Trade Barriers* <https://ustr.gov/archive/Document_Library/Section_Index.html> accessed 27 September 2017.

²²⁷Copyrights and trademarks rights were found to exercise comparatively weak influences. This may be due to a number of factors, which don't merit our attention here, except that there needs to be due appreciation of diverse nature of these intellectual properties and therefore one must understand that they deserve to be treated differently.

- (b) High transaction costs (emerging from difference in bargaining power) lead to refusal to license,
- (c) Refusal to license reflects weak IPR regimes

Therefore, as a corollary, it follows that

- (d) Weak IPR regimes need to adopt liability rules.

This forms the central message of our theoretical treatment. With considerations made in the analysis—which reasonably elaborate on underlying principles—this framework has potential to aid to the existing discourse by adding new dimension to the debate. Once EFD is understood as a liability approach, a country’s IPR strength can be investigated and performance to devise a general approach towards EFD, and varying the narrowness in which EFD clauses can be interpreted both at judiciary and executive level.

6.5 Why is Indian IPR Regime Weak?

From historical standpoint, Indian intellectual tradition has been fairly open in terms of access.²²⁸ The concepts of IP emerged only during colonial rule, and even today, legislative construction has been largely modeled on British statutes. In fact, the emergence of IP globally has been considered purely a European idea, emerging in seventeenth century, strengthening through late nineteenth and twentieth century aided by American impetus, and being transported to non-Western nations through international treaties.²²⁹

The Indian copyright law closely parallels the development of the same law in England. The Copyright Act 1914 of India was basically, an extension of British Copyright Act 1911; just like the present Copyright Act 1957 is borrowed extensively from Copyright Act of the United Kingdom of 1956.²³⁰ This gives it a *de jure* color of copyright protection, but a *de facto* culture of fearless infringement. According to studies commissioned by Motion Picture Distributors’ Association (local office of Hollywood’s Motion Picture Association), India tops the chart for maximum film piracy in English-speaking world.²³¹ In 2012, the US Trade Representative’s highest Priority Watch List had figures India amongst thirteen

²²⁸There were restrictions based on caste. But that does not affect our analysis here, since the focus is not on reach of access but how is access provided.

²²⁹See, eg, Peter Drahos, ‘The Universality of Intellectual Property Rights: Origins and Development’ (1998) WIPO Panel Discussion on Intellectual Property and Human Rights.

²³⁰The latest amendment was done in 2012, which even though attempts to curb piracy strongly, is still embedded in the existing structure.

²³¹Utpal Borpujari, ‘India Major Online Film Piracy Hub’ *Deccan Herald* (New Delhi, 15 December 2009) <<http://www.deccanherald.com/content/41541/india-major-online-film-piracy.html>> accessed 27 September 2017.

countries with huge online piracy.²³² It continues to remain so.²³³ Story of trademarks is also similar, with huge counterfeit market of goods emerging in India even though two experiments with re-institutionalizing the relevant statutory laws.²³⁴ In fact, earlier studies indicate similar pattern—study sponsored by Ministry of Human Resource and Development of Indian government, copyright piracy has been noted to be significantly high.²³⁵ Socially, this is catapulted from very high levels of poverty and affordability issues. In fact, a strict enforcement of copyright will evict substantial amount of population from accessing copyrighted material and therefore political will to curb infringement is rather low—contextually reasonable. And hence, it is not surprising that through efforts of India, which led the developing nations to adopt Stockholm Protocol of 1967 that enables developing countries to adopt greater access for copyright materials; the Protocol's adoption created a crisis in international copyright.²³⁶ In its own legislation, India has exempted significant number of uses of copyright material exempted from infringement.²³⁷ The wide interpretation of this fair dealing clause as illustrated in the Act itself gives considerable latitude for accessing copyrighted material without payment. In fact, Consumer International rated Indian Copyright Act 1957 at top position (2009 and 2010) in terms of enabling access to knowledge.²³⁸

Evolution of patent laws is not very different, principally. Pharmaceutical patents were first introduced by the British in 1856.²³⁹ This translated to heavy influence of

²³²See The Deadline Team, 'Familiar Names on US Piracy Watchlist as Online Theft on Rise' (*Deadline*, 30 April 2012) <<http://www.deadline.com/2012/04/familiar-names-on-u-s-piracy-watchlist-as-online-theft-on-rise/>> accessed 27 September 2017.

²³³See Nayanima Basu, 'India Likely to Remain Under 'Priority Watch List' in US IPR Report' *The Hindu BusinessLine* (New Delhi, 11 January 2017) <<http://www.thehindubusinessline.com/economy/india-likely-to-remain-under-priority-watch-list-in-us-ipr-report/article9474144.ece>> accessed 28 September 2017.

²³⁴The first statutory design was Trade Marks Act 1940, modeled on the UK Trade Marks Act 1938. With certain modifications, The Trade and Merchandise Marks Act, 1958 came into force, which was repealed by Trade Marks Act 1999. For newspaper coverage of recent trademark infringement <<http://articles.economictimes.indiatimes.com/keyword/counterfeit-products>> accessed 28 September 2017.

²³⁵Findings of the study can be accessed online N K Nair, A K Barman and Utpal Chattopadhyay, 'Study on Copyright Piracy in India' (1999) National Productivity Council, Ministry of Human Resource Development <<http://copyright.gov.in/Documents/STUDY%20ON%20COPYRIGHT%20PIRACY%20IN%20INDIA.pdf>> accessed 27 September 2017.

²³⁶See H Sacks, 'Crisis in International Copyright: The Protocol Regarding Developing Countries' (1969) *Journal of Business Law* 26.

²³⁷s 52 of Indian Copyright Act 1957 mentions an extensive list of actions that will not amount to infringement. See <<http://copyright.gov.in/Documents/CopyrightRules1957.pdf>> accessed 20 September 2017.

²³⁸See <<https://cis-india.org/a2k/ci-ip-watchlist-report-2012>> for an extensive report on India. For Consumer International's IP Watch List, visit, Consumer International's website. Its 2009 IP Watch List can be found at <<https://www.opensocietyfoundations.org/sites/default/files/ip-watchlist-20100220.pdf>> both accessed 25 September 2017.

²³⁹See Parameswaran Narayanan, *Patent Law* (Kolkata Eastern Law House 2006).

foreign firms (which controlled 70% of Indian market),²⁴⁰ and high drug prices.²⁴¹ The realization came in 1970, when India enacted Indian Patents Act 1970, that prohibited product patent on medicines. This Act has acted as the main thrust to India's pharmaceutical industry,²⁴² leading to steep fall in number of patents granted.²⁴³ Although law permitted process patents on medicines,²⁴⁴ it was rarely sought and had limited scope.²⁴⁵ This therefore gave rise to a number of local pharmaceutical firms increasing their share of the market.²⁴⁶ Indian firms employed reverse engineering and developed new processes for the drugs. Over the next three decades, Indian pharmaceutical industry became extremely competitive and diverse²⁴⁷ and by 1990s, India started producing the most inexpensive medicines in the world.²⁴⁸ The situation changed after TRIPS to which India opposed initially,²⁴⁹ but finally acceded. However, it incorporated several flexibilities that the TRIPS allow, notably that of compulsory licensing. Overall, India is labeled 'pharmacy of the developing world'²⁵⁰ due to its extremely access-friendly patent laws rather than rights-friendly structure. Even though the Patents (Amendment) Act 2005, being TRIPS-complied, has stricter provisions for rights, the reality has not changed

²⁴⁰P K Ramachandran and B V Rangarao, 'The Pharmaceutical Industry in India' (1972) 7 Economic and Political Weekly 27.

²⁴¹Staff of Senate sub-committee on Antitrust and Monopoly 87th Congress, 1st Session, Rep No 448 (27 June 1961), which showed India with the highest prices of the seventeen countries surveyed, which included the United States. See, for report and other aspects of the sub-committee, Daniel D Adams and William E Nelson, 'The Drug Amendments of 1962' (1963) 38(6) NYU L Rev 1082.

²⁴²Jean O Lanjouw, 'The Introduction of Pharmaceutical Product Patents in India: Heartless Exploitation of Poor and Suffering' (Economic Growth Center, Yale University 1997) Center Discussion Paper No 775 <<https://www.econstor.eu/bitstream/10419/98364/1/cdp775.pdf>> accessed 11 May 2018.

²⁴³*ibid.*

²⁴⁴See The Patents Act 1970, s 53(1) (a). For example, such patents only lasted for the shorter of five years from the date of grant or seven years from the date the patent was filed.

²⁴⁵H Ashok Chandra Prasad and Shripad Bhat, 'Strengthening India's Patent System: Implications for Pharmaceutical Sector' (1993) 28 Economic and Political Weekly 1037.

²⁴⁶This was accompanied by other regulatory and policy measures that the government took to encourage building local markets against foreign firms.

²⁴⁷For an overview of how pharmaceutical industry developed after patent law was enacted, see Sudip Chaudhuri, *The WTO and India's Pharmaceutical Industry: Patent Protection, TRIPS and Developing Countries* (Oxford University Press, New Delhi 2005); and Aradhna Aggarwal, 'Strategic Approach to Strengthening the International Competitiveness in Knowledge Based Industries: The Indian Pharmaceutical Industry' (Research and Information System for Developing Countries 2004) Discussion Paper No 80 <http://ris.org.in/sites/default/files/pdf/Dp80_pap.pdf> accessed 20 September 2017.

²⁴⁸*ibid.*

²⁴⁹George K Foster, 'Opposing Forces in a Revolution in International Patent Protection: The US and India in the Uruguay Round and its Aftermath' (1998) 3(1) UCLA J Int'l L & Foreign Aff 283.

²⁵⁰Leena Menghaney, 'Patent Dispute: Delhi High Court Gives a Boost to Access to Affordable Medicines' (2010) 7 Indian Journal of Medical Ethics 97.

significantly. Indian law per se does not allow patents for softwares (it has copyright for softwares) and business methods. Until 2008, merely 22 cases in Supreme Court and High Courts in India dealt with the important issue of revocation of patents (Section 64)—showing not only dismal awareness and litigiousness of IPR cases,²⁵¹ but also highlights that the general framework indicates weakness of IPR regime.

WIPO's Global Innovation Index Ranking 2017 places India at 60th position, below several East European and Middle East nations.²⁵² That this may be a result of weak IPR regime needs further qualification, but if standard theory is correct, there is definitely some correlation. Scholars have constructed an index of patent rights and have shown that the index is highly correlated with per capita GDP, accordingly Global North (producers of innovation) typically provide stronger patent protection than their counterparts in the Global South (consumers of innovation).²⁵³ India, which clearly falls under the 'consumers of innovation' category, makes it abundantly evident that it is characterised by weak IPR regime.

6.6 Therefore, India needs EFD Expansively

The above finding, when placed in our analytical skeleton of viewing EFD through transaction cost network, reaffirms the view that India requires a proactive approach towards EFD. Since weak IPR regimes require liability approach, and India's IP regime is indeed weak, there is compelling reason that it adopts an extensive manner to interpret EFD through competition authorities. Since regulatory agencies assume the responsibility to police firms in their jurisdiction to ensure that facilities, which are essential, not be refused to share, given certain conditions, there is a need for such regulatory agency in the domain of IPR as well. IPR has significant spillover effects due to its—basically—a public good nature. And it has dramatic consequence for shaping the contours of competition in a relevant market. In fact it is surprising to imagine that competition authority has not been able to realise its true role and potential, in perhaps the same way as it has been done by regulatory agencies of network goods in infrastructure. Given the theoretical framework developed in this chapter, there is no need for CCI to be painfully cautious in engaging with market players who seem to advocate their rights to IP trumping everything else. At multiple levels, the CCI needs to be proactive in an evolving competition law regime, and developing oversight to an important area of EFD will create poor precedents for future.

²⁵¹Although this has been changing rapidly. See, Sehba Hussain, 'The Intellectual Property Rights-What do Indians Perceive' (2009) 5 International review of Business Research Papers 315.

²⁵²World Intellectual Property Organization, Global Innovation Rankings <http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf> accessed 27 September 2017.

²⁵³Ginarte and Park (n 223).

7 Conclusion

In certain ways, the chapter's contribution is straightforward. Given the characteristic of the doctrine being heavily inspired from case laws across US and EU, there is a considerable lesson that can be drawn by studying how the case laws evolved and what are the pivots of differences between diverse approaches adopted by US and EU. Once the case laws are distilled over time, it becomes easy to observe the legislative designs in light of case laws as they gave emerged. This gives us a clue towards generalizing framework of approach in India. The real lacuna where academic intervention is sought remains in the IP driven model of EFD. This is modeled through the property-liability conceptualization. Authors borrow from the concept of bargaining cost, the tool of transaction costs and positioning it—as it has been in the Calabresi and Melamed's paper—within the property-liability framework. The idea of bargaining power helps us develop the tool of transaction costs which can squarely suit the purpose of EFD. The authors conclude that for countries where strength of IPR is low, the doctrine needs broader interpretation. This is true for India, and is easily transportable to other developing nations.

The chapter in no way makes an argument towards completeness of the model, in explaining factors on which characteristics of EFD depends. Indeed, a host of other factors determine the doctrine, including royalty fee, duration, scope, legal framework, international obligation, expected hit in FDI, market potential, public funds towards innovation and the like. The chapter attempts to create a discourse on one of the fundamental grounds of EFD, namely the transaction costs and issue of public interest. This alone has several important principles endogenised. More importantly, there is a general policy principle flowing from the analysis, which calls for attuning liberty in EFD with the strength of the IPR framework of the country. For instance, if the property rights are strong, it calls for a conservative and narrow interpretation of the doctrine, perhaps as is the case in US.

In addition, like any analytical framework, our methodology does come with its inherent limitations. The model crucially rests on property-liability framework elucidated in Calabresi and Melamed's paper. That model, in turn, pivots on transaction cost economics. Considerable work has been done since then in categorization, structural layering and re-inventing the concepts of transaction costs. The contextual application of transaction cost economics is, while very important, our model does depend largely on the *value* of the transaction costs. These values are difficult to collate, and hence most studies do not go deeper into classifications of transaction costs. It does merit the question of what happens if the transaction costs vary greatly in a country from across regulations affecting the same industry. In addition, although extremely comprehensive, existence of only two categories—low and high transaction costs—obscures subtle nuances in mid-level transaction costs. This however, could be an interesting territory lying uncharted, which could further aid to the development of this scholarship.

The principle does not imply that courts should take into account the IPR strength and weakness of a society before adjudicating on an issue of refusal to license. However, it assumes a twofold role: firstly, a conciliatory role, where scholars and society becomes sympathetic towards a judgement that invoked the doctrine in a competition law case favoring the plaintiff; and secondly, a predictor role, where the doctrine's application could be expected in societies where strength of IPR is rather low. In this way, the chapter proposes guiding principle to decide which side of policy outcome, should the policy maker tilt her options, using the legal tool of EFD.

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