

Innovation und Entrepreneurship

RESEARCH

Fabian Gäßler

Enforcing and Trading Patents

Evidence for Europe



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With a Foreword by Prof. Dietmar Harhoff, PhD

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Foreword

The enforcement and trade of patents in Europe have rarely been subject to empirical analysis – a fact that can partly be attributed to the scarcity of large-scale data and the institutional fragmentation at national level. Yet, research in this field appears particularly desirable in light of the upcoming introduction of the Unified Patent Court and the recent rise of activities in the market for patents. The controversial discussions on the design of the Unified Patent Court primarily focus on two themes: the potential of forum shopping, i.e., free court selection, and the effects of bifurcation, i.e., the separate treatment of validity and infringement questions.

In his doctoral thesis Fabian Gäßler first analyzes forum shopping and bifurcation in the context of the German patent litigation system. He theoretically derives propositions on litigant behavior and tests these by exploiting a comprehensive dataset on patent infringement disputes. The results suggest that the impact of certain institutional design aspects on patent holders and alleged infringers greatly depends on their financial capabilities and legal expertise.

Fabian Gäßler then introduces a newly generated dataset covering ownership changes of European and German national patents, which will provide the foundation for various empirical analyses, due to its unique scope and quality. In a first application, he analyzes the timing of patent transfers relative to events in the patent prosecution process at the European Patent Office.

Fabian Gäßler's thesis delivers intriguing new research insights which deepen our understanding of the enforcement and trade of patents in the context of European institutions. The results presented are a highly original and important contribution to the field of innovation economics and to the analysis of litigation behavior. They have relevance for practitioners, researchers, and public authorities alike.

Prof. Dietmar Harhoff, Ph.D.

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Fabian Gäßler

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Chapter 1

Introduction

Patents are regarded as a key policy instrument to spur innovation and technological progress, based on the social bargain that inventors disclose their novel and nonobvious invention to the public in return for temporary exclusion rights to use the invention. The artificial market power a patent confers upon the inventor with inevitable loss of public welfare represents a fundamental market intervention of the state. Not surprisingly, since the beginning of modern economic thought, scholars have therefore been pondering over the costs and benefits of patents to society.¹

While early scholars focused primarily on the fundamental issue whether intellectual property rights should exist at all, research has become more and more nuanced over the last century. Starting with the seminal work of Nordhaus (1969), who was the first to consider the length of patent protection a variable parameter in patent policy, questions on the optimal patent length and scope have become a focus of attention (e.g., Gilbert and Shapiro, 1990).

However, these models, looking at one isolated invention, have not kept up with the changing technology and patent landscape. First, inventions have become increasingly cumulative, meaning that a patent on one invention has externalities on the incentives for subsequent research (Scotchmer, 1991). Second, products have become more complex, comprising multiple components covered by patents in often fragmented ownership (Shapiro, 2001). In this context, negotiations on how innovation rents are to be divided between the different parties are necessary to avoid market failure. However, these negotiations may be complicated, because patents are not always perfectly defined property rights (Merges, 1994). In fact, patents can be subject to significant uncertainty regarding their scope and validity (Lemley and Shapiro, 2005). First, patent boundaries can be vague for new technologies or abstract inventions, such as biotechnology, business methods, and software (Bessen and Meurer, 2008). In addition,

¹See Menell (2000) for a historical account of economic theories concerning patents.

patent claims may be imprecisely specified by the inventor with the intention to cover subsequent technological advancements. Second, patent validity can be uncertain, because the examination procedure is imperfect, given capacity constraints at the patent office and limited access to prior art (cf. Merges, 1999; Lemley, 2001).

One consequence of uncertain validity and scope is the likely failure of negotiations regarding the distribution of quasi-rents from patents. This has led to a rise in patent disputes concerning alleged infringement and potential invalidity that need to be litigated before court. However, the costs of engaging in litigation reduce the virtue of patents as incentives for research. The provision for effective legal enforcement without creating incentives for welfare-reducing litigation activities thus becomes an integral aspect of the optimal design of patent systems.

While there has been considerable harmonization among patent systems worldwide over the last decades, this mostly refers to patent examination and less to patent litigation (Van-dermeulen, 2005). Embedded in national legislation, patent litigation systems remain highly heterogeneous with fundamental differences in terms of level and recoverability of legal costs, and the availability and promptness of remedies. There has been a long-standing theoretical debate about the optimal design of patent litigation systems addressing several of these parameters (e.g., Aoki and Hu, 1999; Ayres and Klemperer, 1999; Boyce and Hollis, 2007). In contrast, insights derived from empirical analyses are limited. This can partly be attributed to two reasons. First, most patent disputes are settled privately prior to judgment or even filing. Analyzing the mere ‘tip of the iceberg’ population of observable disputes, scholars often are reserved in drawing clear policy recommendations. This is especially true considering that changes in the patent litigation system can have large impact beyond the court room on patenting and innovation behavior.² A second impediment in the empirical analysis of patent litigation systems is the fact that data collection can be a resource-intensive task, because it frequently requires accessing local records at multiple courts. While the latter is no longer true for the U.S., where the availability of structured data from multiple sources has lead to a recent rise in patent litigation studies, it remains reality for most European jurisdictions.³

The lack of empirical insights on patent litigation in Europe has become particularly apparent in the ongoing debate on the design of the Unified Patent Court (UPC), which will gain

²A prime example how changes in the patent litigation system can have first orders effect is the creation of the CAFC (United States Court of Appeals for the Federal Circuit) in the U.S. in 1982. While this centralized appeals court is found to have reduced legal uncertainty to the effect of more settlements (Galasso and Schankerman, 2010), it also has triggered a pro-patent shift in the patent system (Henry and Turner, 2006) causing a surge in strategic patenting in certain industries (Hall and Ziedonis, 2001; Ziedonis, 2004).

³For a review of the empirical literature on legal patent enforcement, see Weatherall and Webster (2014).

Europe-wide jurisdiction over infringement and revocation cases for Unitary Patents.⁴ The implementation of the UPC has in general been welcomed as a solution to the currently fragmented system, where European patents (*EP*) are granted centrally but have to be enforced on a national level (Van Pottelsberghe de la Potterie, 2015). Still, policy makers, scholars, and practitioners have been arguing over the proposed design of the UPC in terms of the applied substantive law, procedural law, and court structure (Hilty *et al.*, 2012; Ullrich, 2015). Particular points of disagreement refer to the UPC's balance of two fundamental tradeoffs in the design of patent litigation systems: centralized judicial decisionmaking versus local accessibility to court, and consolidation versus bifurcation of infringement and validity issues (Wadlow, 2015).

First, in its currently planned form, the UPC will consist of multiple entry courts spatially dispersed over Europe to provide litigants with the option to seek remedies in close proximity.⁵ Despite a centralized court of appeal, this plurality of courts has raised the concerns of forum shopping, where the court selecting litigant can exploit differences in decisionmaking and case management among the courts. The evaluation of this tradeoff highly depends on the question what factors determine court selection and how prone courts are to differ in their decisionmaking.

Second, while the UPC is for the most part a consolidated litigation system where the questions on infringement and validity are answered in the same proceeding, it also allows for bifurcation. In the case of bifurcation, infringement is decided by a local or regional division, and validity is heard by the central division. By having the most competent court hearing the validity issue, bifurcation is supposed to ensure high quality judgment at the complex intersection of technology and law. However, separating the issues of validity infringement may involve the risk of temporal divergence between judgment. The current UPC design already takes these aspects partly into account.⁶ Still, proponents as well as opponents of bifurcation raise their concerns to the risk of either delayed enforcement or unjust enforcement on the basis of subsequently invalidated patents.

While national paradigms and clashing political agendas arguably reinforce the debate on the rules and structure of the UPC, these two design aspects find their manifestations in national

⁴The regulations relevant to the Unitary Patent were adopted in 2012, whereas the agreement on the Unified Patent Court was signed on 19 February 2013. The UPC is currently scheduled to commence operations at the end of 2016. Information on the latest developments can be found at <http://www.unified-patent-court.org> [accessed: 22 July 2015].

⁵Namely, a central division in Paris, regional divisions in London and Munich, and a still unspecified number of local divisions.

⁶For instance, it requires the participation of technically qualified judges if both issues are heard by a local or regional division. Further, the procedural rules foresee the option to stay the infringement proceeding if validity is heard separately.