



Invalid but infringed? An analysis of the bifurcated patent litigation system[☆]



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ABSTRACT

In bifurcated patent litigation systems, claims of infringement and validity of a patent are decided independently of each other in separate court proceedings at different courts. In non-bifurcated systems, infringement and validity are decided jointly in the same proceedings at a single court. We build a model that shows the key trade-off between bifurcated and non-bifurcated systems and how it affects the incentives of plaintiffs and defendants in patent infringement cases. Using detailed data on patent litigation cases in Germany (bifurcated) and the U.K. (non-bifurcated), we show that bifurcation creates situations in which a patent is held infringed that is subsequently invalidated. We also show that having to challenge a patent's validity in separate court proceedings under bifurcation implies that alleged infringers are less likely to do so. We find this to apply in particular to more resource-constrained alleged infringers. Finally, we find parties to be more likely to settle in a bifurcated system.

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1. Introduction

Patents are probabilistic property rights: there exists inherent uncertainty regarding a patent's validity and scope (Lemley and Shapiro, 2005). Although patents are granted by patent offices only after substantive examination, there is no guarantee

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that a granted patent is in fact valid.¹ We show that the uncertainty that surrounds the validity of patents has important effects on patent enforcement and hence on the functioning of the patent system as a whole.

In patent litigation, patent holders allege the infringement of their patent right while defendants can deny infringement and challenge the validity of the patent in question. In many legal systems, such as the U.K., Italy, or Switzerland, the infringement and validity claims are decided simultaneously in the same court proceedings where the invalidation of a patent renders infringement impossible. In many other jurisdictions, including the U.S., Germany, and China, there is some separation of patent infringement and validity proceedings – so-called bifurcation.² The purpose of this paper is to analyze the effect of bifurcation on litigation behavior and outcomes.

Using detailed case-level data from German courts where infringement and validity are separated into independent proceedings, we show that in practice the decision on infringement is often made and enforced before validity has been determined under the presumption that granted patents are indeed valid. We show that this leads to situations in which a patent is held infringed that is subsequently invalidated. Our data on infringement and invalidity proceedings in Germany for 2000 to 2008 reveal that 12% of infringement cases with parallel invalidity proceedings (41% if we focus on cases without settlements) produce divergent, i.e., ‘invalid but infringed’, decisions (for examples see Table A-1 in the online appendix). Our analysis also shows that the length of this *injunction gap* is substantial. In cases where validity was challenged in court, the infringement decision was on average enforceable for more than a year before the patent was invalidated in first instance.

We build a theoretical model that illustrates the key trade-offs between bifurcated and non-bifurcated systems. First, our model incorporates the possibility of an injunction gap in the bifurcated system. In addition, challenging a patent’s validity requires additional costs in the bifurcated system compared to non-bifurcated systems because validity has to be challenged in separate proceedings at a different court. At the same time, bifurcated systems allow for specialization of infringement and invalidity courts. In particular the question of validity requires in-depth technical expertise, which courts that focus on invalidity in a bifurcated system are rather able to provide. This leads presumably to a lower incidence of errors, in particular Type I errors, i.e., fewer invalid patents are erroneously maintained in force.

Our model shows that the separation between validity and infringement reduces the likelihood that an alleged infringer challenges a patent’s validity. We confirm that this holds in practice by comparing the likelihood of validity challenges between infringement cases in Germany and the U.K. (a non-bifurcated system where infringement and validity challenges are decided in the same proceedings).³ The results show that alleged infringers in the U.K. are significantly more likely to challenge a patent’s validity than alleged infringers in Germany. We also find empirical evidence that in Germany, in particular smaller firms are less likely to file an invalidity action when they are sued for infringement. We find no evidence that this is also the case in the U.K. These findings suggest that more resource-constrained firms are less likely to challenge a patent’s validity in a bifurcated litigation system. The broader implications of this effect are twofold: on the one hand the share of cases where an infringed patent is invalidated is downward biased under bifurcation; on the other hand the strong presumption of validity that is built into the bifurcated litigation system becomes self-reinforcing.

Our model also allows us to compare settlement behavior under the bifurcated and non-bifurcated systems. The model shows that the effect of bifurcation on the extent of adverse selection and its effect on the joint surplus from settlement (the part of the joint surplus from settlement captured by the patent holder) are the two key drivers of the impact of bifurcation on the settlement rate (settlement amount). Depending on the signs and magnitudes of these two effects, bifurcation can either lead to a higher or lower settlement rate (settlement amount). A comparison of settlement behavior between German and U.K. cases reveals that significantly fewer cases settle in the U.K. We also find some evidence that smaller, more resource-constrained firms in Germany are less likely to settle.

Our research contributes to the existing literature on the design and functioning of patent litigation systems by offering for the first time quantitative evidence on the implications of the separation of infringement and validity. This is not only of direct relevance to Germany, where by far the largest number of patent cases in Europe are litigated (Cremers et al., 2016), but also played an important role in the current heated discussion about the design of the Unified Patent Court (UPC) in Europe. For example, a group of large firms across industries, including Adidas, Apple, Deutsche Post DHL, Google, and Samsung,⁴ issued a joint statement in 2014 voicing concerns that “[...] the potential exists for a court to order an injunction prohibiting the importation and sale of goods even though the patent may ultimately be found invalid. This result unduly reduces competition, can increase the cost of products in the market and reduce product choices, all negatively impacting consumers.”

Apart from its relevance for Germany and the European UPC, our research provides important insights also for countries that rely on similar bifurcated litigation systems, including some of the world’s top patenting countries, such as China,

¹ Mann and Underweiser (2012), for example, show that since 2003 the U.S. Federal Circuit has held nearly 60% of patents invalid.

² Germany and China have bifurcated systems in which separate courts decide independently on patent infringement and validity. In the U.S., courts decide on both infringement and invalidity simultaneously. However, the Inter Partes Review (IPR) which was introduced by the America Invents Act (AIA) in September 2012 as a way of challenging validity administratively at the U.S. Patent and Trademark Office post-grant has *de facto* introduced bifurcation into the U.S. system (Chien and Helmers, 2015). In 2013, roughly a third of litigated patents in the U.S. were challenged through an IPR.

³ The U.K. comprises separate legal systems: England & Wales, Scotland and Northern Ireland. Our data focus on England & Wales where the overwhelming majority of cases occur.

⁴ The complete list is: Adidas, AFDEL, Apple, ARM, BlackBerry, Broadcom, Bull, Cisco Systems, Dell, Deutsche Post DHL, ESIA, Google, HP, Huawei, Microsoft, Samsung, SFIB, Telecom Italia, and Vodafone.

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