The application of competition law to intellectual-property-related cases may well be regarded as one of the most complex and critical fields of competition policy. Whereas in the past intellectual property and competition were mostly considered as contradictory concepts, it is today widely admitted that both fields of law, intellectual property and competition law, are meant to promote complementary goals, namely innovation based on dynamic concepts of competition. Still it largely remains disputed whether and under which conditions competition law may intervene and restrain the use of an intellectual property right. At this very moment this dispute also seems to be mirrored by transatlantic disagreement. In September 2007 the European Court of First Instance upheld the decision of the Commission to order Microsoft \textit{inter alia} to provide competitors with interoperability information on its operating system despite possible intellectual property rights involved. Thomas Barnett, Deputy Assistant Attorney General of the Antitrust Division of the US Department of Justice, reacted immediately and accused the Court of ‘harming consumers by chilling innovation and discouraging competition’.

Concern about expanding and possibly ‘anti-competitive’ intellectual property rights, blocking patents and patent ambush cases, network effects, especially in information technology industries, and the growing need for standardization compel those practising in these areas of law to request more fundamental research on the interface of intellectual property and competition law. Such research, however, in both economic theory and legal studies, is still in a stage of infancy. Economics can well explain and advise how markets work when it comes to price and output, but the field still lacks operational models for intervention in order to guarantee that the use of very roughly hewn IP systems does not harm the delicate dynamics of competition and, ultimately, consumer welfare. Meanwhile lawyers have to struggle with the growing number of IP-related competition law cases and discuss the most appropriate ways to draw the line between the exclusivity of the right and competition law intervention with a view to enhancing innovation.

This \textit{Handbook}, bringing together 18 chapters by lawyers and economists from different countries, responds to this need for further research. All the contributions are the result of a research project organized and financed by the Max Planck Institute for Intellectual Property, Competition and Tax Law in Munich, Germany. The project ran for several years. A first meeting took place in 2003 at Kloster Seeon (Bavaria), where initial papers were discussed.
in the framework of a smaller group. This group decided to develop such a handbook by inviting more authors to write articles on subtopics in the field according to their preference. A second meeting then took place at the Munich Institute in September 2006. All papers had been distributed among the participants beforehand. Each member of the group presented and criticized the paper of another member. After two days of intensive discussion the participants were sent home to work on their papers. The result of this work is published in this book.

Given the scheme of the research project, the reader should not expect to find detailed information on what the state of the law is on each and every sub-issue at the interface of intellectual property and competition law. In contrast, the book is meant to be a source of inspiration on a high academic level and enhance further discussion and research. Given the timing, the authors were not able to include the decision of the Court of First Instance in Microsoft. Still quite a number of chapters dealing with the underlying economic and legal issues of this case may now be read through the lens of this decision and turn out to be very useful for future research.

The Handbook is divided into six parts. The first part deals with overall policies and economic theory. The first three chapters focus on the European situation, but, by searching for new approaches to competition policy addressing IP-related cases, they undoubtedly have a broader reach. Olav Kolstad presents a concept for protecting dynamic competition by balancing effects on allocative, productive and dynamic efficiencies in the most appropriate manner possible. Under Article 81 of the EC Treaty, and based on an analysis of the case law, he argues in favour of taking into account the effects of an agreement on innovation in the context of Article 81(1), whereas productive efficiency would only be considered in the framework of Article 81(3). While Kolstad sees the IMS Health judgment of the European Court of Justice (ECJ) as in line with the protection of dynamic competition, my own contribution and that by Andreas Heinemann are clearly inspired by a critical view of this judgment. Dealing with the issue of refusal to license, IMS Health is critical to how we have to view the relationship between the exclusivity of a right and competition. Rejecting the view of some economists that the costs of intervention in the use of an IPR will never be outweighed by what can be won, I, Josef Drexl, advocate a thorough evaluation of the effects of a given behaviour on innovation in the relevant market as a basis for intervention. In this sense I recommend that the European Commission develop a ‘more economic approach to IP and competition’, protecting the process of dynamic competition in relevant markets, covering all fields of competition enforcement. In a similar vein and in response to the ECJ in IMS Health, Andreas Heinemann sketches a competition policy that relies on the concept of the contestability of markets. He presents a consistent theory according to which competition
policy should intervene when IPRs create entry barriers; he also explains when competition law enforcers should accept the exclusivity of the IP right. Mark-Oliver Mackenrodt provides a concise picture of the economics of network effects. Against this backdrop he further develops ideas on the role of IP rights in network industries. Although the author refrains from discussing case law, the user of this book will certainly find much inspiration in his chapter for dealing with many cases, including Microsoft.

The second part deals with contractual relationships. Steve Anderman presents a comprehensive analysis of the European regulatory regime for licensing under the revised EU Technology Transfer Block Exemption Regulation (TTBER) of 2004 in view of a policy for the enhancement of innovation. The European TTBER does not apply to patent pools. This is where Hanns Ullrich comes in with his critical assessment of how the Commission plans to address patent pool arrangements as set out in the European Technology Transfer Guidelines. The author’s thorough analysis questions many assumptions about patent pools accepted so far in both the US and the EU. Mark Patterson looks closer at field-of-use restrictions in licensing agreements, which generally enjoy generous treatment by competition agencies in the US and the EU. Yet as an explicit warning addressed to Europeans, he criticizes practice in the US that even allows restrictions of use that is not part of the specific scope of exclusivity of the IP right. Junko Shibata then takes us to Japan and explains how practice there manages to develop the necessary control of the use of IPRs although the Japanese Antimonopoly Act seems to exempt intellectual property from its application.

Part 3 of the book deals with unilateral restraints based on IPRs. Here, Beatriz Conde Gallego compares the law in the US and the EU with regard to refusals to license. This field has definitely been the focal point of the debate on intellectual property and competition law in recent years. Whereas many, especially in the US, might argue that in the EU the law goes too far by accepting a duty to license under certain conditions, the author points out that the analysis has so far focused too much on the freedom of the right-holder not to license and on her incentives to innovate. The author advocates a different approach, which is based on the idea of complementary goals of IPRs and competition and the effects a given IPR exercises on the relevant market. The following two articles by Clifford Jones and Warren Grimes react to the recent US Supreme Court decision in Illinois Tool Works, which repealed an earlier judgment that, in applying Section 2 of the Sherman Act, inferred a presumption of significant market power from the existence of a patent. Whereas it may be considered conventional wisdom that patents do statistically rather rarely lead to market dominance, Clifford Jones, in criticizing the Supreme Court, demonstrates that such departure from earlier case law can by no means be explained by more recent legislation cutting back the patent-abuse doctrine.
under the Patent Act. He makes a strong argument that such a policy of taking back antitrust enforcement may be most detrimental at times when IP protection becomes more expansionist as a consequence of successful rent-seeking. Warren Grimes assesses the harmful effects on competition of tying the sale of additional products to the patented product and criticizes the Supreme Court in Illinois Tool Works for having completely refrained from giving guidance on how to handle tying cases. This critique is integrated into a most interesting analysis of the policy of different antitrust enforcers in the US regarding IP-related cases. The author criticizes the politicized Antitrust Division of the Department of Justice in particular, which in several cases has successfully convinced the courts to relax antitrust rules on IPRs.

In Part 4 Josef Bejček takes us to merger law. He reviews how effects on innovation can be best taken into account in an analytical way so as to promote dynamic efficiency when IPRs play a role in merger control cases. He thereby prefers a long-term evaluation of the beneficial effects to an analysis that focuses on short-term gains in consumer welfare.

The three chapters in Part 5 remind us that competition policy considerations play a major role in designing well-functioning IP laws and, conversely, that IP laws as such do not always promote innovation and dynamic competition. Annette Kur takes a fresh look at the spare-parts discussion in European design law. She explains why such protection by itself produces anti-competitive results and should therefore be repealed, as is now proposed by the European Commission in the face of resistance by the car industry. Gustavo Ghidini and Emanuela Arezzo analyse the interplay of copyright law and patent law with regard to the protection of computer programs. The authors reject the conventional wisdom according to which patent law, in contrast to copyright law, will hamper the dynamic development of the software industry. In the light of the competition goal, they highlight the obvious deficiencies of copyright law, such as, the lack of control over the grant of protection, the excessive term of protection and, maybe most importantly, the lack of any rules on solving the conflict between the prior right-holder and the follow-on innovator. Especially when it comes to European law on refusals to license, copyright has so far been the most important IP right. This contrasts with academic debate, which focuses on innovation theories without giving due account to the fact that the major goal of copyright to promote creativity and not innovation. In order to correct this imbalance, the book includes a comprehensive review by Christian Handke, Paul Stepan and Ruth Towse of the economic literature on copyright.

Finally, Part 6 of the book turns to cross-border aspects of the interface between IP and competition policy. The first two chapters deal with the issue of whether more consistency can be achieved in applying the rules on free movement of goods on the one hand and the competition rules of the EC
Treaty on the other hand. Stefan Enchelmaier thus explores the bilateral relationships in the triangle of protecting competition, guaranteeing free movement of goods and protecting intellectual property. Although EC competition law and the free-movement principles may pursue similar goals and respond to similar problems, he recommends caution in considering further harmonization of the two sets of rules with regard to intellectual property, such as streamlining the principle of European exhaustion with the application of Article 81 EC. In contrast, it is the very premise of the chapter by Ole-Andreas Rognstad that more harmonization of the two sets of rules is possible and should accordingly be implemented in the case law. At the end of the book, Robert Anderson explores the possibilities of developing more precise international rules on the application of competition law to IP-related cases in the framework of the TRIPS Agreement, whereby he takes into account the pros and cons of such a development for developing countries in particular.

A number of people were extremely helpful in making the publication of this book possible. In addition to the authors, who demonstrated close cooperation throughout the course of the project, I would like to express my gratitude to the staff at the Max Planck Institute. In addition to the two authors, Mark-Oliver Mackenrodt and Stefan Enchelmaier, who has by now become a professor at the University of York, Rupprecht Podszun and Nadine Klass were very helpful in reviewing the drafts of the contributions. Allison Felmy carried the heaviest burden by reviewing the English of the many non-native speakers. Delia Zirilli managed the complex communication process at the reviewing stage. Last but not least, this book would not have come into existence without the support of the publisher. From the very beginning, Luke Adams supported the idea of having such a Handbook on behalf of the publisher. I would like to thank Luke for his patience and his sharing of enthusiasm over the last several years.

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Josef Drexl