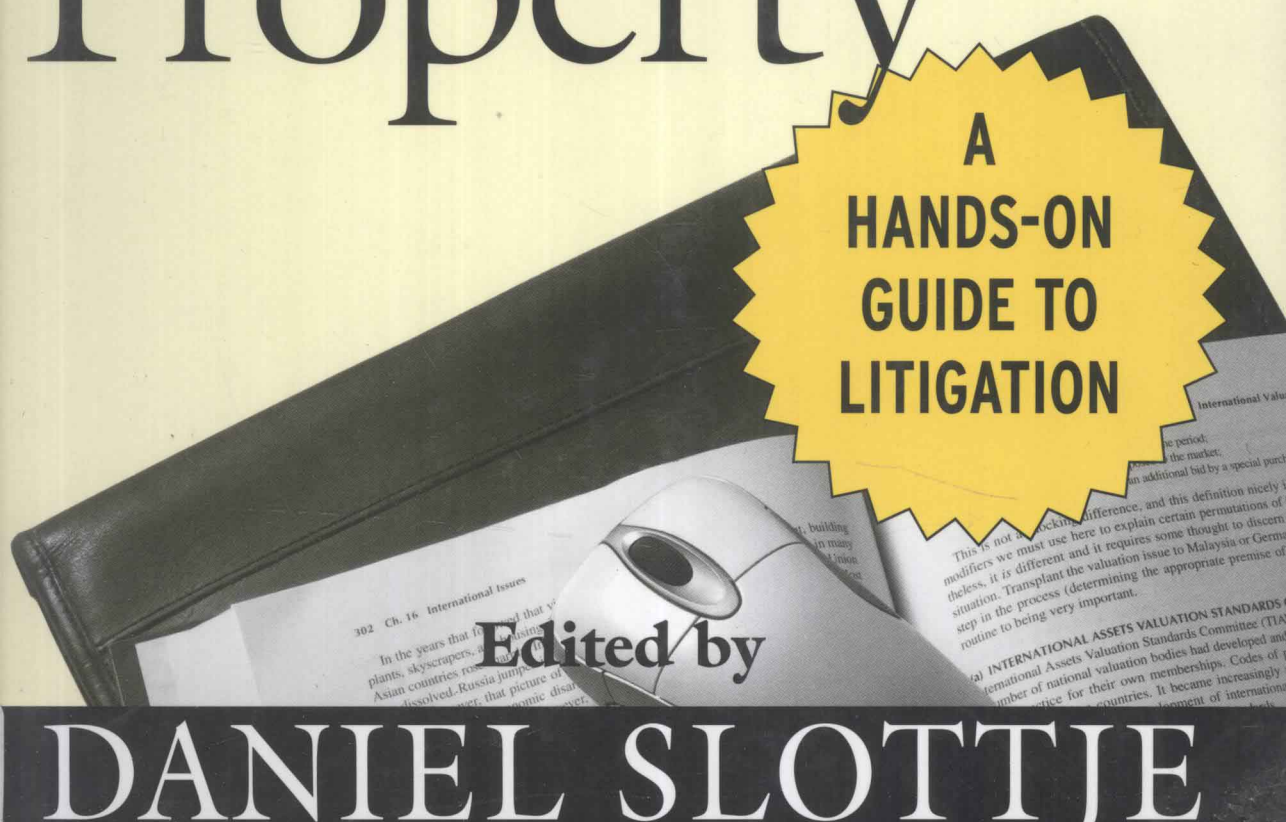
Economic Damages in Intellectual Property

A HANDS-ON GUIDE TO LITIGATION



Edited by

DANIEL SLOTTJE

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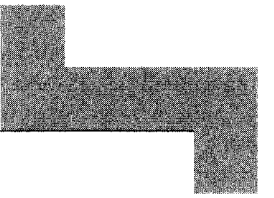

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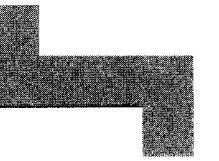

This book is dedicated to my brother, Jason, with love.

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Marc E. Ackerman is a trial and appellate litigator who concentrates on intellectual property and commercial disputes. He is a partner at White & Case LLP in New York. Mr. Ackerman has handled a broad array of intellectual property disputes, including matters involving trademark, copyright, unfair competition, trade dress, trade secrets, rights of privacy/publicity, libel, and First Amendment. He regularly advises and litigates on behalf of clients in the media, sports and financial services industries, among others. Mr. Ackerman received his B.A. from Yale University, cum laude (1989) and his J.D., from New York University School of Law, cum laude (1992).

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Matthew G. Mercurio is a director in the San Francisco office of FTI Consulting, Inc. Dr. Mercurio specializes in applying microeconomic analysis and rigorous econometrics to policymaking, regulatory issues, and public and private litigation. His particular areas of expertise include computation of economic damages in competitive practices, patent/intellectual property, and price-fixing litigation, the use of empirical methods in market definition, survey design, sampling, and survey analysis techniques. Dr. Mercurio has provided expert advice to legal counsel, businesses, trade associations, and government agencies. He has developed econometric models for survey analysis, competitive analysis, damage estimates, and cost modeling. Dr. Mercurio received his Ph.D. in economics from Princeton University in 1996. He also holds an M.A. in Economics from Princeton and a B.A. in economics in mathematics from Boston University.

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Daniel Millimet is an associate professor of economics at Southern Methodist University. He received his Ph.D. in economics from Brown University in 1999 and his B.A. in economics from the University of Michigan in 1994. His research is primarily in the area of applied microeconometrics, with topics spanning environmental economics, labor economics, development economics, and international trade. He teaches courses in labor economics at the undergraduate, master's, and Ph.D. level and econometrics at the Ph.D. level.

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Michael Nieswiadomy, professor of economics at the University of North Texas, received his B.A. from the University of Dallas (1979) and his Ph.D. in economics from Texas A&M

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Daren Orzechowski is an intellectual property attorney with White & Case LLP in New York. Mr. Orzechowski represents clients in various industries, including electronics, entertainment, media, publishing, sports, and software. In addition to assisting clients in complex licensing transactions as well as intellectual property acquisitions and transfers, he represents clients in litigations involving issues of trademark, patent, copyright, trade secret, unfair competition, and libel law. Mr. Orzechowski received his B.A. from Tufts University (1996) and his J.D., cum laude, from Fordham University School of Law (1999).

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The Honorable Donald F. Parsons was appointed to the Delaware Court of Chancery on October 22, 2003. Prior to his appointment, Vice Chancellor Parsons was a partner at Morris, Nichols, Arsht & Tunnell in Wilmington, Delaware, where he specialized in patent and other intellectual property litigation for 24 years.

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Chase Perry is a director in the FTI Forensic and Litigation Consulting practice and is based in Dallas, Texas. Mr. Perry has significant experience in providing financial and economic analysis related to the calculation of damages in disputes, particularly those involving intellectual property. He has been designated as an expert witness, filed expert reports, and given expert deposition testimony on damages issues.

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Daniel Slottje has provided consulting services to clients in various industries. He has significant experience in litigation consulting, including economic damages and statistical issues. In addition to advising counsel, he has provided testimony in these matters as well as in others. Dr. Slottje is a professor of economics at Southern Methodist University in Dallas, Texas, and a senior managing director with FTI Consulting. He has published more than 120 articles and written books on many economic issues.

Marion B. Stewart, Ph.D.

Marion B. Stewart is a senior vice president at NERA and chaired NERA's intellectual property practice between 1996 and 2006. His interest in the economics of intellectual property began with his doctoral dissertation on industrial research and development and has ranged from fundamental economic research on "preemptive innovation" to practical calculation of the value of patents and trademarks. His analysis of large-firm research and development rivalry, published in the *Quarterly Journal of Economics,* was a seminal investigation of the impact of mandatory licensing and other profit-sharing mechanisms on the rate of innovation. At NERA, his IP practice has focused on the valuation of patents and trademarks, consideration of the commercial success of patented inventions, and the calculation of economic damages resulting from alleged infringement. He has investigated the importance of IP in numerous industries.

Ryan Sullivan, Ph.D.

Ryan Sullivan is the chief economist of Quant Economics, Inc., and is an expert in economics, finance, and statistics. Dr. Sullivan applies his skills in three areas: litigation

consulting, business consulting, and financial markets. On the litigation front, he provides expert economic analysis for disputes involving intellectual property and technology, antitrust and unfair competition, financial markets and services, and other commercial litigation. For businesses, Dr. Sullivan assists companies in licensing technology and valuing assets. In the financial markets arena, he develops and applies statistical models for active investors. Dr. Sullivan earned his B.A., M.A., and Ph.D. in economics from the University of California, San Diego. Dr. Sullivan is committed to research and analysis that consistently produces reliable results.

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David Teece is an applied industrial organization economist who has studied and consulted on issues on technological change, technology transfer, and intellectual property for over two decades. He is the Mitsubishi Bank Professor at the Haas School of Business at University of California, Berkeley, where he also directs the Institute of Management, Innovation and Organization. He is also chairman of LECG, a publicly traded expert services firm. Professor Teece has a Ph.D. in economics from the University of Pennsylvania and has held teaching and research positions at Stanford University and Oxford University. He has authored over 150 books and articles including "When is Virtual Virtuous? Organizing for Innovation" (with Hank Chesbrough), "Profiting from Technological Innovation," and *Managing Intellectual Capital.*

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Vincent A. Thomas is a senior managing director in FTI's Forensic practice in Chicago and serves on FTI's National Intellectual Property Leadership team. He has over 15 years of experience assisting companies and plaintiffs' and defendants' counsel with complex economic, financial, accounting, and valuation issues and specializes in matters involving intellectual property including patent, copyright, trade secret, and trademark. He has conducted several complex studies of damages and on several occasions has provided expert testimony in U.S. federal and state courts as well as at arbitration. Prior to its acquisition by FTI, Mr. Thomas was a partner in KPMG's Forensic Services practice, where he served as a member of the National Intellectual Property Leadership team. Mr. Thomas has also served in corporate financial and management positions, including director and chief financial officer.

Introduction

This book is a "hands-on" guide to how economists, accountants, and financial analysts, interacting with attorneys and their clients, quantify damages in litigation matters involving intellectual property (IP) matters. In this arena of pure applied microeconomics, statistics and econometrics are playing an ever-increasing role. Patent activity in the United States has grown at remarkable levels in the past 20 years (as can be seen in Chapter 2). Concurrent with the filing of new patents has been an attendant increase in the level of IP litigation. In an effort to promote greater uniformity in certain areas of federal jurisdiction and to relieve the pressure on the dockets of the Supreme Court and the courts of appeals for the regional circuits, Congress in 1982 established the U.S. Court of Appeals for the Federal Circuit. This court assumed the jurisdiction of the U.S. Court of Customs and Patent Appeals and the appellate jurisdiction of the U.S. Court of Claims. As a result, a relatively new field of expertise has arisen, that of the IP economic damages expert. Damages expertise has become the purview of economists, accountants, financial analysts, and attorneys alike. This book presents an overview of how individuals in this field, working alone or as members of a multidisciplinary team, evaluate and ultimately quantify economic damages in various types of IP matters. The book should be of interest to anyone interested in this burgeoning field, both from an academic and/or career path perspective. In addition, attorneys will find this book useful; they are the end users of this talent pool, as they need experts to quantify damages in their cases. In addition, many attorneys are serving as damages experts themselves, so the book might be particularly useful to them. The contributors to this book are a diverse group of intellectual property professionals including attorneys, economics professors, certified public accounts, and others who consider themselves to be experts on economics damages or to be damages professionals.

It is very important to note that all of the opinions in this book represent the views of the particular author or team of coauthors who rendered those opinions. A fundamental pillar of academic freedom is that each individual scholar must by necessity have the right to express his or her views in an unfettered and uncensored way. As the editor of this book,

I do not necessarily agree with any or all of the views of all the contributors; likewise, they may well not agree with any or all of my views on the appropriate way to quantify damages in any particular IP matter. It is left to the reader to evaluate the various methods for damages quantification and to determine which method(s) are most sound for the problem at hand. Concurrently, the views expressed by the individual contributors do not necessarily reflect those of the organizations for which they work, or for other individuals affiliated with the same organization. The discussions in many of the chapters are of a general nature and frequently are for illustrative purposes only. They are not intended to address the specific circumstances of any individual or entity. Each case is different and should be evaluated in light of its own facts. In specific circumstances, the services of a professional should be sought. In the chapters by my coauthors and me, the views and opinions are solely ours and do not reflect any opinions of FTI Consulting, Inc. or its clients as to the proper measure of damages.

Chapter 1, by Chase Perry, Elizabeth Whitaker, and me, discusses the evolution of case law pertaining to the calculation of economic damages in patent infringement matters in the United States. This chapter is not intended as a representation of giving legal opinions. The cases are presented from the perspective of damages expert, not as a legal opinion or treatise. Studying how court decisions have evolved in the context of the analysis of economic damages in disputes over patents reveals that economic theory, although sometimes applied imprecisely, has come to be of paramount importance in the valuation of IP and the calculation of economic damages.

In **Chapter 2,** Felix Chan and Michael McAleer describe graphically and empirically trends and patterns in the level and growth of patent activity in the United States over time, with additional statistical information on worldwide patent activity. The purpose of registering patents in the United States (and elsewhere) is to protect the intellectual property of the innovators and rightful owners. Although this book is primarily concerned with the quantification of economic damages in IP matters, it is important to understand U.S. trends in patent activity over time to be able to discern the patenting "basis" from whence innovation arises and for which protection requirements may increase over time, fueling the causal nexus for litigation over time.

Chapter 3, by intellectual property attorneys Marc Ackerman and Daren Orzechowski, presents trademark law as it pertains to economic damages. The chapter educates the reader on the history and purpose of American trademark law, the current law of trademarks in the United States as it relates to infringement and damages, and the legal bases for calculating trademark infringement damages. The authors discuss the origins of trademark law and the dual benefit that it provides to trademark owners as well as consumers. This background serves to increase the reader's understanding of how goodwill is captured in trademarks and the scope of trademark rights. It also provides an overview of some of the basic terminology that may be encountered in analyzing trademarks, including a discussion of the varying levels of strength, and corresponding value, that a mark may

possess. Finally, the authors provide an overview of the federal law regarding trademark infringement and the economic recovery to which a successful litigant may be entitled.

Chapter 4, by Donald Parsons, Jack Blumenfeld, Mary Graham, and Leslie Polizoti, presents an interesting discussion on how litigants may select a venue in patent disputes and how some courts have become magnets for attracting patent litigation. The authors focus on Delaware, which seems to be heavily involved in patent litigation. This venue is interesting because it does not appear to favor litigants of either persuasion in its trial outcomes yet attracts a lot of patent litigation. The authors offer several interesting hypotheses on why Delaware has attracted so many patent cases.

Chapter 5, by Chase Perry, Clarke Nelson, and Elizabeth Whitaker, presents some interesting discussions on how experts may disagree about particular aspects of a damages methodology or about the underlying assumptions of the economics damages quantification process in determining reasonable economic damages.

Chapter 6, by Vincent A. Thomas, Christopher Gerardi, and Dawn Hall, discusses the fact that, in patent litigation, the guiding principle in computing damages is that of "adequately compensating" the patent owner for the infringement. Such adequate compensation can be measured in different ways, one of which being the profits that a patent holder has lost as a result of the infringer's presence in the marketplace. The authors identify certain measures of profits lost by the infringer, provide an explanation of the methodology behind such measures including case examples, and comment on factors one should consider when claiming such measures

Chapter 7, by Robert Basmann, Michael Buchanan, Esfandiar Massoumi, and me, notes that in many lost profit cases, the *Panduit* factors are invoked. A proper analysis requires the practitioner to adhere to the well-known economic principles embodied in the law of demand. Although "the law of demand" is easy enough to understand, some of the exceptions and dynamics that arise in its use, as well as the conceptual disputes, are not as generally well understood. It is important to have a strong grounding in the basic concepts of demand and supply in order to fully understand how to model and quantify damages in lost profit matters.

Chapter 8, by Ryan Sullivan, discusses the notion that in real-world markets, prices and quantities are jointly determined. However, in patent litigation, Dr. Sullivan argues this fundamental economic principle is often ignored. He uses a hypothetical patent infringement suit in the ice cream industry to demonstrate what he refers to as a "holistic approach" to patent damages analysis. His approach argues that patent infringement can have an effect on prices, quantities, and other economic factors, such as product substitution. His analysis illustrates what he considers appropriate methods for implementing a holistic approach that addresses these factors and the impact they have on profits.

Chapter 9, by Jesse David and Marion Stewart, addresses the situation that arises when a party accused of infringing a patent contends that the asserted patent is invalid because of obviousness. The authors note that to help evaluate that issue, courts may consider whether

the patented invention is a "commercial success." Determining whether an invention has, or has not, been a commercial success is primarily an economic exercise and can be tested, and economists increasingly assist courts in evaluating this issue. This chapter discusses these economic tests and considers them alongside another test suggested by economic principles, namely, whether the patented invention has earned or can be expected to earn a positive net return on invested capital after accounting for all the relevant costs associated with developing and commercializing the product. The authors, both economists, analyze the commercial success standard in the context of two recent cases in which they applied these principles.

Chapter 10, also by Vincent Thomas, Christopher Gerardi, and Dawn Hall, presents a thorough discussion of how one quantifies or determines a reasonable royalty in a patent infringement matter, including a complete discussion of the well-known *Georgia-Pacific* case.

Chapter 11, by Lance Gunderson, Stephen Dell, and Scott Cragun, explores how a party seeking reasonable royalty damages may use various techniques as support for a contended reasonable royalty. One of the methods to support a reasonable royalty analysis, the analytical approach, is a way to value the benefit or excess profits of the patented feature(s) of a product relative to a normal rate of return or the profit generated by a prior product or what is common in a given industry or company profits. Determining whether the facts support the use of the analytical approach is critical; otherwise other methods may be more appropriate. The authors argue that case law is not entirely clear on the approach and that it may be applied inappropriately. They discuss the traditional elements of the analytical approach that lead to its application in determining a reasonable royalty and also analyze a recent case in which this approach was used in context of a reasonable royalty calculation.

Chapter 12, by Jeffrey Dubin, explores the situation when intangible technology assets have value arising from proprietary knowledge, processes, or methods that provide competitive advantages through product differentiation or favorable cost structures. The purpose of the chapter is to calculate a royalty rate for a technology intangible asset using economic analysis of quasi-comparables. The method calculates what consumers would be willing to pay for a patented feature embodied in a consumer good. Analyzing products, with and without the patented feature, allows quasi-comparability even in situations where true comparable sales do not exist. The author demonstrates that market information can establish an upper bound to the royalty and profit rate attributable to a technology intangible. Finally, Professor Dubin applies this model to a computer CPU upgrade technology used in the early 1990s.

Chapter 13, by Esfandiar Maasoumi and Matthew Mercurio, explains that while the use of statistics (particularly survey methods) in copyright and trademark matters continues to grow, statistics has seen far less use in patent cases. However, elementary statistics can be a powerful tool in investigation of patent liability. Of course, as in other fields where applied statistics are used, statistics are just as often misused. The authors' analysis