A Statistical Analysis of Trade Secret Litigation in Federal Courts

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I. INTRODUCTION

This article presents, for the first time, a statistical analysis of trade secret litigation in federal courts.

Given the large and growing role of trade secrets in the U.S. economy, this article's first-in-kind status is surprising. Intellectual property ("IP") generally, and trade secrets specifically, are big business. Economists estimate that IP in the U.S. is worth about \$5 trillion, which is equivalent to almost half of the U.S. economy. There is little data on the exact value of trade secrets because trade secrets are, by definition, secret. Economists nonetheless estimate that trade secrets are a large and increasing percentage of IP. The theft of trade secrets is also big business, costing companies as much as \$300 billion per year.

^{6.} ROBERT J. SHAPIRO & KEVIN A. HASSETT, supported by USA FOR INNOVATION, THE ECONOMIC VALUE OF INTELLECTUAL PROPERTY 3-8 (2005), available at http://www.sonecon.com/docs/studies/IntellectualPropertyReport-October2005.pdf. For additional estimates on the value of intangible assets or IP to the United States economy, see Fen Gu & Baruch Lev, The Information Content of Royalty Income, 18 Accounting Horizons 1, 1 (2004); Baruch Lev, Remarks on the Measurement, Valuation, and Reporting of Intangible Assets, FRBNY Econ. Pol'y Rev. 17, 17 (2003).

^{7.} See generally NAT'L INTELLECTUAL PROP. LAW ENFORCEMENT COORDINATION COUNCIL, REPORT TO THE PRESIDENT AND CONGRESS ON COORDINATION OF INTELLECTUAL PROPERTY ENFORCEMENT AND PROTECTION (2006), available at http://www.commerce.gov/opa/press/Secretary_Gutierrez/2006_Releases/September/2006%20IP%20report.pdf; Wesley M. Cohen et al., Protecting Their Intellectual Property Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (Or Not), (Nat'l Bureau of Econ. Research, Working Paper No. 7552, 2000), available at http://www.nber.org/papers/w7552.

^{8.} OFFICE OF THE NAT'L COUNTERINTELLIGENCE EXECUTIVE, ANNUAL REPORT TO CONGRESS ON FOREIGN ECONOMIC COLLECTION AND INDUSTRIAL ESPIONAGE—2002 vii (2003), available at http://www.fas.org/irp/ops/ci/docs/2002.pdf. Other studies find different numbers, depending on the methodology used. Compare Am. Soc'y for INDUS.

Despite the economic importance of trade secrets, trade secret law receives less scholarly attention than other major forms of IP, such as patents, copyrights and trademarks. One particularly significant gap in the trade secret literature is the dearth of empirical analysis. ¹⁰ This article seeks to fill that void.

This article presents statistics from 394 cases in which a federal district court issued a written opinion based on trade secret law between 1950 and 2008. The authors—all IP litigators at the international law firm of O'Melveny & Myers LLP—analyzed and coded these cases for 28 criteria. The criteria included core questions about each case: what type of trade secret was at issue, who was the alleged misappropriator, what law did the court apply, what reasoning did the court use, who won, and many others. Throughout this study, we worked with statisticians to ensure that the data was as robust and valid as possible. 12

The result of this study was a plethora of original data about trade secret litigation in federal courts. Here are some of the key findings:

Trade secret litigation in federal courts is growing exponentially. The data show that trade secret cases doubled in the seven years from 1988 to 1995, and doubled again in the nine years from 1995 to 2004. At the projected rate, trade secret cases will double again by 2017.

SECURITY/PRICEWATERHOUSE COOPERS, TRENDS IN PROPRIETARY INFORMATION LOSS: SURVEY REPORT 25 (1999) (reporting \$45 billion in costs due to theft of trade secrets), with AM. SOC'Y FOR INDUS. SECURITY, INT'L, TRENDS IN INTELLECTUAL PROPERTY LOSS SURVEY REPORT 7 (1998) (reporting an estimated \$50 billion in direct costs and \$200 billion in indirect costs) and Robert S. Mueller, III, Director, Fed. Bureau of Investigation, Address at the Detroit Economic Club (Oct. 16, 2003), available at http://www.fbi.gov/pressrel/speeches/director101603.htm ("Theft of trade secrets and critical technologies—what we call economic espionage—costs our nation upwards of \$250 billion a year."); see also Mark E. A. Danielson, Economic Espionage: A Framework for a Workable Solution, 10 MINN. J. L. SCI. & TECH. 503, 504-15 (2009) (describing the various "damaging effects of economic espionage").

- 9. See infra notes 24-36 and accompanying text.
- 10. We catalogue the limited statistical scholarship on trade secret law in notes 33-36 and accompanying text.
 - 11. Appendix A contains a complete list of the 28 criteria and their definitions.
- 12. We thank Charles Q. Strohm and Jenjira J. Yahirun, both Ph.D. candidates in the Department of Sociology at University of California, Los Angeles, for their expertise and assistance.
 - 13. *See infra* Table 1.
- 14. Another way to express the growth in trade secret litigation is to count the number of federal court decisions that contain the phrase "trade secret." This method shows a doubling of trade secret cases every ten years: in 1955 there were 7 cases; in 1965, 20; in 1975, 37; in 1985, 111; in 1995, 153; and in 2005, 331. Specifically, we searched all cases in Westlaw's ALLFEDS database, which includes coverage of all available federal case law

- In over 85% of trade secret cases, the alleged misappropriator was someone the trade secret owner knew—either an employee or a business partner.¹⁵
- Trade secret owners were twice as likely to prevail on a motion for preliminary relief when they sued employees as when they sued business partners.¹⁶ Conversely, trade secret owners were over 70% more likely to lose a motion to dismiss when they sued employees than business partners.¹⁷
- Courts applied the laws of Illinois, California, or New York in almost 30% of trade secret cases. 18
- In over 25% of trade secret cases, courts relied on nonbinding authority. This is surprising because trade secret law is state-based law and thus ostensibly complete without reference to nonbinding authority. These data mean that litigants should be prepared to address the law nationwide.
- Alleged misappropriators should seriously consider moving for summary judgment. Despite the burdens faced by the moving party, alleged misappropriators prevailed at summary judgment in over half of the trade secret summary judgment decisions in this study.²⁰
- As one element of its prima facie case, a trade secret owner must establish that it took reasonable measures to protect its purported trade secrets. We performed a logistic regression to assess the relative effect of different protection measures on a court's determination of whether this element had been satisfied. The data show that two measures—confidentiality agreements with employees and confidentiality agreements with third parties—were significantly associated with a finding that this element was satisfied. ²²

beginning in 1790. Beginning in 1950, we ran the following search for each calendar year that ended in a 5: ATLEAST3("TRADE SECRET!") & DA(AFT 12/31/1954 & BEF 01/01/1956); and so on. This search is obviously over-inclusive, for not every case that mentions "trade secret" at least three times applies substantive trade secret law. The data presented in Part III.A is thus a better measure of growth.

- 15. See infra Part III.B.
- 16. See infra Part IV.A.
- 17. See infra Part IV.A. As we explain in Part IV.A, this result was not statistically significant.
 - 18. See infra Part III.C.
 - 19. See infra Part III.E.
 - 20. See infra Part IV.B.
 - 21. See infra notes 124–125 and accompanying text.
 - 22. See infra notes 132–133 and accompanying text.

This study is presented in five parts. Part I is this introduction. Part II details the methodology and summarizes the statistical literature on IP litigation. Parts III and IV present the data from this study and explain what the data add to an understanding of trade secret law. Specifically, Part III describes the history and current state of trade secret litigation in the federal courts. Part IV focuses on the who, when, and why of trade secret litigation and presents statistics to explain why courts reach the decisions they do. Part V concludes and suggests additional areas of empirical research.

II. METHODOLOGY

Because this article is the first statistical analysis of trade secret litigation in federal courts, we had to devise our own methodology. To do so, we reviewed the works of legal scholars who collected statistical legal scholarship and explained best practices.²³ This Part presents the methodology and its limitations. We begin, however, with a literature review.

A. There Is Little Statistical Analysis on Trade Secrets

In contrast to patents, trademarks and copyrights, little statistical analysis exists on either trade secrets or trade secret litigation. For trade secrets, the explanation is simple—because trade secrets must be kept secret to qualify for protection, there is little publicly available material to study. So while there are extensive resources about other types of IP, including publicly available databases²⁴ and government reports²⁵ that scholars can mine for data,²⁶ there are no such resources for trade secrets.

^{23.} See generally Mark A. Hall & Ronald F. Wright, Systematic Content Analysis of Judicial Opinions, 96 CAL. L. REV. 63 (2008). Professors Hall and Wright presented best practices after collecting examples of empirical legal scholarship that analyzed judicial opinions as part of a content analysis.

^{24.} The United States Patent & Trademark Office permits the searching of patents at http://patft.uspto.gov/ and trademarks at http://tess2.uspto.gov/ and the United States Copyright Office permits searching at http://www.copyright.gov/records/. There are also several private databases that collect statistics, such as the University of Houston Law Center, which provides statistics on 40 issues in patent cases at http://www.patstats.org/, and the Stanford Intellectual Property Litigation Clearinghouse, an online database that offers information about IP disputes within the United States at http://www.law.stanford.edu/program/centers/iplc/.

^{25.} The United States Patent & Trademark Office provides annual statistics relating to patents and trademarks at http://www.uspto.gov/go/oeip/taf/ann_rpt_intermed.htm/. The United States Copyright Office provides annual statistics at http://www.copyright.gov/reports/.

There are several reasons for the dearth of statistical analysis on trade secret litigation. One is that the federal judiciary does not systematically track trade secret litigation. The Administrative Office of the U.S. Courts and the Federal Judicial Center collect information about federal litigation, 27 and the resulting databases are widely used by legal researchers. 28 The data include information about every case filed in federal courts, such as the subject matter of the case, the parties, and outcome. Although the databases include specific data for patent, copyright, and trademark cases, they include no specific data on trade secret cases, and it is nearly impossible to isolate trade secret cases from other civil cases based on their data.

Another reason there are few statistical analyses of trade secret litigation is that trade secret law is state-based law. Other types of IP law are governed primarily by federal statute, which means that it is reasonable to limit statistical scholarship on patent, trademark, ²⁹ and copyright law to federal cases. ³⁰

^{26.} See generally, e.g., Ash Nagdev, Statistical Analysis of the United States' Accession to the Madrid Protocol, 6 Nw. J. Tech. & Intell. Prop. 211 (2008); John R. Allison & Mark A. Lemley, Who's Patenting What? An Empirical Exploration of Patent Prosecution, 53 Vand. L. Rev. 2099 (2000).

^{27.} See generally Theodore Eisenberg & Margo Schlanger, The Reliability of the Administrative Office of the U.S. Courts Database: An Initial Empirical Analysis, 78 NOTRE DAME L. REV. 1455 (2003).

^{28.} Frank B. Cross, *Comparative Judicial Databases*, 83 JUDICATURE 248, 248 (2000).

^{29.} Whereas patent and copyright laws preempt state law, there are concurrent federal and state trademark laws. 28 U.S.C. § 1338(a) (2006). Nonetheless, the vast majority of trademark litigation occurs under the federal Lanham Act.

The following is a nonexhaustive list of empirical scholarship on patent, trademark, and copyright law; additional empirical scholarship is cited elsewhere in this article. See generally, e.g., John R. Allison & Mark A. Lemley, Empirical Evidence on the Validity of Litigated Patents, 26 AIPLA Q.J. 185 (1998); Barton Beebe, An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005, 156 U. PA. L. REV. 549 (2008) [hereinafter Beebe, Copyright Fair Use Opinions]; Barton Beebe, An Empirical Study of the Multifactor Tests for Trademark Infringement, 94 CAL. L. REV. 1581 (2006) [hereinafter Beebe, Trademark Infringement]; Jason J. Chung, More Solutions to Reduce Patent Pendency: An Empirical Study, 91 J. PAT. & TRADEMARK OFF. SOC'Y 338 (2009); P.J. Federico, Adjudicated Patents, 1948-54, 38 J. PAT. OFF. Soc'y 233 (1956); Aneta Ferguson, The Trademark Filing Trap, 49 IDEA 197 (2008); Donna M. Gitter, Should the United States Designate Specialist Patent Trial Judges? An Empirical Analysis of H.R. 628 in Light of the English Experience and the Work of Professor Moore, 10 COLUM. SCI. & TECH. L. REV. 169 (2009); Jean O. Lanjouw & Mark Schankerman, Characteristics of Patent Litigation: A Window on Competition, 32 RAND. J. ECON. 129 (2005); Jon E. Merz & Nicholas M. Pace, Trends in Patent Litigation: The Apparent Influence of Strengthened Patents Attributable to the Court of Appeals for the Federal Circuit, 76 J. PAT. & TRADEMARK OFF. SOC'Y 579 (1994); Kimberly A. Moore, Judges, Juries, and Patent Cases — An Empirical Peek Inside the Black Box, 11 FED. CIR. B.J. 209 (2002); David L. Schwartz, Courting Specialization: An

Furthermore, because all patent appeals go to the U.S. Court of Appeals for the Federal Circuit, statistical scholarship on patent litigation can focus on that appellate court.³¹ In contrast, state law, which varies from state to state, governs trade secret cases. Moreover, trade secret cases are heard in both state courts (applying state trade secret law) and federal courts (applying state trade secret law through diversity or supplemental jurisdiction, or applying the federal Economic Espionage Act³²).

Extensive research revealed a handful of statistical analyses that related in some way to trade secrets, 33 but only two of them focused on trade secret

Empirical Study of Claim Construction Comparing Patent Litigation Before Federal District Courts and the International Trade Commission, 50 Wm. & Mary L. Rev. 1699 (2009); Jennifer M. Urban & Laura Quilter, Efficient Process or "Chilling Effects"? Takedown Notices Under Section 512 of the Digital Millennium Copyright Act, 22 Santa Clara Computer & High Tech. L.J. 621 (2006).

- See generally, e.g., John R. Allison & Mark A. Lemley, How Federal Circuit Judges Vote in Patent Validity Cases, 27 FLA. ST. U. L. REV. 745 (2000); Christian A. Chu, Empirical Analysis of the Federal Circuit's Claim Construction Trends, 16 BERKELEY TECH. L.J. 1075 (2001); Ronald B. Cooley, What the Federal Circuit Has Done and How Often: Statistical Study of the CAFC Patent Decisions—1982 to 1988, 71 J. PAT. TRADEMARK OFF. Soc'y 385 (1989); Christopher A. Cotropia, Nonobviousness and the Federal Circuit: An Empirical Analysis of Recent Case Law, 82 Notre Dame L. Rev. 911 (2007); Donald R. Dunner et al., A Statistical Look at the Federal Circuit's Patent Decisions: 1982-1994, 5 FED. CIR. B.J. 151 (1995); William M. Landes & Richard A. Posner, An Empirical Analysis of the Patent Court, 71 U. CHI. L. REV. 111, 112 (2004) (testing the "implications of the 'patent court matters' hypothesis"); Kimberly A. Moore, Empirical Statistics on Willful Patent Infringement, 14 FED. CIR. B.J. 227 (2004); Kimberly A. Moore, Are District Court Judges Equipped to Resolve Patent Cases?, 15 HARV. J.L. & TECH. 1 (2001); David L. Schwartz, Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases, 107 MICH. L. REV. 223 (2008); R. Polk Wagner & Lee Petherbridge, Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance, 152 U. PA. L. REV. 1105 (2004); Andrew T. Zidel, Patent Claim Construction in the Trial Courts: A Study Showing the Need for Clear Guidance from the Federal Circuit, 33 SETON HALL L. REV. 711 (2003).
- 32. 18 U.S.C. §§ 1831-1839 (2006). For a recent discussion of the Act, see Joseph W. Cormier et al., *Intellectual Property Crimes*, 46 Am. CRIM. L. REV. 761, 764-77 (2009).
- 33. There have been a few surveys of how companies protect their trade secrets. One example is surveys published by the American Society for Industrial Security ("ASIS"), a professional organization for security professionals. ASIS has conducted seven surveys since 1991, completing its most recent study in 2007. See generally ASIS INTERNATIONAL, TRENDS IN PROPRIETARY INFORMATION LOSS: SURVEY REPORT 1 (2007), available at http://www.asisonline.org/newsroom/surveys/spi2.pdf. Another example is a survey questionnaire that addressed, in part, the increasing role of secrecy in protecting innovations. See generally Cohen, supra note 7. There was also a study of noncompetition agreements that included 33 variables, two of which were related to trade secrets. See generally Peter J. Whitmore, A Statistical Analysis of Noncompetition Clauses in Employment Contracts, 15 J. CORP. L. 483 (1990).

litigation. First, Dr. Josh Lerner, a business professor at Harvard Business School, authored a working paper titled *Using Litigation to Understand Trade Secrets: A Preliminary Exploration*.³⁴ In his study, Dr. Lerner selected a sample of trade secret cases in California and Massachusetts and coded those cases by name and number, parties, posture, date, industry, whether a violation occurred, whether injunctive relief was granted, if damages were granted and the amount of damages.³⁵ Second, Dr. Mark Motivans, a statistician at the Bureau of Justice Statistics, authored *Intellectual Property Theft, 2002*.³⁶ Dr. Motivans used data on criminal cases collected by the Federal Justice Statistics Program and presented certain statistics regarding criminal prosecutions and convictions under the Economic Espionage Act.³⁷ Neither study purported to conduct a content analysis of the opinions or to describe an in-depth statistical analysis of trade secret litigation in federal courts.

B. Selection of Opinions

Trade secret litigation takes place in both federal and state courts, and thus any analysis of trade secret litigation must select opinions from both forums. This article, which analyzes trade secret litigation in federal courts, is thus the first part of a two-part series. The next article, to be published later this year in the Gonzaga Law Review, will analyze trade secret litigation in state courts.

This study addresses federal trade secret cases issued from 1950 through 2008. For the purposes of this article, we defined "trade secret cases" as written decisions³⁸ in which a U.S. district court expressly decided a substantive issue based on trade secret law. We excluded cases that involved issues similar to trade secret rights, but were decided under a different rule of law, such as a claim for breach of a nondisclosure agreement.³⁹ We selected decisions at one of the

^{34.} Josh Lerner, *Using Litigation to Understand Trade Secrets: A Preliminary Exploration* (working paper, 2006), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=922520.

^{35.} *Id.* at 10-11, 16 ("I have not exploited the rich mine of information in the decisions themselves.").

^{36.} Mark Motivans, Bureau of Justice Statistics Special Report, U.S. Dep't of Justice, *Intellectual Property Theft, 2002* (2004), *available at* bjs.ojp.usdoj.gov/content/pub/pdf/ipt02.pdf.

^{37.} Id.

^{38.} Both precedential and nonprecedential cases were included in this study, as many other scholars have done. *See, e.g.*, Allison & Lemley, *supra* note 30, at 196.

^{39.} This limitation excludes a host of trade secret-like cases and cases that some might consider trade secret cases under another name, such as noncompetition agreements and other methods to protect proprietary information. This limitation is particularly pronounced in older cases, which often did not purport to apply trade secret law. These related rights deserve examination, but this study focused on trade secret law.

following five procedural postures: motion for a preliminary injunction or a temporary restraining order; 40 motion to dismiss for failure to state a claim upon which relief could be granted; 41 motion for summary judgment; 42 bench trial; 43 and judgment as a matter of law.

Because there was no pre-built search yielding all trade secret cases meeting our definition, we designed an over-inclusive search and then winnowed the results based on the definition of trade secret cases. We searched for all opinions that contained the phrase "trade secret" at least three times. We reviewed each case to exclude cases that did not meet our definition and, for cases that survived, to code for the 28 criteria. We made all winnowing and coding decisions based on the definitions in the Code Book, attached as Appendix A. This study comprises two categories:

- 1. **Sample of District Court Cases from 1950 to 2007.** The search yielded 4,162 potentially relevant cases. This was too many to code, and thus we had to select a representative sample. We randomly selected 25% of these cases, which resulted in 1,041 cases. After winnowing cases based on the definition, the district court 1950-2007 population had 273 cases.
- 2. **All District Court Cases in 2008.** The search yielded 482 potentially relevant cases. ⁴⁸ After winnowing, the district court 2008 population had 121 cases.

^{40.} FED. R. CIV. P. 65. We combined the postures of temporary restraining orders and preliminary injunctions because, while they differ in duration, procedure, and appealability, their substantive requirements are very similar.

^{41.} FED. R. CIV. P. 12(b)(6).

^{42.} FED. R. CIV. P. 56.

^{43.} FED. R. CIV. P. 52.

^{44.} FED. R. CIV. P. 50. We treated opinions regarding a judgment notwithstanding the verdict (also called a JNOV or judgment non obstante verdicto) in the same manner as those that involved a judgment as a matter of law.

^{45.} The use of a broad initial search and subsequent subjective winnowing has many precedents. *E.g.*, Beebe, *Trademark Infringement*, *supra* note 30, at 1649-50 (beginning with all cases that made any reference to multifactor tests and winnowing to find opinions that "made substantial use" of the tests and to exclude certain other cases); Chu, *supra* note 31, at 1092 n.81 ("This author reviewed each of these cases to screen patent cases from non-patent cases for inclusion in this study's population.").

^{46.} Our search in the Westlaw U.S. District Courts Cases (DCT) database was: ATLEAST3("TRADE SECRET!") & DA(AFT 12/31/1949 & BEF 01/01/2008).

^{47.} We assigned each decision a random number. We then ranked decisions by that number, and coded the top 25%.

^{48.} Our search in Westlaw U.S. District Courts Cases (DCT) database was: ATLEAST3("TRADE SECRET!") & DA(AFT 12/31/2007 & BEF 01/01/2009).

We divided the cases into two categories because there were too many cases between 1950 and 2008 to code and because we wanted to have a complete population of cases for 2008 to show how modern courts address trade secret issues.

C. Coding of Opinions

We chose 28 criteria⁴⁹ after reviewing empirical research on other IP litigation, researching trade secret caselaw and scholarship to determine what issues interested courts and scholars, and incorporating ideas from well-known scholars and practitioners who reviewed early drafts of this article. As litigators of trade secret cases, we also added criteria for issues that arise repeatedly in our practices. We explain the 28 criteria and their definitions in Parts III-IV and Appendix A.

D. Limitations of the Methodology

Scholars debate the propriety of statistical legal scholarship.⁵⁰ We do not delve into this debate or address the general critiques that apply to all statistical legal scholarship. Nevertheless, we acknowledge a few specific ways in which this study is limited.

Some of the coding decisions required discretion, and thus this study may be biased. While this is true, there was simply no other way to design this study. The criteria (like most interesting legal questions) involve nuance and defy objective categorization. Recognizing this issue, we attempted to increase this study's reliability by having 10% of all randomly selected cases reviewed by two of the authors. We then determined the level of intercoder agreement though a statistical formula called Cohen's kappa coefficient.⁵¹ The result of this formula

^{49.} The 28 criteria included several criteria that did not produce useful data, such as industry of the parties and the outcome of the case. Data on these criteria would have been interesting to practicing trade secret litigators or others trying to predict the value of a trade secret dispute. But those criteria did not produce statistically significant information and are not discussed further in this article. In Part V, we present alternative methodologies for empirical research into trade secret law that may produce better data on these criteria.

^{50.} Compare Hall & Wright, supra note 23, at 63-66, and Richard L. Revesz, A Defense of Empirical Legal Scholarship, 69 U. Chi. L. Rev. 169, 169-71 (2002), with Hon. Harry T. Edwards & Michael A. Livermore, Pitfalls of Empirical Studies that Attempt to Understand the Factors Affecting Appellate Decisionmaking, 58 DUKE L.J. 1895, 1903-06 (2009), and Lee Epstein & Gary King, The Rules of Inference, 69 U. Chi. L. Rev. 1, 6 (2002) (arguing that the "current state of empirical legal scholarship is deeply flawed").

^{51.} This form of analysis has substantial precedent in legal scholarship. See, e.g., Schwartz, supra note 30, at 1734-35 (measuring inter-coder agreement and providing

demonstrated acceptable intercoder reliability for all of the data presented in this article, meaning that the various coders sufficiently coded the same cases in the same wav.52

The unit of analysis—written decisions that are available on WESTLAW—is only a small part of the complete universe of trade secret misappropriations. Not all misappropriations of trade secrets develop into disputes; not all disputes result in litigation; not all litigation results in a written decision; and not all written decisions are available on WESTLAW. These limitations are unresolvable, as there is no set of comprehensive records at each step. More importantly, this article does not purport to present statistics about trade secret disputes. Instead. we present statistics about judicial decisions involving trade secrets.

III. TRADE SECRET LITIGATION IN FEDERAL COURTS

This Part presents data on the history and current state of trade secret litigation in federal courts.

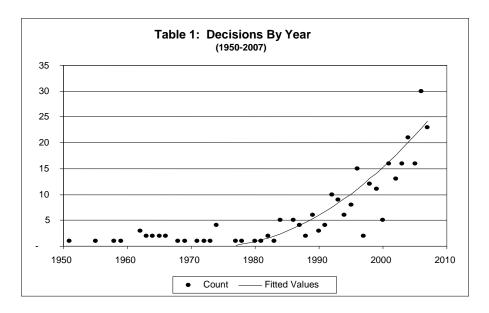
A. In the Past 50 Years, the Number of Trade Secret Cases Has Grown Exponentially

The amount and importance of trade secret litigation is exploding. The following graph demonstrates the proliferation of trade secret litigation by showing a scatter plot of the number of cases we coded for each year from 1950– 2007. Overlaid on the graph is an exponentially growing curve that models the growth of litigation over time. The curve confirms statistically quantifiable exponential growth.⁵³ In other words, written decisions on trade secret law are increasing at an ever-increasing pace.

Cohen's kappa ranges).

The average kappa statistic for all cases in which the case criterion were mutually exclusive was 0.53. Kappa statistics within the range of .41-.60 represent moderate strength in agreement. J. Richard Landis & Gary G. Koch, The Measurement of Observer Agreement for Categorical Data, 33 BIOMETRICS 159, 165 (1977).

Results from an ordinary least squares ("OLS") regression of the 1950-2007 cases confirms that the number of trade secret cases has increased exponentially: Annual Cases = $81,526.13-82.56(Year) + .02(Year^2)$. The OLS model is a good fit for the data, with 80% of the variability explained by the equation ($R^2=.8$). The model includes a statistically significant linear and nonlinear term, which verifies the exponential increase (p<.01). For clarity, the graph only displays the portion of the curve from 1977 to 2007.



B. Most Alleged Misappropriators Are Someone the Trade Secret Owner Knows

Who is most likely to misappropriate trade secrets? Knowing the answer to this question allows trade secret owners to better protect their trade secrets and courts to better target their reasoning.

To answer this question, we divided alleged misappropriators into four categories: the alleged misappropriator (1) was, or was assisted by, a current or former employee of the trade secret owner, (2) was, or was assisted by, a current, former, or future business partner of the trade secret owner, such as a licensee, customer, original equipment manufacturer, joint venturer, distributor, or supplier; (3) was an unrelated third party, defined as someone who was not, or was not assisted by, a current or former employee or business partner; and (4) was some other kind of entity or unknown. Table 2 identifies, by both number of decisions and percentage of total decisions, the identity of the alleged misappropriator.

Table 2. Identity of Alleged Misappropriator

	1950–2007	2008
Employee or former employee	52% (142)	59% (71)
Business partner	40% (109)	31% (37)
Unrelated third party	3% (8)	9% (10)
Other or unknown	7% (19)	5% (6)

Most alleged misappropriators are someone the trade secret owner knows. Specifically, in over 85% of cases, the alleged misappropriator was either an employee or business partner.⁵⁴

The data confirm conventional wisdom in some ways and contradict it in others. The results support the belief of many commentators that, as one treatise states, "[m]ost trade secret lawsuits involve employees allegedly using their former employer's secrets to benefit themselves or a competitor." But the results show that employees are only one category of alleged misappropriators, and thus contradict claims made by others that "virtually all trade secret disputes involve former employees." 56

Based on the data, a prudent trade secret owner should focus on protecting trade secrets from unscrupulous employees and business partners. Conversely, the data call into question the extensive and expensive efforts to stop espionage from unrelated third parties. There is a widespread concern among business owners and lawmakers that unknown, unscrupulous actors are responsible for a substantial percentage of trade secret thefts. Congress focused extensively on unknown actors (especially unknown foreign actors) when it passed the Economic Espionage Act in 1996 and made misappropriation of trade secrets a federal crime.⁵⁷ The Act's statutory history is replete with statements of concern about protecting U.S. business from unknown foreign actors, including foreign governments⁵⁸ and hacking via the Internet.⁵⁹ The data show that such concerns

^{54.} This percentage is smaller than the sum of the top two rows in Table 2 for the same reason that the percentages in Table 2 add up to over 100%: some cases involved both employees and business partners.

^{55.} JAMES POOLEY, TRADE SECRETS § 5.01[2][a] (2000).

^{56.} Charles Tait Graves, *Trade Secrets As Property: Theory and Consequences*, 15 J. INTELL. PROP. L. 39, 43 (2007). One possible explanation for the discrepancy between Mr. Graves's observation and the data is that the data are based on federal decisions. Trade secret cases in federal courts may be skewed to business-to-business cases because of diversity jurisdiction, the greater amount in controversy, supplemental claims in patent cases, or several other reasons.

^{57. 18} U.S.C. §§ 1831-1839.

^{58.} See, e.g., Gerald J. Mossinghoff et al., The Economic Espionage Act: A New Federal Regime of Trade Secret Protection, 79 J. PAT. & TRADEMARK OFF. SOC'Y 191, 191–95 (1997) (discussing the enactment of the Act); ECONOMIC ESPIONAGE ACT OF 1996, H.R. Rep. No. 104–359, at 5-6 (1996); reprinted in 1996 U.S.C.C.A.N. 4021, 4023 (noting, however, that "[i]ncidents of economic espionage are not limited to foreign governments or foreign companies," and that in many instances "the perpetrator of the theft of intellectual property was an individual with a trusted relationship with the company, often an employee or former employee, retiree, contractor, vendor supplier, consultant or business partner").

^{59.} See Jonathan Eric Lewis, *The Economic Espionage Act and the Threat of Chinese Espionage in the United States*, 8 CHI.-KENT J. INTELL. PROP. 189, 227–34 (2009) (describing the threat of hacking and cyber warfare).

may be overblown because unrelated third parties comprise a small percentage of alleged misappropriators.

C. Trade Secrets Divide Evenly Into Two Types: Internal Business Information and Technical Information

Trade secrets are not limited to a particular type of subject matter. As explained by one commentator, "[a]s long as the definitional requirements are met, virtually any subject matter of information can be a trade secret." This flexibility makes trade secrets a good form of protection for rapidly evolving technologies that can outpace the evolution of other IP laws. We coded for nine types of trade secrets. Table 3 identifies the frequency of each of the nine types.

1950-2007 2008 Formulas 4% (12) 9% (11) Technical information and know-46% (126) 35% (42) 10% (12) Software or computer programs 11% (29) **Customer Lists** 31% (38) 32% (86) Internal business information 31% (84) 35% (42) External business information 2% (5) 1%(1)"Combination" trade secrets 2% (5) 1%(1) "Negative" trade secrets 1% (2) 0 Other or unknown 5% (14) 9% (11)

Table 3. Type of the Alleged Trade Secrets

The data roughly divide between internal business trade secrets (i.e., customer lists and internal business information) and technical trade secrets (i.e.,

 $^{60.\,\,}$ Michael A. Epstein, Epstein on Intellectual Property § 1.02[E] (5th ed. 2008 & Supp. 2009).

^{61. 1} MELVIN F. JAGER, TRADE SECRETS LAW § 1:1 (2008) (arguing that "trade secrets have gained in importance because, in many fields, the technology is changing so rapidly that it is outstripping the existing laws intended to encourage and protect inventions and innovations").

^{62.} We coded for trade secrets in the following nine categories: formulas; technical information and know-how, including methods and techniques; software or computer programs; information about customers, including customer lists; internal business information, such as marketing, finance, or strategy information; external business information about others, such as information about suppliers, competitors, or other noncustomer third parties; "combination" trade secrets; "negative" trade secrets; and other or unknown. Where more than one trade secret was involved, and those trade secrets were in different categories, we identified each category.

formulas, technical information, and software or computer programs). Specifically, internal business trade secrets were involved in 48% of the historical cases and 52% of the modern cases, while technical trade secrets were involved in 58% of historical cases and 50% of modern cases. This division is unique among types of IP. For example, patent law comprises both utility patents that protect inventions and nonfunctional design patents that protect decorative elements. But different statutes govern the two types of patents. Trade secret law, however, is not divided the same way. The same law applies to both technical and business information. The data, therefore, caution against blindly applying precedents in trade secret law because a case about the misappropriation of source code may not be applicable to a case about the misappropriation of customer lists. But the context of t

There are very few cases involving so-called "combination" or "negative" trade secrets. Combination trade secrets comprise a set of elements, each by itself in the public domain, that in combination are legally protected as a trade secret. Negative trade secrets are information about what not to do, such as results of failed experiments. Although these two types of trade secrets have been widely criticized by academics and lawyers, the data show that courts rarely refer to them.

^{63.} These percentages add up to more than 100% because some cases involved more than one kind of trade secret.

^{64. 35} U.S.C. § 101 (2006).

^{65. 35} U.S.C. § 171 (2006).

^{66.} As the importance of trade secrets continues to grow, and as trade secret litigation continues to increase, one critical question is whether a single, unified trade secret law is sufficient. Stated another way, should trade secret law have difficult rules for different subjects? We do not address this question, but we highlight it as one area in need of further theoretical and empirical investigation. We further note that this question also arises in patent law. See, e.g., Dan L. Burk & Mark A. Lemley, Policy Levers in Patent Law, 89 VA. L. REV. 1575, 1576-77 (2003) ("In theory, then, we have a uniform patent system that provides technology-neutral protection to all kinds of innovation. . . . A closer examination of patent law demonstrates that it is unified only in concept. In practice the rules actually applied to different industries increasingly diverge.").

^{67.} See Charles Tait Graves & Brian D. Range, Identification of Trade Secret Claims in Litigation: Solutions for a Ubiquitous Dispute, 5 Nw. J. TECH. & INTELL. PROP. 68, 77 (2006) (defining a "combination trade secret" as "a multi-element claim that, when valid, ties non-secret items of information together in a unique manner to form a trade secret").

^{68.} See POOLEY, supra note 55, § 4.02[E] (defining a "negative trade secret" as "information about what not to do, or what doesn't work optimally").

^{69.} See generally Charles Tait Graves, The Law of Negative Knowledge: A Critique, 15 Tex. Intell. Prop. L.J. 387 (2007); Charles Tait Graves & Alexander Macgillivray, Combination Trade Secrets and the Logic of Intellectual Property, 20 Santa Clara Computer & High Tech. L.J. 261 (2003). See also SI Handling Sys., Inc. v. Heisley, 753 F.2d 1244, 1262 (3d Cir. 1985) ("It is also doubtful that under Pennsylvania law an employer

D. Courts Apply Statutes More Often Than Common Law, and the Substantive Law of Illinois Is Applied the Most Often

Substantive trade secret law is almost always state law. We thus coded to determine what sources of state law were applied most often (i.e., state statute or state common law) and which state laws were applied the most often.⁷¹ Table 4 presents the data.

Source of Law	1950–2007	2008
State statute	54% (147)	70% (85)
State common law	34% (93)	17% (21)
Most applied state law		
1. Illinois	11% (27)	12% (13)
2. California	8% (19)	11% (12)
3. New York	10% (23)	5% (5)
4. Michigan	6% (14)	8% (8)
5. Texas	5% (13)	6% (6)

Table 4. Applied Law

The data show a rise in the number of cases applying a state statute and a concomitant decline in cases applying state common law.⁷² The likely cause is the Uniform Trade Secrets Act ("UTSA").⁷³ Trade secret law began in the United States in the mid-to-late 1800s,⁷⁴ and, by the early 1900s, many core features of trade secret law had been established.⁷⁵ In 1939, these features were collected in the Restatement (First) of Torts.⁷⁶ The Restatement was the dominant source of

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can keep his employees' knowledge of past mistakes and failures as a trade secret.").

^{70.} This data may be misleading. After reading and coding hundreds of cases, we discerned a trend whereby courts often address what is fairly considered a combination or negative trade secret, but the court fails to use the moniker "combination" or "negative."

^{71.} The criterion of applied law, or the law the court applied, has five categories: state statute; state common law; the Economic Espionage Act; mixed, where the court applied over one source of law; or other/unknown. The "state" criterion shows whether cases applied a state statute or state common law.

^{72.} The difference between historical and current cases is statistically significant at the .01 level for state statutory law and state common law.

^{73.} UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 529 (2005).

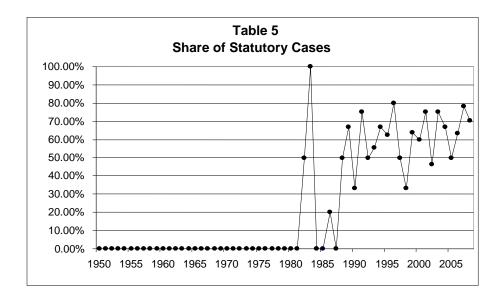
^{74.} See generally RESTATEMENT (THIRD) OF UNFAIR COMPETITION §39 cmt. a (1995) (chronicling the early history of trade secret law); Catherine L. Fisk, Working Knowledge: Trade Secrets, Restrictive Covenants in Employment, and the Rise of Corporate Intellectual Property, 1800–1920, 52 HASTINGS L.J. 441, 441 (2000).

^{75. 1} JAGER, *supra* note 61, § 1:1.

^{76.} RESTATEMENT (FIRST) OF TORTS §§ 757-58 (1939).

authority in the courts.⁷⁷ According to the data, this dominance began to erode around the enactment of the UTSA. The UTSA abandoned the common-law approach of the Restatement and proposed a model statute for state legislatures to adopt.⁷⁸ The UTSA was proposed in 1968, adopted in 1979, and amended in 1985.⁷⁹ As of today, 46 states have enacted the UTSA in some form.⁸⁰

The following table demonstrates the effect of the UTSA and the shift in judicial focus from state common law to state statute.



There are three phases to the rise in the number of decisions citing to the UTSA. First, there was a long period in which there were no citations to state statutes until states began enacting the UTSA in the early 1980s. Second, the rate of citations to statutes is highly variable throughout the 1980s as states

^{77.} POOLEY, *supra* note 55, § 2.02[1] (stating that for over forty years after its publication in 1939, the Restatement (First) of Torts "was almost universally cited by state courts, and in effect became the bedrock of modern trade secret law").

^{78.} See Michael F. Rosenblum, *The Expanding Scope of Workplace Security and Employee Privacy Issues*, 3 DePaul Bus. L.J. 77, 88 (1991) (describing the UTSA as "a model statute which has been adopted in various forms throughout the states") (footnote omitted).

^{79.} *Id.* For an early analysis of the UTSA, see generally Ramon A. Klitzke, *The Uniform Trade Secrets Act*, 64 MARQ. L. REV. 277 (1980).

^{80.} See 1 JAGER, supra note 61, § 3:29 (providing citations to statutes in the 46 states that have enacted the UTSA).

intermittently enacted their own versions of the UTSA. Third, beginning in the 1990s and continuing today, courts have settled into an equilibrium in which most courts apply a state statute but a minority of courts still apply common law. One should not underestimate the importance of the common law minority. While 46 states have enacted the UTSA, the four states that have not represent 20% of the U.S. GDP (New Jersey, New York, Texas and Massachusetts).⁸¹

In addition to revealing a shift from the Restatement to the UTSA, the data also reveal the importance of trade secret law in Illinois, California, and New York. Federal courts apply the law from these three states in almost 30% of the cases. The immediate question that arises from this figure is why do some states have more trade secret cases than others? Part of the answer is population. Four of the top five states by number of trade secret cases are among the top five states by population: California (#1 at 37 million); Texas (#2 at 24 million); New York (#3 at 19 million); and Illinois (#5 at 13 million).

But population isn't the only answer. For example, Illinois is #5 in population but #1 in trade secret cases, and Michigan is #8 in population but #4 in trade secret cases. There are several possible explanations. One possible explanation is that frequently applied law comes from jurisdictions with a higher proportion of innovative industries, and thus a higher proportion of trade secrets. A related possible explanation is that courts with stable trade secret law draw a disproportionate number of innovative companies to those states. Yet another explanation is that certain jurisdictions have reputations for being friendly to particular parties. This is true in patent cases where certain jurisdictions, such as the Eastern District of Texas, have a reputation for favoring patentees. This study did not yield statistically significant data to either support

^{81.} See Bureau of Econ. Analysis, U.S. Dep't of Commerce, State Economic Growth Slowed in 2007: Advance 2007 and Revised 2004–2006 GDP-by-State Estimates 11 (June 5, 2008), available at http://www.bea.gov/newsreleases/regional/gdp_state/2008/pdf/gsp0608.pdf.

^{82.} U.S. Census Bureau, Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2008, available at http://www.census.gov/popest/states/tables/NST-EST2008-01.xls.

^{83.} The idea that innovation is based at least in part on geography has substantial theoretical and empirical support. See generally Adam B. Jaffe et al., Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations, 108 Q. J. Econ. 577 (1993); Glynn S. Lunney, Jr., Patents and Growth: Empirical Evidence from the States, 87 N.C. L. REV. 1467 (2009).

^{84.} Jacob A. Sommer, Business Litigation and Cyberspace: Will Cyber Courts Prove an Effective Tool for Luring High-Tech Business into Forum States?, 56 VAND. L. REV. 561, 562 (2003).

^{85.} See Adam Shartzer, Patent Litigation 101: Empirical Support for the Patent Pilot Program's Solution to Increase Judicial Experience in Patent Law, 18 FED. CIR. B.J. 191, 215-16 (2006) (explaining some of the reasons that the Eastern District of Texas is

or refute the conclusion that certain jurisdictions systematically favor certain parties in trade secret cases. This issue would benefit from additional research.

E. Courts in Illinois and California Are the Most Active

Plaintiffs in IP cases flock to purportedly favorable forums, based in part on flexible venue rules and the existence of federal statutes conferring federal subject matter jurisdiction. Nowhere is this more pronounced than in patent cases. Patent plaintiffs disproportionately favor jurisdictions like the Eastern District of Texas, Western District of Wisconsin, or District of Delaware. A recent study confirmed that of the 94 federal judicial districts, the top five districts handle 36% of the patent caseload. Forum shopping also occurs in other IP cases, such as trademark and copyright cases. Many factors affect which forum a plaintiff selects, including speed of adjudication, win rates for plaintiffs, likelihood of a transfer, jury characteristics, and others.

For trade secret law, the first step in assessing the extent of forum shopping and the rationales behind it is to determine which courts are the most active. Tables 6 and 7 identify the top ten most active district courts in trade secret cases.

considered friendly to plaintiff-patentees, including that plaintiff-patentees win 90% of jury trials and that juries from Marshall, Texas rarely invalidate a patent).

89. E.g., Jason S. Shull & Wendell W. Harris, *Venue Selection in Trademark Infringement Cases: Where to Obtain Preliminary Injunctive Relief*, IP LITIGATOR, May/June 2007, at 26-30 (describing different variables that affect a plaintiff's choice of venue for trademark infringement suits and presenting statistics regarding those variables).

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^{86.} See generally Yan Leychkis, Of Fire Ants and Claim Construction: An Empirical Study of the Meteoric Rise of the Eastern District of Texas as a Preeminent Forum for Patent Litigation, 9 YALE J.L. & TECH. 193 (2007).

^{87.} Shartzer, *supra* note 85, at 198 n.65 (citing 2007 data on the number of patent infringement case filings, which showed that the Eastern District of Texas ranked first, the District of Delaware ranked fifth, and the Western District of Wisconsin ranked eighth).

⁸⁸ Id

^{90.} E.g., Nicole K. Roodhuyzen, Do We Even Need A Test? A Reevalutaion of Assessing Substantial Similarity in a Copyright Infringement Case, 15 J. & Pol'y 1375, 1418 (2007) (describing forum shopping in copyright cases).

^{91.} See PRICEWATERHOUSECOOPERS, A CLOSER LOOK: 2008 PATENT LITIGATION STUDY: DAMAGES AWARDS, SUCCESS RATES AND TIME-TO-TRIAL, 12-15 (2008), available at http://www.pwc.com/en_US/us/forensic-services/assets/2008_patent_litigation_study.pdf (ranking the district courts that are most favorable to patent owners based on a statistical analysis of median time-to-trial, median damages awarded, summary judgment win rates, and trial win rates). See generally Kimberly A. Moore, Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?, 79 N.C. L. Rev. 889 (2001) (describing which factors affect the choice of jurisdiction).

Table 6. Court Activity, 1950–2007

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1. N.D. Illinois	12% (33)		
2. S.D. New York	7% (18)		
3. E.D. Pennsylvania	6% (17)		
4. D. Minn	6% (16)		
5. E.D. Mich	5% (13)		
6. C.D. California	4% (10)		
7. N.D. Texas	4% (10)		
8. D. Kansas	3% (9)		
9. D. New Jersey	3% (8)		
10. N.D. California	3% (8)		
7. N.D. Texas 8. D. Kansas 9. D. New Jersey	4% (10) 4% (10) 3% (9) 3% (8)		

Table 7. Court Activity, 2008

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1. N.D. Illinois	7% (9)
2. N.D. California	5% (6)
3. E.D. Pennsylvania	4% (5)
4. M.D. Florida	4% (5)
5. D. New Jersey	3% (4)
6. E.D. California	3% (4)
7. S.D. New York	3% (4)
8. W.D. Michigan	3% (4)
9. C.D. California	2% (3)
10. D. Connecticut	2% (3)

Unlike patent law, no federal district court handles a vastly disproportionate share of trade secret law. An unsurprising corollary is that the most active courts reside in states that, as explained above in Part III.D, contain the substantive law that is applied the most often. Indeed, the same two states occupy the top two spots: Illinois (which includes the active Northern District) and California (which includes the active Central, Eastern, and Northern Districts). One possible explanation for this phenomenon is that trade secret disputes are more local and thus cannot rely on lax federal venue rules or federal subject matter jurisdiction. Another is that no federal courts have developed strong reputations for being especially friendly to trade secret owners.

F. Courts Cite the Restatement (First) of Torts with Decreasing Frequency, and Over 25% of Courts Cite Persuasive Authority

There is no authoritative, nationwide source of authority for trade secret law. Courts thus have several sources of law on which to base their reasoning. As detailed above in Part III.D, the Restatement (First) of Torts, once the dominant source of authority, has yielded to the UTSA. There are many critical differences between the Restatement and the UTSA, ⁹² meaning that the source of law on which a court relies can determine the outcome of a case. Table 8 identifies the source of authority (other than binding statutes or case law) that courts cited to justify their reasoning. ⁹³

^{92.} E.g., David S. Almeling, Practical Case For Federalizing Trade Secret Law, Law360 (June 23, 2009), available at http://www.law360.com/articles/106724 (identifying six examples of interstate variations and presenting the practical problems these variations cause); Marina Lao, Federalizing Trade Secrets Law in an Information Economy, 59 Ohio St. L.J. 1633, 1658–65 (1999); Christopher Rebel J. Pace, The Case for a Federal Trade Secrets Act, 8 HARV. J.L. & TECH. 427, 442–45 (1995).

^{93.} For each criterion, there are two categories: yes, it was expressly cited or referenced; or no, it was not. Table 8 does not present data regarding the UTSA.

Table 8. Court's Reasoning

	1950–2007	2008
Restatement (First) of Torts	14% (37)	7% (9)
Restatement (Third) of Unfair	1% (2)	2% (2)
Competition		
Persuasive Authority	27% (74)	26% (31)

Over one quarter of all trade secret decisions cite persuasive authority. For purposes of coding, we defined persuasive authority as authority from a jurisdiction other than the jurisdiction whose law the court applied.⁹⁴ The data are surprising because each state has its own autonomous body of trade secret law and thus need not cite any other law. One likely explanation is that the body of trade secret law in most states is not complete enough to be fully selfcontained. To illustrate, from 2000 to 2009 there were 293 trade secret decisions from California state courts and 120 such decisions in New York state courts; in the same period, Wyoming had one, North Dakota had four, and Vermont had five. 95 In other words, federal courts in smaller states may overcome their state's smaller pools of precedent by using persuasive authority. Another potential explanation is that trade secret law from state to state is sufficiently similar (particularly if they have adopted the UTSA) that courts can apply persuasive law without much difficulty. Yet another potential explanation is that trade secret cases tend to be fact specific, and a court would rather select a factually similar case from another jurisdiction than a less analogous case from the same jurisdiction. Whatever the explanation, the consequences are clear: litigants should research and cite the law nationwide, as courts may use that law in reaching their decisions.

The data also show a decreasing use of the Restatement (First) of Torts and little use of the Restatement (Third) of Unfair Competition. For the Restatement (First) of Torts, there was a statistically significant decline in its use from historical to modern cases. ⁹⁶

^{94.} See Appendix A. Our definition of "persuasive authority" is more limited than the common definition. See BLACK'S LAW DICTIONARY 143 (8th ed. 2004) (defining "persuasive authority" as "[a]uthority that carries some weight but is not binding on a court").

^{95.} We did not use our data for this statement because we coded federal cases. Instead, we searched all cases in Westlaw for each state database (i.e., California (CA–CS), New York (NY–CS) Wyoming (WY–CS), Vermont (VT–CS), and North Dakota (ND–CS)) that satisfied the following search: ATLEAST3("TRADE SECRET!") & DA(AFT 12/31/1999 & BEF 01/01/2009). For the limitations of this type of search, *see supra* note 14.

^{96.} This decline is significant at the .10 level.

The drafters of the Restatement (Second) of Torts did not include a section on trade secret law, stating that the tort of trade secret misappropriation had developed into its own area of law.⁹⁷ The current Restatement addressing trade secret law is the Restatement (Third) of Unfair Competition (1995).⁹⁸ But the data show that few courts cite to the Restatement (Third) of Unfair Competition, which is likely the result of two facts: 46 states adopted some form of the UTSA; and for the four states that use a Restatement, the preferred source is the original Restatement (First) of Torts that is entrenched in their common laws.

G. Choice-of-Law Disputes Are Increasing

Trade secrets are governed by separate state statutes and common law systems. As a result, many cases require a choice-of-law analysis to determine which state law to apply.⁹⁹

Table 9 identifies the percentage of trade secret cases that contained a choice-of-law dispute. We defined "choice-of-law dispute" in binary terms: yes, the court expressly addressed a dispute over which jurisdiction's law would govern the trade secret issue; or no, it didn't. To qualify as a dispute, the parties had to disagree about which law applied.

Table 9. Choice-of-Law Disputes

	1950–2007	2008
Yes, there was a dispute	5% (14)	12% (14)
No, there wasn't	95% (259)	88% (107)

It is the authors' experience, as litigators of trade secret cases, that choice-of-law issues arise frequently and require significant work. The data support this observation because the number of choice-of-law disputes has doubled and those disputes now occur in over 10% of cases. We believe that the increasing prevalence of choice-of-law disputes is a critique of the current, state-based system and one of the many arguments in favor of federalizing trade secret law and adopting a Federal Trade Secrets Act. 101

^{97.} RESTATEMENT (SECOND) OF TORTS, div. 9, introductory note (1979).

^{98.} RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 39–45 (1995). The rules in the Restatement (Third) of Unfair Competition are meant to apply to actions under either the UTSA or common law. *Id.* at § 39 cmt. b.

^{99.} See 1 JAGER, supra note 61, §§ 4.6-4.8 (describing the range of choice-of-law issues that must be decided in each trade secret case).

^{100.} This increase was significant at the .05 level.

^{101.} See generally David S. Almeling, Four Reasons to Enact a Federal Trade Secrets Act, 19 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 769 (2009) (describing the flaws

IV. WHO WINS TRADE SECRET LITIGATION, WHEN, AND WHY

Table 10 identifies the ultimate outcome of each decision that we coded—that is, whether the trade secret owner prevailed or not. 102

Table 10. Outcome

	1950–2007	2008
Owner prevails	42% (114)	52% (63)
Owner does not prevail	53% (145)	43% (52)
Owner prevailed on some trade secret	5% (14)	5% (6)
claims but not on others		

This data, by itself, yields little interesting information. Prevailing on a motion for preliminary injunction and thereby preliminarily enjoining the alleged misappropriator means something vastly different than prevailing on a motion to dismiss and thereby passing the minimal threshold of stating a claim. But controlling for these other factors demonstrated that the outcome of a case provides a great deal of useful information about who wins trade secret cases, when, and why. 103

A. The Who: A Trade Secret Owner's Likelihood of Success Depends in Part on Whether It Sues an Employee or Business Partner

In Part III.B above, we presented data showing that in over 85% of the cases in this study, the alleged misappropriator was either an employee or a business partner. When we analyzed the outcomes in those cases, the data show that there are statistically significant differences in outcome depending on whether the trade secret owner sues an employee or business partner. 104,105

of the current, state-based system of trade secret law and arguing that Congress should enact a Federal Trade Secrets Act that preempts inconsistent state laws).

^{102.} Outcome has three categories: yes, the trade secret owner prevailed; no, the trade secret owner did not prevail; and mixed, in which there were multiple trade secrets, claims, or issues and the trade secret owner prevailed on some but not others.

^{103.} Before continuing with our analysis of outcomes, we state the obvious: each case is different, particularly fact-specific trade secret cases, and thus these statistics cannot substitute for an assessment of the individual factors that may affect any particular case.

^{104.} Our sample had two components: (1) "historical" cases decided between 1950 and 2007, and (2) "current" cases decided in 2008. Due to the large number of cases decided between 1950 and 2007, we only coded a randomly selected 25%; due to their relatively small number, we coded all cases in 2008. To correct for this bias, we created balance by weighting the data proportionally to the inverse of the sampling rate. For example, because we coded 25% of the historical cases, each historical case was assigned a weight of four. And

Table 11. Outcome by Posture When Alleged Misappropriator Was an Employee

	Preliminary Injunction/TRO	Motion to Dismiss	Alleged Misappropriators' MSJ
Owner Prevailed	41.6% (38)	44.3% (12)	34.7% (20)
Alleged Misappropriator Prevailed	51.1% (47)	48.1% (13)	54.1% (31)

Table 12. Outcome by Posture When Alleged Misappropriator Was a Business Partner

	Preliminary Injunction/TRO	Motion to Dismiss	Alleged Misappropriators' MSJ
Owner Prevailed	22.9% (6)	71.1% (25)	46.7% (28)
Alleged Misappropriator Prevailed	77.1% (20)	28.1% (10)	51.3% (31)

Against employees, a trade secret owner had almost a 42% likelihood of success and a 51% likelihood of failure if the owner moved for preliminary relief in the form of a temporary restraining order ("TRO") or preliminary injunction. Against business partners, those same numbers were 23% and 77%. This difference is statistically significant. Similarly, there were interesting potential

because we coded all current cases, each was assigned a weight of one. If we simply multiplied the samples by their respective weights, we would end up with a much larger sample size than actually taken. To adjust the data back to the original sample size (N=394), we divided each of the initial weights by the mean weight for historical and current cases, 2.5 ((4+1)/2=2.5). Thus, the final weight for historical cases was 1.6 (4/2.5=1.6), and the final weight for current cases was .4 (1/2.5=4). We then multiplied these weights to each observation that combined historical and current cases. In this way, the sample was representative of the total population of trade secret cases decided between 1950 and 2008. Tables 11, 12, and 14-17 involve weighting. Tables 1-10, 13, and 18-20 do not involve weighting.

105. "Mixed" outcomes were omitted from these tables, so the percentages do not add up to 100%.

106. T-test results show that the percentage of cases in which the trade secret owner prevailed, and the posture was either a motion for a temporary restraining order or a motion for preliminary injunction differed significantly (p<.01) between cases against employees

_ h differences in cases in which the alleged misappropriator moved to dismiss. Alleged misappropriators who were also employees had a higher success rate (48% vs. 28%) and a lower failure rate (44% vs. 71%) compared to alleged misappropriators who were business partners, though these differences were not statistically significant. ¹⁰⁷

There are several potential explanations for these differences. One is prefiling discovery. If the alleged misappropriator was a former employee, the trade secret owner can conduct an extensive prefiling investigation into what trade secrets the employee allegedly took and how. With business partners, however, a trade secret owner may have limited access to the third-party's information and thus less evidence for preliminary relief. But whatever the explanation, trade secret owners should seriously consider filing for preliminary relief in employee cases because such owners appear to prevail frequently.

The data also show that cases involving employees are much more likely to conclude early in the litigation. Trade secret owners are more likely to both win a motion for preliminary injunction and lose a motion to dismiss¹⁰⁸ in cases against employees than in cases against business partners. This means that cases against employees are likely to conclude early and based on the factual record at the time of filing, whereas cases against business partners are more likely to require discovery and prolonged litigation.

B. The When: Over 80% of Decisions Coded Fell Into Three Types of Procedural Postures, and the Moving Party Has a Significant Chance of Success

Our unit of analysis was the written decision. But not all written decisions are equivalent. For example, the applicable standards and burdens of proof depend significantly on the procedural posture in which the court decides an issue. We coded for cases in six procedural postures: motion for preliminary injunction or TRO; motion to dismiss for failure to state a claim upon which relief can be granted; plaintiff's motion for summary judgment; defendant's motion for summary judgment; either party's motion for judgment as a matter of law; or bench trial. Table 13 presents the data.

and partners.

107. The p-values from t-tests for these two comparisons were greater than .10, so they were not statistically significant at any minimum level. This appears to be due to there being many fewer motion to dismiss decisions in employee cases (n=25) than decisions on motions for preliminary injunctions or temporary restraining orders (n=95). We therefore lacked the statistical power to draw any firm conclusions.

108. Again, the difference in motion-to-dismiss cases was not statistically significant. *See supra* note 107.

109. The data, not shown because it is too voluminous, illustrate that the frequency of written decisions at each stage has been relatively consistent. The only exception is the disparity between the number of cases addressing motions for summary judgment before and

Table 13. Procedural Postures

	1950–2007	2008
Preliminary Injunction or TRO	30% (82)	27% (33)
Motion to dismiss	16% (45)	25% (30)
Owner moved for summary	1% (3)	4% (5)
judgment		
Alleged Misappropriator moved	34% (92)	36% (44)
for summary judgment		
Both parties moved for summary	2% (6)	1% (1)
judgment		
JMOL	3% (9)	2% (2)
Bench Trial	13% (36)	5% (6)

The relative frequency of procedural postures is noteworthy for several reasons, including that almost one-third of trade secret cases involve an owner's request for preliminary relief and over one-half of all reviewed decisions are the alleged misappropriator's attempt to dispose of or narrow the case with a motion to dismiss or a motion for summary judgment.

The primary value of looking at procedural posture is to determine the chance for success at each posture. Some of those data were presented in Part IV.A when we delineated the outcome by posture for particular types of cases. In this subpart, we present the outcome by posture for all cases combined. ¹¹⁰

Table 14. Outcome by Posture

	Preliminary Injunction/TRO	Motion to Dismiss	Misappropriator's Motion for Summary Judgment
Owner Prevailed	34.4% (40)	57.6% (39)	43.5% (58)
Alleged Misappropriator Prevailed	60.1% (70)	39.1% (27)	51.0% (68)

after the 1980s. The likely explanation for this disparity is the famous trilogy of cases that ushered in the modern era of summary judgment standards and substantially increased summary judgment practice. *See generally* Celotex Corp. v. Catrett, 477 U.S. 317 (1986); Anderson v. Liberty Lobby, Inc., 477 U.S. 242 (1986); Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574 (1986).

110. This chart is limited to the procedural postures for which the most data was available.

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The data show that trade secret owners prevailed in over one-third of motions for TROs or preliminary injunctions. This is somewhat surprising, because trade secret owners face a heavy burden in moving for preliminary relief. When moving for a TRO, the plaintiff must generally satisfy four elements: (1) irreparable harm to the plaintiff in the absence of a TRO; (2) the balance of public interest favors a TRO; (3) other interested parties will be harmed if the TRO is not granted; and (4) the plaintiff is likely to succeed on the merits. Most courts apply a similar four-part test for preliminary injunctions. 112

The statistics on motions to dismiss are also surprising. To prevail on a motion to dismiss, the alleged misappropriator must prove the trade secret owner failed "to state a claim upon which relief can be granted." Given this burden, it is somewhat surprising that almost 40% of alleged misappropriators succeed on a motion to dismiss.

But the most surprising result is the data on an alleged misappropriator's summary judgment motion. To prevail on a motion for summary judgment, the alleged misappropriator must "show that there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law." Despite bearing the burden, the alleged misappropriator-movant prevails in over half of all summary judgment decisions. The lessons are clear: courts are very willing to grant summary judgment in favor of an alleged misappropriator, so alleged misappropriators should strongly consider moving for summary judgment.

C. The Why: Why Courts Reach the Decisions They Do

This subpart answers the critical question of why courts reach the decisions they do. To answer this question, we focused on the elements of a prima facie case and several common affirmative defenses.

^{111.} DAVID W. QUINTO & STUART H. SINGER, TRADE SECRETS: LAW & PRACTICE 103 (2009).

^{112.} *Id.* at 104, 105-08 (quoting the following as being the dominant test: "(1) the existence of a clearly ascertained right which needs protection[;] (2) the occurrence of irreparable injury without the protection of an injunction[;] (3) the remedy at law is inadequate[; and] (4) there is a likelihood of success on the merits of the case").

^{113.} FED. R. CIV. P. 12(b)(6).

^{114.} We do not present the data for outcomes when trade secret owners move for summary judgment because there were too few examples of that type to present statistically significant data.

^{115.} FED. R. CIV. P. 56(c).

^{116.} This success rate is roughly the same for both employees and business partners. *See supra* Tables 11-12.

1. The Prima Facie Trade Secrets Case: Courts Are Most Likely To Decide Cases on Validity or Misappropriation

There is no universally accepted formulation for what the plaintiff must prove to succeed on a claim for trade secret misappropriation. Depending on the state, the prima facie case of trade secret misappropriation has anywhere from two to six elements. 117

Since there is no single test, we coded four of the most common elements in the prima facie case. "Reasonable Measures" is whether the trade secret owner engaged in efforts that were reasonable under the circumstances to maintain the secrecy of the alleged trade secret. "Value" is whether the trade secret had sufficient value to qualify as a protectable trade secret. "Misappropriation" is whether the alleged acquisition was wrongful. "Validity" is whether the alleged trade secret constituted information that qualified as a protectable trade secret. Each of the elements is separate even though, as explained below, courts often conflate them. Table 15 presents the data for common elements of a prima facie case.

Reasonable Measures Value Validity Misappropriation Yes, the element was satisfied 10.7% (42) 23.7% (93) 26.8% (106) 22.3% (88) No, it was not 13.1% (52) 3.5% (14) 22.2% (87) 28% (110) Not expressly 63.2% decided (249)83.9% (331) 50.6% (199) 40.5% (159) Mixed 1.4% (6) 1.8%(7)3.5% (14) 4.7% (19) Total 100% (394) 100% (394) 100% (394) 100% (394)

Table 15. Prima Facie Cases

^{117.} See QUINTO & SINGER, supra note 111, at 48–50 (presenting examples from different state definitions of the prima facie case of trade secret misappropriation). To give two examples, Florida uses a two-part test and Pennsylvania uses a four-part test. See Preferred Care Partners Holding Corp. v. Humana, Inc., No. 08–20424, 2009 WL 982433, at *6 (S.D. Fla. Apr. 9, 2009) (defining trade secret misappropriation as "(1) the plaintiff possessed secret information and took reasonable steps to protect its secrecy; and (2) the secrets it possessed [were] misappropriated"); Crown Coal & Coke Co. v. Compass Point Res., LLC, No. 07–1208, 2009 WL 891869, at *6 (W.D. Pa. Mar. 31, 2009) (defining trade secret misappropriation as "(1) the existence of a trade secret; (2) communication of the trade secret pursuant to a confidential relationship; (3) use of the trade secret, in violation of that confidence; and (4) harm to the plaintiff") (citation omitted).

^{118.} A fifth factor we coded (whether the alleged trade secret was readily ascertainable and therefore ineligible for protection) did not provide statistically useful data, although it is an issue often raised by alleged misappropriators.

The following is a ranking of prima facie elements based on how often courts issue a decision on that element: (1) validity, decided in 60% of cases; (2) misappropriation, decided in 50% of cases; (3) reasonable measures, decided in 37% of cases; and (4) value, decided in 14% of cases. Accordingly, despite the wide variety of formulations of a prima facie case, courts primarily decide trade secret cases by focusing on two core elements—whether there was a valid trade secret and whether it was misappropriated.

The data further show that only a few courts addressed the value element, and only a few of those courts held that the element was not satisfied. Both the UTSA and the Restatement (First) of Torts—the two dominant definitions of trade secret misappropriation—require the plaintiff to establish value. The UTSA requires a trade secret to "derive[] independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use." The Restatement (First) of Torts requires a trade secret to be "used in one's business [and to give the owner] an opportunity to obtain an advantage over competitors who do not know or use it." The cases suggest that courts often presume value and do not discuss it at all. The data show that in cases when courts discuss it, courts impose a low threshold for value.

After correlating the elements of a prima facie case with outcomes and procedural postures, we discovered that certain elements are more likely to be dispositive at certain stages in litigation. The following charts present data regarding the elements of a prima facie case at the preliminary-relief (i.e., TRO and preliminary injunction) and summary-judgment stages.

Table 16. Prima Facie Cases When Alleged Misappropriators Avoided Injunctive Relief

	Reasonable Measures	Value	Misappropriation	Validity
Not satisfied	12.4% (8)	6% (4)	49.8% (33)	43.3% (29)
Note expressly decided	77% (52)	87.6% (59)	46.1% (31)	47.5% (32)

^{119.} UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 529 § 1(4) (2005).

^{120.} RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (1939).

Table 17. Prima Facie Cases When Alleged Misappropriator Prevailed on a Motion for Summary Judgment

	Reasonable Measures	Value	Misappropriation	Validity
Not satisfied	30% (20)	4.8% (3)	30% (20)	61.4% (41)
Not expressly decided	63.8% (42)	90.5% (60)	70% (46)	36.7% (24)

The data shows three trends. First, the longer the case progressed, the more likely a court would rule that the trade secret owner did not own a valid trade secret. As the case progressed from preliminary relief to summary judgment, the percentage of cases in which the court held that the trade secret was invalid increased from 43% to 61%. ¹²¹

Second, and similarly, the longer the case progressed, the more likely a court would rule that the trade secret owner did not take reasonable steps to protect its trade secret. As the case moved through the same two stages, the percentage of cases in which the court reached this conclusion increased from 12% to 30%.

Third, and conversely, the longer the case progressed, the more likely a court would rule that the trade secret owner had established misappropriation. At the preliminary injunction stage, the court found the element of misappropriation not satisfied in 50% of cases, but that number decreased to 30% at the summary judgment stages.

The primary likely explanation for these statistics is discovery. At the early stages of litigation when the trade secret owner moves for a TRO or a preliminary injunction, the alleged misappropriator has little evidence with which to argue that the purported trade secret is invalid or that the trade secret owner did not take reasonable measures to protect its trade secret. As the case progresses, the alleged misappropriator begins to discover the alleged trade secret's scope and what the trade secret owner did to protect it. The alleged misappropriator has more evidence to use in support of a motion for summary judgment. The converse is true for the element of misappropriation. When they file suit, trade secret owners often do not know exactly what was misappropriated or how. With discovery, the trade secret owner can investigate the alleged misappropriator's records and uncover that information.

^{121.} This increase was significant at p<.05.

^{122.} This increase was significant at p<.05.

^{123.} The decrease was significant at p=.01.

2. One Element of the Prima Facie Case in Depth: Agreements with Employees and Third Parties Are the Key to Reasonable Measures

A trade secret owner is not entitled to protection unless the owner took reasonable measures to protect its trade secrets. There is no bright-line rule for the number and type of measures necessary to support a finding that such measures are reasonable. Trade secret owners must nonetheless devise a plan to protect their proprietary information. Recommendations abound about the best measures. All of these sources are anecdotal; there are no empirical studies to determine which factors courts cite most often or which factors are most influential. This article seeks to fill that void. Specifically, for cases in which the court decided whether the trade secret owner engaged in efforts that were reasonable to maintain the secrecy of an alleged trade secret, we coded for the types of measures the plaintiff undertook. Table 18 presents the data.

^{124.} QUINTO & SINGER, *supra* note 111, at 16. For example, in adopting the Economic Espionage Act, Congress stated "what constitutes reasonable measures in one particular field of knowledge or industry may vary significantly from what is reasonable in another field or industry." 142 CONG. REC. S12213 (daily ed. Oct. 2, 1996).

^{125.} See ERIC M. DOBRUSIN & RONALD A. KRASNOW, INTELLECTUAL PROPERTY CULTURE: STRATEGIES TO FOSTER SUCCESSFUL PATENT AND TRADE SECRET PRACTICES IN EVERYDAY BUSINESS 249-271 (2008) (dedicating a chapter to "confidential information and effective corporate trade secret programs"); POOLEY, supra note 55, § 9 (dedicating 78 pages to ways to protect secrecy and avoid litigation); ISO/IEC 27002:2005, INFORMATION TECHNOLOGY — SECURITY TECHNIQUES — CODE OF PRACTICE FOR INFORMATION SECURITY MANAGEMENT (International Organization for Standardization & International Electrotechnical Commission 2005) (summarizing best practices in information security); David W. Slaby et al., Trade Secret Protection: An Analysis of the Concept "Efforts Reasonable Under the Circumstances to Maintain Secrecy," 5 SANTA CLARA COMPUTER & HIGH TECH. L.J. 321, 327-28 (1989); MODEL JURY INSTRUCTIONS: BUSINESS TORTS LITIGATION § 8.3.2, at 401 (Ian H. Fisher & Bradley P. Nelson eds., 4th ed. 2005); Eric Amdursky & Mark W. Robertson, Protecting Trade Secrets When Employees Depart, LAW360 (Sept. 18, 2009), available at http://www.law360.com/articles/106724 (describing a series of steps a company can take to demonstrate it took reasonable measures).

^{126.} We coded for ten categories: confidentiality agreements with employees; confidentiality agreements with third parties, such as a nondisclosure agreement; computer-based protections, such as passwords and restricted access; physical-based protections, such as locked cabinets; education and training of employees about secrecy; labeling of confidential documents, such as confidentiality stamps and legends; record keeping, such as logging who accessed the trade secret; interviews, either entrance or exit; surveillance; and/or written policies regarding the confidentiality or destruction of documents or data. These categories are not mutually exclusive; we thus coded for each measure used.

Table 18. Types of Measures Used by Trade Secret Owner

	1950–2007	2008
Confidentiality agreements with	9% (24)	17% (20)
employees		
Confidentiality agreements with third	6% (17)	11% (13)
parties		
Computer-based protections	4% (12)	13% (16)
Physical-based protection	7% (18)	3% (4)
Education of employees about secrecy	2% (5)	2% (2)
Label confidential documents	2% (6)	4% (5)
Record keeping	0% (1)	0
Interviews	0% (1)	0
Surveillance	0% (1)	0% (1)
Written policies	1% (2)	4% (3)

Given the uncertainty surrounding what constitutes reasonable measures, the time-tested advice is to implement as many protective measures as reasonably possible. This advice remains true, but the data show that particular measures deserve special attention. The most important measures are agreements with employees and third parties. With employees, these agreements take several forms, including noncompetition, nonsolicitation, employment, confidentiality and invention-assignment agreements. With third parties such as suppliers or prospective suitors, the primary agreements are nondisclosure and confidentiality agreements.

Knowing which measures the courts cite is useful data. But it is far more useful to know which elements best predict how a court will find on this element. To determine this correlation, we ran a statistical model using logistic regression. The data show that if the trade secret owner takes the following steps, a court is more likely to find that the owner engaged in reasonable efforts: (1) agreements with employees; 28 (2) agreements with business partners; 29 and

^{127.} The outcome variable is reported in log odds ratios. Coefficients greater than one indicate that a particular measure is positively correlated with the court finding that the owner engaged in reasonable efforts. A negative coefficient would imply that a particular measure is negatively correlated with a court finding that the owner engaged in reasonable efforts. These results hold when all measures are included in the model. These results, however, should be interpreted with caution as several cases were dropped due to collinearity. When this happens, the resulting odds ratios may be inflated.

^{128.} The regression indicated that a court is almost 25 times more likely to find that the owner engaged in reasonable efforts if the trade secret owner had agreements with employees than if they did not.

^{129.} A court is almost 43 times more likely to find that the owner engaged in reasonable efforts if the trade secret owner had agreement with business partners than if they

(3) restricting access to certain persons, ¹³⁰ such as by adopting need-to-know rules. ¹³¹ These measures are all consistent with employees and business partners being the most common alleged trade secret misappropriators.

To fine-tune these results, we ran logistic regressions on cases in which the alleged misappropriator was an employee and in which the alleged misappropriator was a business partner. In employee cases, the importance of employee agreements increased. ¹³² In business partner cases, the importance of agreements with third parties (i.e., the business partners) increased. ¹³³

There are several reasons that courts rely on agreements. One reason is that such agreements set forth a clear relationship between the parties. Courts also focus on such agreements because they have long been a part of standard corporate practice. For example, a study of corporations done in 1965 found that the vast majority of corporations used some kind of agreement with employees to protect trade secrets. Still, an agreement is not necessary. Other measures can make up for the lack of an agreement, and courts can find an implied agreement based on the circumstances.

We add a coda. Courts rarely catalogue all of the reasonable measures a putative trade secret owner took (or failed to take) to protect its trade secret. This makes it difficult to extrapolate from the data. One logical conclusion is that the standard for judging reasonable measures is relatively lax. The data thus confirm the oft-repeated description of reasonable measures that such measures need not be perfect or heroic; they only need to be reasonable.¹³⁶ Interestingly, courts

did not.

130. A court is over 18 times more likely to find that the owner engaged in reasonable efforts if the owner restricted access to certain persons than if they did not.

- 131. The data also shows that computer-based protections, such as passwords and restricted access, are increasingly common. The increase in computer-based protections was significant at the .01 level. While these measures are not always required, their increasing frequency in litigation means that courts expect to see them and can be suspicious when they are not present. See generally Victoria A. Cundiff, Reasonable Measures to Protect Trade Secrets in a Digital Environment, 49 IDEA 359 (2008) (discussing computer-based reasonable measures to protect trade secrets).
- 132. In cases where an employee was the accused misappropriator, having an employee sign a confidentiality agreement increased the likelihood of the court finding that the owner had taken reasonable measures by more than a factor of 100.
- 133. Similarly, in cases where the partner was the misappropriator, having the partner sign a confidentiality agreement increased the likelihood of the court ruling in favor of the owner by more than a factor of 100.
- 134. 1 ROGER M. MILGRAM AND ERIC E. BENSEN, MILGRIM ON TRADE SECRETS \S 4.02 (2009).
- 135. QUINTO & SINGER, *supra* note 111, at 21-22 (describing different types of relationships—employment, joint ventures, licensing and others—that courts have interpreted to imply a confidentiality obligation).
 - 136. *See* POOLEY, *supra* note 55, § 4.04[2]; QUINTO & SINGER, *supra* note 111, at 17.

were historically somewhat less likely to find this element satisfied (22% satisfied vs. 14% not satisfied) than modern courts (26% satisfied vs. 6% not satisfied). It thus appears that while the element of reasonable measures has always been subject to a forgiving standard, this element is increasingly met by standard business practices.

3. Courts Infrequently Address Affirmative Defenses in the Coded Cases

Trade secret claims, like all claims, are subject to defenses that, if proven, defeat the plaintiff's claim. In this study, we coded for five defenses.

The first, reverse engineering, is defined as "starting with the known product and working backward to divine the process which aided in its development or manufacture." To qualify as a defense, the process must comprise "fair and honest means, such as purchase of a product on the open market." ¹³⁹

The second affirmative defense that we coded for was independent development. Independent development occurs when the defendant's product or process results from that defendant's own independent efforts. 140

Third, the defense of unclean hands is not specific to trade secret cases.¹⁴¹

^{137.} There was a statistically significant decrease between historical and modern cases in the percentage of cases where the court found that reasonable measures were not taken (from 14% to 6%). This was significant at the .05 level.

^{138.} Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 476 (1974); see also BLACKS LAW DICTIONARY 1345 (8th ed. 2004) (defining reverse-engineering as "[t]he process of discovering how an invention works by inspecting and studying it, esp. by taking it apart in order to learn how it works and how to copy it and improve it," and stating that "[r]everse-engineering is a proper means of discovery trade secrets, according to the Uniform Trade Secrets Act, and is a defense against a suit for misappropriation of trade secrets").

^{139.} See, e.g., Rockwell Graphic Sys., Inc. v. DEV Industries, Inc. 925 F.2d 174, 178 (7th Cir. 1991) ("[R]everse engineering involves the use of technical skills that we want to encourage, and that anyone should have the right to take apart and to study a product that he has bought."); EPSTEIN, supra note 60, at § 2.05[B] (describing the defense of reverse engineering). Some jurisdictions, such as Pennsylvania and New Jersey, also find that the reverse engineering defense extends to products that are "susceptible" to reverse engineering. See SI Handling Sys., Inc. v. Heisley, 753 F.2d 1244, 1255 (3d Cir. 1985) ("Matters which are fully disclosed by a marketed product and are susceptible to 'reverse engineering'—i.e, 'starting with the known product and working backward to divine the process which aided in its manufacture,' cannot be protected as trade secrets.") (citations omitted); Rycoline Products, Inc. v. Walsh, 756 A.2d 1047, 1055 (N.J. Super. Ct. App. Div. 2000) ("[O]nce plaintiff introduces evidence of similarity in the products . . . the burden shifts to defendant to show that it could have arrived at its product by reverse engineering some product in the public domain."). We did not code for this defense due to the small number of jurisdictions that recognize it.

^{140.} See QUINTO & SINGER, supra note 111, at 170-71 (describing the defense of independent development).

^{141.} POOLEY, supra note 55, § 10.09[3] (defining unclean hands); see also BLACK'S

Fourth, a First Amendment defense seeks to excuse the misappropriation by claiming it constituted protected speech. 142

Finally, statute-of-limitations concerns are a relevant defense in litigation of any case.

Tables 19-20 present data on the above defenses. 143

Table 19. Defenses, 1950-2007

	Reverse Engineering	Independent Development	Unclean Hands	First Amendment	Statute of Limitations
Yes, the defense was successful	1% (3)	3% (7)	1% (2)	0%(1)	2% (6)
No, it was not	0	2% (4)	1% (3)	0	4% (10)
Not expressly decided	94% (114)	95% (260)	98% (268)	100% (272)	94% (256)

Table 20. Defenses, 2008

	Reverse	Independent	Unclean	First	Statute of
	Engineering	Development	Hands	Amendment	Limitations
Yes, the defense	0	0	0	0	4% (5)
was successful					
No, it was not	0	6% (7)	3% (3)	0% (3)	6% (7)
Not expressly	99% (269)	94% (114)	98% (118)	98% (118)	90% (109)
decided					

The most striking feature of this data is how infrequently courts address affirmative defenses. The statute-of-limitations defense is the most common defense, but courts address it in fewer than 10% of cases. One explanation for this infrequency is that the facts underlying some of these defenses, such as reverse engineering and independent development, are similar to those on which a defendant would rely in challenging the elements of the plaintiff's prima facie case. Because affirmative defenses place the burden on the defendant, it makes sense that an alleged misappropriator addresses facts bearing on reverse

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LAW DICTIONARY 268 (8th ed. 2004) (defining the "clean-hands doctrine" as "[t]he principle that a party cannot seek equitable relief or assert an equitable defense if that party has violated an equitable principle, such as good faith").

^{142.} See generally DVD Copy Control Ass'n v. Bunner, 75 P.3d 1 (2003); Pamela Samuelson, Principles for Resolving Conflicts Between Trade Secrets and the First Amendment, 58 HASTINGS L.J. 777 (2007).

^{143.} For each defense, we coded for three categories: yes; no; or not expressly decided. To satisfy either of the first two categories, the court had to expressly address and decide that the defense was established.

engineering and independent development in the context of contesting the prima facie case. It thus appears that many courts are addressing these issues as prima facie elements instead of affirmative defenses. Still, the data suggest that courts are unlikely to address affirmative defenses and even less likely to find them satisfied.

V. CONCLUSION

Trade secrets were once an afterthought. Trade secrets were the last of the four major types of IP—patent, copyright, trademark, and trade secret—recognized by the courts, and the basic elements of the tort of trade secret misappropriation have been recognized since only the late 1800s and early 1900s. Trade secrets remained in the periphery through the 1950s and 1960s, typically producing no more than a dozen or so federal court decisions per year.

Trade secrets now constitute a core part of many companies' business strategies and IP portfolios. There are now hundreds of federal court decisions about trade secrets each year, and that number continues to increase. Given that a trade secret can be confidential information about any subject matter, the growth of trade secrets faces no foreseeable limit.

The increase in trade secrets, and thus trade secret law and litigation, presents many challenges. Courts must address an increasing number of trade secret disputes. Companies must make important decisions about what trade secrets to create, how to protect them, and whether to litigate. And all stakeholders (e.g., legislators, lawyers, scholars, innovators) must monitor the growth of trade secret law to ensure it achieves its various aims—encouraging innovation, protecting employee mobility, and protecting companies from the wrongful theft of private information. ¹⁴⁷

Effective responses to these and other challenges require the best information possible. This article helps provide that information by presenting, for the first time, empirical data on trade secret litigation in the federal courts.

^{144.} See supra notes 74-75 and accompanying text.

^{145.} See supra Part III.A.

^{146.} See supra note 60 and accompanying text.

^{147.} See POOLEY, supra note 55, § 1.02 (describing these and other policies). This debate about the efficacy of trade secrets has produced several significant contributions to an understanding of trade secret law. See generally, e.g., Robert G. Bone, A New Look at Trade Secret Law: Doctrine in Search of Justification, 86 CAL. L. REV. 241 (1998) (arguing that trade secret law lacks a convincing policy justification); Vincent Chiappetta, Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law, 8 GEO. MASON L. REV. 69, 77 (2000) (describing different rationales for trade secret law); Michael Risch, Why Do We Have Trade Secrets?, 11 MARQ. INTELL. PROP. L. REV. 1 (2007) (same).

While this article helps fill some gaps in the literature on trade secret litigation, many remain. This article concludes, therefore, by highlighting several areas that would benefit from additional statistical inquiry. First, this study focused on federal courts. Trade secret law, however, is a state-based law and thus a large percentage of trade secret litigation takes place in state courts. To address this, the five authors of this Article are working on an empirical study on trade secret litigation in state courts that we will publish later this year. Second, this study was a content analysis that focused on written decisions and thus did not address other results of litigation—jury verdicts, settlements, and other outcomes. Third, this study used written decisions as the unit of analysis. An alternative approach would focus on the entire litigation, following a case from complaint to final judgment or dismissal. This alternative approach would yield data that the unit of analysis could not, such as pendency of trade secret cases, what percentage of cases progress to each procedural stage, and many other outcomes. Finally, as the dozens of statistical studies on patent, trademark, and copyright law attest, ¹⁴⁸ there are many other potential areas of empirical study. As IP litigators who litigate trade secret cases and who thus have a vested interest in a better understanding of trade secret law, we hope that this article is just the beginning.

APPENDIX A

Code Book for Federal Cases

Definition, is whether the case is a written decision (precedential or nonprecedential) in which a U.S. District Court expressly decided a substantive issue based on trade secret law; in other words, the trade secret owner must have won or lost based on substantive trade secret law. The decision must be based on trade secret law as such, and thus does not include a decision that, although similar to trade secret law, was nonetheless decided under a different rule of law, such as a claim for breach of an NDA. The decision must also be at one of five postures: preliminary injunction or TRO; motion to dismiss for failure to state a claim upon which relief can be granted; motion for summary judgment; JMOL or JNOV; or bench trial.

• Yes: continue coding

• No: stop coding and go to the next case

Judge, is the name of the judge that authored the opinion. If unknown, code as unknown. Code last, first middle initial, suffix (i.e., King, Martin L., Jr.).

Court, is the name of the court. Use these abbreviations. ¹⁴⁹

Filing Date, is the date on which the case was filed. Code for the day, month, and year, in that order; if the opinion does not list a day, month and year, code as **unknown**. This is the date of the initial complaint, regardless of when any trade secrets claims were initiated.

Criterion 1, Misappropriator, is the identity of those involved with the misappropriation. These categories are not mutually exclusive; list each category involved.

149. M.D. Ala.; N.D. Ala.; S.D. Ala.; D. Alaska; D. Ariz.; E.D. Ark.; W.D. Ark.; C.D. Cal.; E.D. Cal.; N.D. Cal.; S.D. Cal.; D. Colo.; D. Conn.; D. Del; D.D.C.; M.D. Fla.; N.D. Fla.; S.D. Fla.; M.D. Ga.; N.D. Ga.; S.D. Ga.; D. Haw.; D. Idaho; C.D. Ill.; N.D. Ill.; S.D. Ill.; N.D. Ind.; S.D. Ind.; N.D. Iowa; S.D. Iowa; D. Kan.; E.D. Ky.; W.D. Ky.; E.D. La.; M.D. La.; W.D. La.; D. Me.; D. Md.; D. Mass.; E.D. Mich.; W.D. Mich.; D. Minn.; N.D. Miss.; S.D. Miss.; E.D. Mo.; W.D. Mo.; D. Mont.; D. Neb.; D. Nev.; D.N.H.; D.N.J.; D.N.M.; E.D.N.Y.; N.D.N.Y.; S.D.N.Y.; W.D.N.Y.; E.D.N.C.; M.D.N.C.; W.D.N.C.; D.N.D.; N.D. Ohio; S.D. Ohio; E.D. Okla.; N.D. Okla.; W.D. Okla.; D. Or.; E.D. Pa.; M.D. Pa.; W.D. Pa.; D.R.I.; D.S.C.; D.S.D.; E.D. Tenn.; M.D. Tenn.; W.D. Tenn.; E.D. Tex.; N.D. Tex.; S.D. Tex.; W.D. Tex.; D. Utah; D. Vt.; E.D. Va.; W.D. Va.; E.D. Wash.; W.D. Wash.; N.D.W. Va.; S.D.W. Va.; E.D. Wis.; W.D. Wis.; and D. Wyo.

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- Employee: the misappropriation involved a current or former employee of the trade secret owner
- **Partner**: the misappropriation involved a current, former, or expected business partner of the trade secret owner, such as a licensee, customer, OEM, joint venturer, distributor or supplier
- Neither employee or partner
- Other or unknown

Criterion 2, Trade Secret, is the subject matter of the trade secret at issue. These categories are *not* mutually exclusive; list each category.

- Formulas
- **Technical** information and know-how, including methods and techniques
- software or **Computer** programs
- information about customers, including customer Lists
- Internal business information, such as marketing, finance, or strategy information
- External business information about suppliers, competitors, or other non-customer third parties
- Combination: the court must have expressly referred to the trade secret as "combination"
- **Negative:** the court must have expressly referred to the trade secret as "negative"
- Other or unknown

Criterion 3, Posture.

- TRO: preliminary injunction or temporary restraining order
- MTD: motion to dismiss for failure to state a claim upon which relief can be granted
- MSJ: motion for summary judgment
 - Trade secret Owner MSJ: the trade secret owner moved for SJ
 - Alleged Misappropriator MSJ: the alleged misappropriator moved for SJ
 - o **Both MSJ**: both the trade secret owner and alleged misappropriator moved for SJ on the trade secret issue
- JMOL: JMOL or JNOV
- Bench trial

Criterion 4, Industry of Owner, is the industry of the trade secret owner. These categories are *not* mutually exclusive; list each category.

- Aerospace & aviation systems or components
- Agriculture or food services
- Auto: Motor vehicles & components
- Chemical & composite materials
- Consumer products
- Educational institutions or services
- Entertainment/tourism
- Financial products & services
- Healthcare services
- IT/Telecom: Information, computer, or telecommunications systems, components, or services
- Life science, pharmaceuticals, biotech, medical devices
- Misc. services, which are services that do not fall within one of the other service categories
- Natural **Resources**, electric power, or utilities
- Transportation service providers
- Other, and identify the industry

Criterion 5, Industry of Misappropriator, is the industry of the alleged misappropriator (in the case of an entity) or the industry in which the alleged misappropriator works (in the case of an employee). The categories are the same as Criterion 4.

Criterion 6, Choice of Law, is whether there was a choice-of-law dispute.

- Yes, the court expressly addressed a dispute between the parties over which jurisdiction's law would govern the trade secret issue
- No, it did not

Criterion 7, Applied Law, is the law the court applied.

- state Statute, is where the court identified a trade secret statute
- state **Common law**, is where the court only cited trade secret cases without referencing a statute
- **EEA**: the Economic Espionage Act
- Mixed, where the court applied more than one source of law
- Other or unknown (i.e., the court did not cite to either a case or statute), and identify the law if known

Criterion 8, State, is, for those cases that applied either a state statute or a state's common law, the name of the state. Use official abbreviations. ¹⁵⁰ The District of Columbia is treated as a state for the purposes of this Criterion.

Criterion 9, Restatement (First) of Torts

- Yes, it was cited or referenced
- No, it was not

Criterion 10, Restatement (Third) of Unfair Competition

- Yes, it was cited or referenced
- No, it was not

Criterion 11, Persuasive, is, for the court's discussion of the trade secret issue, a citation to legal authority (i.e., cases, statutes, etc., but not treatises or law-review articles) of a jurisdiction other than the jurisdiction of the law that was applied in the case being coded.

- Yes, it was cited or referenced
- No, it was not

Criterion 12, UTSA, is the model Uniform Trade Secrets Act, as opposed to a particular state's enacted version of the UTSA.

- Yes, it was cited or referenced
- No, it was not

For 13-17 and 19-23, focus on the procedural posture, and code whether the trade secret owner prevailed at that posture. For example, in a MTD or Misappropriator MSJ, if the court addresses reasonable measures and concludes that the pleading are sufficient and thus can proceed past a MTD or there are triable issues of fact and thus can proceed past a MSJ, code Yes, because the trade secret owner prevailed at that posture; for another example, in a Owner MSJ if the court concludes there are triable issue of fact and thus can proceed past a MSJ, code No, because the trade secret owner did not prevail at that posture. If

^{150.} Alabama - AL; Alaska - AK; Arizona - AZ; Arkansas - AR; California - CA; Colorado - CO; Connecticut - CT; Delaware - DE; District of Columbia - DC; Florida - FL; Georgia - GA; Hawaii - HI; Idaho - ID; Illinois - IL; Indiana - IN; Iowa - IA; Kansas - KS; Kentucky - KY; Louisiana - LA; Maine - ME; Maryland - MD; Massachusetts - MA; Michigan - MI; Minnesota - MN; Mississippi - MS; Missouri - MO; Montana - MT; Nebraska - NE; Nevada - NV; New Hampshire - NH; New Jersey - NJ; New Mexico - NM; New York - NY; North Carolina - NC; North Dakota - ND; Ohio - OH; Oklahoma - OK; Oregon - OR; Pennsylvania - PA; Rhode Island - RI; South Carolina - SC; South Dakota - SD; Tennessee - TN; Texas - TX; Utah - UT; Vermont - VT; Virginia - VA; Washington - WA; West Virginia - WV; Wisconsin - WI; Wyoming - WY.

there were multiple trade secrets and the courts reached different decisions on any criterion, code Mixed.

Criterion 13, Misappropriation, is whether there was misappropriation.

- Yes
- No
- NED: not expressly addressed or decided
- Mixed

Criterion 14, Value, whether the trade secret had sufficient value to qualify as a protectable trade secret.

- Yes
- No
- NED: not expressly addressed or decided
- Mixed

Criterion 15, Reasonable Measures, whether the trade secret owner engaged in efforts that were reasonable under the circumstances to maintain the secrecy of the alleged trade secret.

- Yes
- No
- NED: not expressly addressed and decided
- Mixed

Criterion 16, NRA (Not Readily Ascertainable), is whether the alleged trade secret was not readily ascertainable (i.e., not so easy to discover legitimately that it cannot be a trade secret) and thus eligible for trade secret protection.

- Yes, it was not readily ascertainable
- No, it was readily ascertainable
- NED: not expressly addressed and decided
- Mixed

Criterion 17, Validity, is whether the alleged trade secret qualified as valid, protectable trade secret.

- Yes
- No
- NED: not expressly addressed and decided
- Mixed

Criterion 18, Measures, is, for cases in which the court expressly addressed and decided the issue defined Criterion 15, the measures employed by the trade secret

owner to maintain secrecy. These categories are not mutually exclusive; list by number each type of measure that was used.

- 1. confidentiality agreements with employees
- 2. confidentiality agreements with third parties, such as an NDA
- 3. computer-based protections, such as passwords and restricted access
- 4. limited access and physical-based protection, such as locks and persons who restrict access
- 5. education and training of employees about secrecy
- 6. labeling of confidential documents, such as confidentiality stamps and legends
- 7. record keeping, such as keeping track of who accessed the trade secret
- 8. interviews, either entrance or exit
- 9. security guards and/or security cameras
- 10. written policies regarding the confidentiality or destruction of documents or data
- 11. Restriction of access to certain persons, such as providing need-to-know or tiered access

Criterion 19, Reverse Engineering (RE)

- Yes, the alleged misappropriator's conduct was excused under this defense
- No, it wasn't
- NED: not expressly addressed and decided
- Mixed

Criterion 20, Independent Development (ID)

- Yes, the alleged misappropriator's conduct was excused under this defense
- No, it wasn't
- NED: not expressly addressed and decided
- Mixed

Criterion 21, Unclean Hands

- Yes, the alleged misappropriator's conduct was excused under this defense
- No, it wasn't
- NED: not expressly addressed and decided
- Mixed

Criterion 22, First Amendment

• Yes, the alleged misappropriator's conduct was excused under this defense

- No, it wasn't
- NED: not expressly addressed and decided
- Mixed

Criterion 23, Statute of Limitations (SOL)

- Yes, the alleged misappropriator's conduct was excused under this defense
- No. it wasn't
- NED: not expressly addressed and decided
- Mixed

Criterion 24, Outcome, is the ultimate outcome of the decision.

- Yes: the trade secret owner prevails
- No: the trade secret owner does not prevail
- **Mixed**: there were multiple trade secrets, claims, or issues and the trade secret owner prevailed on some but not others

Criterion 25, Remedy, is the remedy ordered. These categories are not mutually exclusive; list each type of remedy.

- Nominal damages
- Damages
- Punitive damages
- **Injunction** (a TRO or preliminary injunction is not an injunction under this category)
- Attorneys' Fees
- Seizure, return, or destruction of property
- Other or unknown

Criterion 26, Type of Damages, is the type of damages that was ordered for trade secret misappropriation. These categories are not mutually exclusive; list each type of damages.

- trade secret owner's lost **Profits**
- misappropriator's **Gains**: due to unjust enrichment, defendant's gains, or restitution
- reasonable Royalty
- Other or unknown

Criterion 27, Amount of Damages, is the amount of damages (that were not attorneys' fees or punitive) that was ordered. List the total dollar amount.

Criterion 28, Punitive Damages, is the amount of punitive damages that was ordered. List the total dollar amount.