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Why Do We Have Trade Secrets?

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INTRODUCTION

Why do we have trade secrets? This was the fifty billion¹ dollar question I was asking myself in a trade secrets trial as the judge asked, “I assume that you’ll have evidence of irreparable injury to obtain an injunction if the jury finds trade secret misappropriation?”² I must admit that I was surprised by the question. After all, what good are trade secrets if the owner cannot easily stop someone from using them? If someone steals source code, then an injunction issues as a matter of course, does it not?³ Why should trade secrets not be treated like any other property? The answers to these questions are unclear, and, in general, case law simply does not provide a compelling answer to the question of why we should have trade secrets and whether or not trade secrets should be entitled to the same treatment as other forms of real, personal, and intellectual property.

Trade secrets are curious anomalies in intellectual property law. They are arguably the most important and most litigated form of intellectual property,⁴ yet they have recently been called “parasitic”⁵ and the leading economic analysis claims that “there is no law of trade secrets.”⁶ The basis for these claims is that trade secret misappropriation relies for the most part on wrongdoing that is independent of any “trade secret law,” relying instead, for example, on a breach of contract or trespass claim.

“Why,” the detractors ask, “do we need separate trade secret laws when common law principles will suffice?” In a well considered and clearly written analysis, Professor Robert Bone concludes that, on the

1. PRICEWATERHOUSECOOPERS, U.S. CHAMBER OF COMMERCE & ASIS FOUND., TRENDS IN PROPRIETARY INFORMATION LOSS: SURVEY REPORT 1 (2002), <http://www.asis.org/newsroom/surveys/spi2.pdf> (suggesting that proprietary information and intellectual property losses exceeded \$53 billion in a single year); *see also* Josh Lerner, *The Importance of Trade Secrecy: Evidence from Civil Litigation* (Harvard Bus. Sch., Working Paper No. 95-043, 1994).

2. Traditionally, injunctions are only granted as a matter of equity, and irreparable harm must be shown. *Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 381 (1992).

3. This question does not address *preliminary* injunctions for which the standard equitable principles undoubtedly apply. *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 541–42 (1987). Instead, this is a question solely relating to *permanent* injunctions issued after trial.

4. Lerner, *supra* note 1.

5. Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CAL. L. REV. 241, 245 (1998).

6. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 355 (2003); *see also* David D. Friedman et al., *Some Economics of Trade Secret Law*, 5 J. ECON. PERSP. 61, 62 (1991).

whole, trade secrets lack normative justification and should be pared back.⁷ Professor Bone's article has been cited in more than sixty journal articles since it was written in 1998, and only two authors have since challenged it by attempting to provide a normative justification for trade secret laws.⁸ Even authors claiming to justify trade secrets assert that "United States trade secret law is in a state of disarray."⁹

This Article examines four potential ways to justify trade secret law. First, it considers property rights and proposes a different way to look at whether trade secrets are property. It concludes that further examination of the underlying bundle of rights is necessary for normative justification.

It then provides and responds to criticism of three other independent normative justifications for trade secret law's bundle of rights: economic justifications, philosophical justifications, and populist justifications. Contrary to other areas of intellectual property law, none of these include an incentive to innovate as a primary feature; instead, the Article expands on prior economic analysis that justifies trade secrets by examining the marginal benefits of the law, answering criticism of past detractors, and considering remedies provided by the law.

7. Bone, *supra* note 5, at 296–303.

8. Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 GEO. MASON L. REV. 69, 69 (1999). Professor Chiappetta separates misappropriation into three parts: misuse of voluntary disclosures, torts that threaten public order, and other improper means. While his analysis of each of these types of misappropriation is helpful for understanding the particular type of misappropriation, I believe that these categories overlap too much to allow for distinctions in many cases, and such distinctions were not made when the law was created. Thus, I attempt to set out a more unified approach in this Article when seeking a justification for trade secrets. See also James W. Hill, *Trade Secrets, Unjust Enrichment, and the Classification of Obligations*, 4 VA. J.L. & TECH. 2 (1999) (arguing that unjust enrichment justifies trade secret law). The unjust enrichment theory he presents is quite similar to utilitarian strains of the Lockean theory described in this Article. While Professor Hill provides a general justification for protecting trade secrets, he does not address in detail the social costs and benefits associated with the specific trade secret laws in place.

9. Chiappetta, *supra* note 8, at 69; see also Bone, *supra* note 5, at 304 ("Trade secret law is in a muddle today."). While its detractors may believe that trade secret law overprotects information or lacks predictive value on the margins, it cannot be said that the basic set of rules is in flux, though there are state-by-state contradictions, some of which are discussed below. However, most might agree that the state of justification for trade secrets is in disarray. See, e.g., *DVD Copy Control Ass'n v. Bunner*, 75 P.3d 1, 13 (Cal. 2003) (including a description by the California Supreme Court of just about every known justification for trade secret law with very little analysis).

The current law of trade secrecy grew out of a need to hold third parties liable for misuse of information despite a lack of privity with the owner. This led to an early definition of trade secrets as property.¹⁰ Over time, the law shifted to a theory of unfair competition.¹¹ This changing theory, however, did not modify the underlying nature of trade secrets, and with the passage of the Uniform Trade Secrets Act (UTSA), trade secrets are now addressed under a widespread statutory regime,¹² although the debate about whether trade secrets are property continues.

None of this history provides a normative basis for the law. Instead, we must look to the underlying reasons why this particular type of information is protected because it is so different from its most analogous forms of intellectual property—patents and copyrights.

In a sense, the title of this Article is a misnomer; we have trade secrets now because either the courts or state legislatures thought they might be a good idea. The real question is rather whether they really are a good idea. I believe they are; trade secret law is not merely a result of irrational and inefficient decision making.¹³ Instead, trade secrets are justified by the economic benefits that flow from their existence, most notably incentives for businesses to spend less money protecting secret information or attempting to appropriate secret information. They are also justified under a Lockean “labor value”

10. *Peabody v. Norfolk*, 98 Mass. 452, 458 (1868).

11. RESTATEMENT (FIRST) OF TORTS § 757 (1939).

12. UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 529 (Supp. 2006).

13. Professor Bone suggests that proponents of trade secret law have the “burden of persuasion” to justify the existence of trade secrets. Bone, *supra* note 5, at 261. If one believes that courts will promulgate efficient rules over time, then the opposite may be true. See, e.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 2.2 (4th ed. 1992); see also Michael Risch, *How Can Whelan v. Jaslow and Lotus v. Borland Both Be Right? Reexamining the Economics of Computer Software Reuse*, 17 J. MARSHALL J. COMPUTER & INFO. L. 511, 523 (1999) (“The proposed economic model . . . is based on a theory that courts maximize the change in net social benefits in the cases before them” even if the courts do not know that they are doing so.). Professor Bone responds that trade secret law is too new to presume that the common law is efficient, especially where the roots were in natural law and not subject to detailed policy and efficiency analysis. Bone, *supra* note 5. However, the courts, themselves, have seen thousands of trade secret cases and have had the best empirical evidence in front of them to make legal rules—the actual behavior in each case over a period of time. Consideration of the long-term effect of these rules undoubtedly affected judicial analysis of trade secret law, even if not explicitly. POSNER, *supra*, § 2.2 (“[T]he judge . . . cannot ignore the future. Since the judge’s legal ruling will be a precedent influencing the decision of future cases, the judge must consider the probable impact of alternative rulings on future behavior . . .”).

theory. Finally, they are justified as a means for the public to enforce populist norms about “commercial ethics.”

Part I of the Article discusses what trade secrets are and what benefits are afforded to owners of trade secrets. As part of this discussion, Part I also briefly details the history of trade secret law and the changing justifications for it, including from property to unfair competition to statutory protection.

Part II of the Article considers whether or not trade secrets are property and whether such a designation justifies trade secrets.

Part III of the Article explores three reasons why trade secret law is desirable: economics, philosophy, and populism.

Part IV of the Article expands on the economic justification, detailing several areas where trade secret law is more efficient than the alternative, namely reliance solely on underlying law.

An Appendix provides a numerical illustration of the economic justification for trade secret law as well as a breakdown of some mathematical formulas that are used in the analysis.

I. TRADE SECRETS AND THEIR HISTORY

The history of trade secret law is an interesting study in how certain intellectual property rights have developed. Whereas copyright and patent law in the United States find legal justification in the Constitution¹⁴ and implementing federal statutes, trade secret law grew out of the common law and has now been codified separately in most states. Indeed, the very assumptions underlying patent and copyright laws—that government-granted rights can serve to incentivize the creation and sharing of new ideas and expression¹⁵—are diametrically opposed to the notion of keeping information secret to gain a competitive advantage.

A. *Trade Secret Basics*

1. Definition of a Trade Secret

In broad strokes, a trade secret is some sort of information that has value because it is not generally known. The notion of secrecy exempts

14. U.S. CONST. art. I, § 8, cl. 8.

15. See generally, e.g., Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031 (2005). While copyright law does not require sharing, the monetary incentive to create is greatest when works are shared with the public for profit.

trade secrets from preemption by patent law.¹⁶ The UTSA defines a trade secret as follows:¹⁷

“Trade secret” means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

- (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable¹⁸ by proper means by, other persons who can obtain economic value from its disclosure or use, and
- (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

For those states that have not implemented the UTSA, and for most judicial opinions that predate the UTSA,¹⁹ the definition of a trade secret is set forth in the comment to section 757 of the Restatement (First) of Torts:²⁰

Definition of trade secret. A trade secret may consist of any formula, pattern, device or compilation of information which is used in one’s business, and which gives him an opportunity to

16. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 491–92 (1974).

17. UNIF. TRADE SECRETS ACT § 1(4).

18. Some states, most notably California, omit from the definition the requirement that the information not be readily ascertainable. CAL. CIV. CODE § 3426.1 (West 1997). Instead, that the information is “readily ascertainable” is a defense by the purported misappropriator, but only if the misappropriator actually “ascertained” the information in a legal way. *Sargent Fletcher, Inc. v. Able Corp.*, 3 Cal. Rptr. 3d 279, 287 (Ct. App. 2003); *ABBA Rubber Co. v. Seaquist*, 286 Cal. Rptr. 518, 529 n.9 (Ct. App. 1991). In California, one may not obtain information contrary to the statute and then claim that the information would have been readily ascertainable if only the defendant had acted properly.

19. The source of trade secret law will be discussed in detail below. *See infra* Part I.B.

20. RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (1939). The American Law Institute has since withdrawn this section from the Restatement (Second) of Torts in favor of its inclusion in the newer Restatement (Third) of Unfair Competition. However, a few states (and federal and state agencies that deal with trade secrets) continue to use the Restatement (First) of Torts definition, while none appear to use the Restatement (Third) of Unfair Competition. In any event, the Restatement (Third) of Unfair Competition defines trade secrets as “information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others.” RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (1995). While this definition differs from that of the UTSA, the comments to section 39 of the Restatement (Third) of Unfair Competition state that the section and definition are intended to track the definitions set forth in the UTSA. *Id.* cmts. a–f. It is unclear why a restatement of the law is necessary where a uniform statute covers the same materials, especially where the statute preempts any common law. UNIF. TRADE SECRETS ACT § 7. Perhaps the intent is that non-UTSA jurisdictions will follow a similar rule, though if that is the case, it is unclear why section 39 does not copy the UTSA definition exactly.

obtain an advantage over competitors who do not know or use it.²¹

Secrecy. The subject matter of a trade secret must be secret. Matters of public knowledge or of general knowledge in an industry cannot be appropriated by one as his secret.²²

The Restatement definition of a trade secret is different from that of the UTSA, but it is also similar. Key differences are: (a) the exception for “single use” information, which can be trade secret under the UTSA; (b) the requirement of continuous use in business, which is not required under the UTSA; and (c) less emphasis on efforts to maintain secrecy than under the UTSA.

2. Trade Secret Misappropriation

Misappropriation of a trade secret involves improper means used to acquire or use a trade secret.²³ Trade secret law outlaws three different

21. RESTATEMENT (FIRST) OF TORTS § 757 cmt. b. The remainder of the portion about trade secrets, which is notably longer than the UTSA, states:

It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers. It differs from other secret information in a business in that it is not simply information as to single or ephemeral events in the conduct of the business, as, for example, the amount or other terms of a secret bid for a contract or the salary of certain employees, or the security investments made or contemplated, or the date fixed for the announcement of a new policy or for bringing out a new model or the like. A trade secret is a process or device for continuous use in the operation of the business. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article. It may, however, relate to the sale of goods or to other operations in the business, such as a code for determining discounts, rebates or other concessions in a price list or catalogue, or a list of specialized customers, or a method of bookkeeping or other office management.

Id. (citation omitted). See section 759 of the Restatement (First) of Torts for a discussion distinguishing other secret information in a business.

22. The remainder of the portion about secrecy states:

Matters which are completely disclosed by the goods which one markets cannot be his secret. . . . Nevertheless, a substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring the information. An exact definition of a trade secret is not possible. Some factors to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.

Id.

acts: (a) acquisition of a trade secret—merely obtaining the information; (b) disclosure of the trade secret—merely telling the information to another; and (c) use of the trade secret—using the information to one’s advantage.

The categories of defendants who may be liable for misappropriation are also threefold: (a) the knowing acquirer of information is liable—this person obtains the information by improper means; (b) the knowing discloser of information is liable—this person discloses the information that has been improperly acquired, or perhaps properly acquired but for which there is a duty of secrecy; and (c) the constructively improper acquirer/discloser of information is liable—this person obtains the information with reason to know that the information was improperly obtained.²⁴

23. Under the UTSA, misappropriation is defined as:

- (i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or
- (ii) disclosure or use of a trade secret of another without express or implied consent by a person who
 - (A) used improper means to acquire knowledge of the trade secret; or
 - (B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was
 - (I) derived from or through a person who had utilized improper means to acquire it;
 - (II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or
 - (III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or
 - (C) before a material change of his [or her] position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

UNIF. TRADE SECRETS ACT § 1(2). The Restatement (First) of Torts is very similar to the UTSA:

- One who discloses or uses another’s trade secret, without a privilege to do so, is liable to the other if
- (a) he discovered the secret by improper means, or
 - (b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him, or
 - (c) he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means or that the third person’s disclosure of it was otherwise a breach of his duty to the other, or
 - (d) he learned the secret with notice of the facts that it was a secret and that its disclosure was made to him by mistake.

RESTATEMENT (FIRST) OF TORTS § 757.

24. See UNIF. TRADE SECRETS ACT § 1(2). Included in this category are those who learn that the information was obtained or disclosed by mistake but have not yet relied on the information at the time the mistake is discovered.

The discussion above uses the term “improper” extensively. Under the UTSA, “‘improper means’ includes theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means.”²⁵ In large part, “improper means” includes acts that are actionable in and of themselves—trespass, breach of contract, conversion of physical property, and, under modern laws, the misuse of computer networks.²⁶ It is this reliance on common law wrongs that causes Bone to call trade secret law “parasitic”²⁷ and Landes and Posner to declare that “there is no law of trade secrets.”²⁸

However, the list of particular improper means outlined by the UTSA is not all inclusive; it also includes a catchall for any sort of espionage.²⁹ The rule is the same under the Restatement (First) of Torts.³⁰ In fact, the Restatement makes it clear that some form of ethical standards determines improper means: “A complete catalogue of improper means is not possible. In general they are means which fall below the generally accepted standards of commercial morality and reasonable conduct.”³¹

It is up to the jury to determine improper means,³² but in most cases improper means will involve some other legally actionable wrong. The most cited case to the contrary is *E.I. duPont deNemours & Co. v. Christopher*.³³ In *Christopher*, the defendant took aerial photographs of a plant under construction.³⁴ The Fifth Circuit ruled that although the photographs had not violated any law, the “espionage” was, nonetheless, an improper means of obtaining trade secrets.³⁵ Landes

25. *Id.* § 1(1). The Restatement (First) of Torts is similarly broad and vague. RESTATEMENT (FIRST) OF TORTS § 757 cmt. f.

26. *Physicians Interactive v. Lathian Sys., Inc.*, 69 U.S.P.Q.2d (BNA) 1981 (E.D. Va. 2003).

27. Bone, *supra* note 5, at 245.

28. LANDES & POSNER, *supra* note 6, at 355.

29. UNIF. TRADE SECRETS ACT § 1(1).

30. RESTATEMENT (FIRST) OF TORTS § 757 cmt. f (“But means may be improper under this rule even though they do not cause any other harm than that to the interest in the trade secret. Examples of such means are fraudulent misrepresentations to induce disclosure, tapping of telephone wires, eavesdropping or other espionage.”).

31. *Id.*

32. *DSC Commc’ns Corp. v. Pulse Commc’ns, Inc.*, 170 F.3d 1354, 1364 (Fed. Cir. 1999).

33. *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012 (5th Cir. 1970).

34. *Id.* at 1013.

35. *Id.* at 1017 (“Regardless of whether the flight was legal or illegal in that sense, the espionage was an improper means of discovering DuPont’s trade secret.”). *Christopher* would have come out differently if the defendant had merely stood on the sidewalk and

and Posner discuss *Christopher* with respect to the claim that there is no law of trade secrets, but argue that this holding simply expands the notion of “trespass”; this argument is belied by the fact that the aerial photographs would not have been “illegal” but for the fact that there were trade secrets on the property.

3. Differentiation from Other³⁶ Intellectual Property

Trade secrets differ from other forms of intellectual property in many ways. The most significant difference is the role of public disclosure. Copyright law and patent law are founded on the notion that creativity and innovation, respectively, are rewarded by limited governmental protection to facilitate recoupment of the costs of creation. Furthermore, the policies of patent and copyright law favor building on prior work, as well as freedom for all to use subject matter that is outside the scope of protection.³⁷ Trade secrets are treated exactly opposite—the trade secret owner is rewarded for keeping information that is neither new nor original away from the public for an unlimited duration. Thus, information that could not be patented or copyrighted is still protected for as long as the owner can keep the information secret. These differences lead to two criticisms of trade secret law. First, there is a lack of public benefit due to the lack of information sharing. Second, there is little or no marginal incentive to innovate because the owner obtains protection of the information by keeping it secret even in the absence of the law. This Article addresses these criticisms below.

Trade secrets are both similar to and dissimilar from other areas of intellectual property in a variety of specific ways:

looked at the construction through a chain link fence. The *Christopher* case shows interplay between reasonable efforts to maintain secrecy and improper means. The higher the fence, the more likely that climbing the fence (or flying over) will be considered improper means. This interplay will be discussed below with respect to the economic analysis of trade secret rules.

36. Of course, this begs the question that is the subject of this Article, namely whether trade secrets are intellectual property in the first place, or whether if intellectual property is even a form of property.

37. LANDES & POSNER, *supra* note 6, at 11 (noting that the “incentive” versus “access” paradigm is important in intellectual property, but that it should not be the only analysis to consider); *see also id.* at 115–23 (discussing public benefits of the fair use doctrine in copyright law). Note, however, that copyrighted works need not be published to be protected, but there is little doubt that the public benefits more when such works are published and when others can fairly use portions of them in new works.

- Unlike a patent, information need not be unique, novel, or non-obvious to be protected.³⁸
- In fact, trade secret information need not even be original, allowing for the protection of information like names and phone numbers that would not be protected under copyright.³⁹
- Unlike patents and trademarks, but like copyrights, trade secret laws allow for the protection of identical information if two parties independently discover the information.⁴⁰ Two companies can own the same trade secret, though they arguably would never know it.
- Unlike all other forms of intellectual property, the right to exclude applies only when information is obtained by improper means. This is most like copyright's distinction between "illicit copying" and fair use, reverse engineering, and independent development.⁴¹ This is a weak analogy, however, because copyright does not require any wrongdoing other than the copying itself, whereas trade secret misappropriation requires "copying" in addition to other improper means.
- Trade secrets resemble the patent requirement for usefulness⁴² and the trademark requirement for actual use⁴³ because they must have some independent economic value by being unknown to others. This threshold is relatively low, however, and minimal "sweat of the brow" is usually sufficient for protection.⁴⁴ However, trade secrets only require potential value, while

38. 35 U.S.C. §§ 101–103 (2000). *But see* *Jostens, Inc. v. Nat'l Computer Sys., Inc.*, 318 N.W.2d 691, 699 (Minn. 1982) ("Clearly, the CAD/CAM system as such, as the combination of three generally known subsystems, does not achieve the degree of novelty or 'unknownness' needed for a trade secret."). *Jostens* is not generally accepted.

39. *Feist Publ'ns, Inc. v. Rural Tel. Serv.*, 499 U.S. 340, 349 (1991); *ABBA Rubber Co. v. Seaquist*, 286 Cal. Rptr. 518, 526 (Ct. App. 1991).

40. CAL. CIV. CODE § 3426.1(a) (West 1997) ("Reverse engineering or independent derivation alone shall not be considered improper means."). The UTSA does not include this sentence, though reverse engineering is commonly accepted as an exception to improper means. UNIF. TRADE SECRETS ACT § 1 cmt. (amended 1985), 14 U.L.A. 538 (Supp. 2006); *see also* *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 178 (7th Cir. 1991); *Cadence Design Sys., Inc. v. Avant! Corp.*, 57 P.3d 647, 650–51 (Cal. 2002).

41. 17 U.S.C. § 107 (2000).

42. 35 U.S.C. § 101.

43. Lanham Act § 1(a), 15 U.S.C. § 1051(a) (2000).

44. *Alex Foods, Inc. v. Metcalfe*, 290 P.2d 646, 654 (Cal. Dist. Ct. App. 1955) (finding that peculiar "likes and fancies" of customers are protectable).

trademarks require actual use in commerce, which implies actual value.⁴⁵

- With respect to registration, trade secrets are most like unregistered common law trademarks and unregistered copyrights. Unlike copyrights, there is no registration requirement prior to filing suit,⁴⁶ and unlike patents and trademarks, there is no examination.⁴⁷
- Finally, unlike a patent, which must be new, or a copyright, which must be original, a trade secret need not be absolutely secret to be a trade secret.⁴⁸

The differences discussed above allow trade secrets to exist without conflicting with other areas of intellectual property protection. Further, some of these differences become important to the justification of trade secret law discussed below.

B. Brief History of Trade Secret Law

Trade secrets owe their origination to the common law. Though trade secrets originated in the early 1800s in England,⁴⁹ the Supreme Court of Massachusetts appears to be the first court in the United States to describe a complete view of trade secrets:⁵⁰

If [a person] invents or discovers, and keeps secret, a process of manufacture, whether a proper subject for a patent or not, he has not indeed an exclusive right to it as against the public, or against those who in good faith acquire knowledge of it; but he has a property in it, which a court of chancery will protect against one who in violation of contract and breach of confidence undertakes to apply it to his own use, or to disclose it to third persons.⁵¹

45. *But see* Lanham Act § 1(b) (registration for intent to use).

46. 17 U.S.C. § 411.

47. 35 U.S.C. § 111. *But see* CAL. CIV. PROC. CODE § 2019.210 (West 2005) (requiring a plaintiff to identify the trade secrets at issue prior to discovery). Note that section 2019.210 is formerly and better known as section 2019(d).

48. *DVD Copy Control Ass'n v. Bunner*, 10 Cal. Rptr. 3d 185, 192–93 (Ct. App. 2004) (“Publication on the Internet does not necessarily destroy the secret if the publication is sufficiently obscure or transient or otherwise limited so that it does not become generally known to the relevant people, i.e., potential competitors or other persons to whom the information would have some economic value.”).

49. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. a (1995).

50. *See Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493 n.23 (1974); *Warner-Lambert Co. v. Execuquest Corp.*, 691 N.E.2d 545, 547 (Mass. 1998).

51. *Peabody v. Norfolk*, 98 Mass. 452, 458 (1868).

This formulation is Lockean in nature;⁵² the court in *Peabody v. Norfolk* noted both the right to an injunction for breach of trust as well as the inclusion of secret methods as part of the goodwill of a business that can be sold.⁵³ The court discussed at length the fact that protection of secret information should go beyond simple breach of contract; instead the court discussed both implied and express contracts and implied and express duties.⁵⁴

By 1907, trade secrets were well embedded in the law, and the California Supreme Court declared “[t]hat equity will always protect against the unwarranted disclosure of trade secrets and confidential communications and the like is, of course, settled beyond peradventure.”⁵⁵

At some point, courts and scholars shifted focus away from the strict property view. Professor Bone attributes this to a shift to legal positivism and realism in which the “natural law” view of trade secrets as property was rejected in favor of social goals.⁵⁶ Justice Holmes’s 1917 Supreme Court opinion in the *E.I. Du Pont De Nemours Powder Co. v. Masland*⁵⁷ case certainly had an effect on conventional thinking about trade secrets:

The case has been considered as presenting a conflict between a right of property and a right to make a full defence We approach the question somewhat differently. The word property as applied to trade-marks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied but the confidence cannot be. Therefore the starting point for the present matter is not property or due process of law, but that the defendant stood in confidential relations with the plaintiffs, or one of them.⁵⁸

52. The influence of Locke is clearer in an earlier quote in the opinion: “If a man establishes a business and makes it valuable by his skill and attention, the good will of that business is recognized by the law as property.” *Id.* at 457.

53. *Id.* at 458–59.

54. *Id.* at 459.

55. *Empire Steam Laundry v. Lozier*, 130 P. 1180, 1182 (Cal. 1913) (citing *Peabody*, 98 Mass. 452).

56. Bone, *supra* note 5, at 259–60.

57. *E.I. Du Pont De Nemours Powder Co. v. Masland*, 244 U.S. 100 (1917).

58. *Id.* at 102.

This resulted in the formulation of trade secrets in the Restatement (First) of Torts in which a property justification for trade secrets is expressly rejected.⁵⁹ It is telling that trade secrets are described in the section entitled “Interference with Advantageous Economic Relations”—trade secrets were now clearly considered to be a part of unfair competition, and even today trade secrets are covered in the Restatement (Third) of Unfair Competition. The unfair competition and breach of confidence view of trade secrets continued, and to a large extent still continues as the modern view of trade secrets.⁶⁰

In 1979, the National Conference of Commissioners on Uniform State Laws recommended the UTSA.⁶¹ The model law takes no position on whether or not trade secrets are property, but it does set forth a broader and more protective version of trade secret law than was present in the Restatement.⁶² As of 2004, forty-four states and the District of Columbia have enacted some version of the UTSA.⁶³

II. PROPERTY AS A POTENTIAL JUSTIFICATION

Any normative justification of trade secrets must begin with consideration of whether trade secrets are property. To many, if trade secrets are property, then laws protecting them are normatively justified. Thus, the question of whether or not trade secrets are property has raged on for many years. While some wonder why it matters,⁶⁴ others believe that the shift toward calling intangible assets “property” has created and will continue to create a shift toward the overprotection of intellectual property.⁶⁵ Whether trade secrets are

59. RESTATEMENT (FIRST) OF TORTS § 757 cmt. a (1939).

The suggestion that one has a right to exclude others from the use of his trade secret because he has a right of property in the idea has been frequently advanced and rejected. The theory that has prevailed is that the protection is afforded only by a general duty of good faith and that the liability rests upon breach of this duty

Id.

60. Pamela Samuelson, *Information as Property: Do Ruckelshaus and Carpenter Signal a Changing Direction in Intellectual Property Law?*, 38 CATH. U. L. REV. 365, 396 (1989).

61. UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 529 (Supp. 2006).

62. Some of these differences are discussed *supra* Part I.A.

63. HENRY H. PERRITT, JR., TRADE SECRETS § 1:5.1 (2d ed. 2005). The states still using the Restatement (First) of Torts are Massachusetts, New Jersey, New York, Texas, and Wyoming. Given the pervasiveness of the UTSA, it is interesting that most scholarship on trade secrets continues to focus on the Restatement version. The modern view of trade secrets must be informed by the uniform statute.

64. Stephen L. Carter, *Does It Matter Whether Intellectual Property Is Property?*, 68 CHI.-KENT. L. REV. 715, 716 (1993).

65. Chiappetta, *supra* note 8, at 84; Lemley, *supra* note 15, at 1037; Samuelson, *supra*

property depends on who you ask; I examine the competing theories below and then provide one of my own.

A. *Defining Property*

Three primary theories consider trade secrets as property: exclusivity theory, integrated theory, and bundle theory.

1. Exclusivity Theory

Even those who believe exclusive rights are the sole requirement for property disagree about whether trade secrets should be property. For example, Judge Frank Easterbrook argues that intellectual property includes the right to exclude, just like real or personal property.⁶⁶ This analysis was followed in *Ruckelshaus v. Monsanto Co.*:⁶⁷ “The right to exclude others is generally ‘one of the most essential sticks in the bundle of rights that are commonly characterized as property.’”⁶⁸ The problem with this argument is that trade secrets are not actually exclusive, as pointed out by the California Supreme Court: “The owner of the trade secret is protected only against the appropriation of the secret by improper means and the subsequent use or disclosure of the improperly acquired secret. There are various legitimate means, such as reverse engineering, by which a trade secret can be acquired and used.”⁶⁹

Others, however, look to Thomas Jefferson’s analysis of the issue:

Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done, according to the will and convenience of the society, without claim or complaint from anybody.⁷⁰

note 60, at 399; *see, e.g.*, *Hudson Hotels Corp. v. Choice Hotels Int’l*, 995 F.2d 1173, 1178 (2d Cir. 1993) (holding that trade secrets cannot be property unless they show novelty and originality). Interestingly, trade secrets allow for greater damages than patents. Hill, *supra* note 8, at 13.

66. Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL’Y 108, 112 (1990) (“[the] right to exclude in intellectual property is no different in principle from the right to exclude in physical property”).

67. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984).

68. *Id.* at 1011 (quoting *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979)).

69. *Cadence Design Sys., Inc. v. Avant! Corp.*, 57 P.3d 647, 650 (Cal. 2002).

70. Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in *THE WRITINGS OF THOMAS JEFFERSON* 334 (Library ed. 1903); *see Graham v. John Deere Co.*, 383 U.S. 1, 9 n.2 (1966) (outlining Jefferson’s philosophy on the nature of patent monopolies).

The limit of this argument is that regardless of the normative basis for such a right, the legally enforceable right to exclude is always defined by the “will and convenience of society,” even for real property.⁷¹ There is no reason why a real property owner must have a right to exclude others even if he or she has the ability to do so by building a fence; instead, the law allows the owner to exclude even without a fence. Similarly, those with patents are given the same rights—patent law does not have an independent development or fair use exception.⁷² Ideas, real property, personal property, and other tangible or intangible assets all have the legal rights that the state grants.⁷³ The primary difference is the difficulty of enforcement; real and personal property may be unique, allowing for exclusivity through possession,⁷⁴ while current technology does not allow a purging of ideas in the brain.⁷⁵ Thus, it is not clear why the right to exclude should make trade secrets property, or the lack thereof should exclude trade secrets from being property.

2. Integrated Theory

Rather than looking at exclusion, integration theorists look at how the asset is acquired, used, and disposed.⁷⁶ They argue that exclusivity is not enough, nor even necessary, to define property.⁷⁷ Even then, scholars cannot agree. For example, Adam Mossoff argues that trade secrets are property because they are acquired by the actions of the trade secret owner because discoverers can make their “own use” of the information because it is secret and because the owners can decide how the information is disposed of by publication or transfer.⁷⁸ This theory, however, also fails to resonate. How is it that two people can acquire

71. Of course, many might agree that there is a moral right to exclude even without the benefit of the law.

72. Even this statement is too much; patent law limits exclusive use in the area of certain business method patents and medical use. 35 U.S.C. §§ 273, 287(c) (2000).

73. For example, real property rights do not include the right to exclude in adverse possession, nor do they include the right to limit flyovers, which were excluded in *Christopher*. See *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012 (5th Cir. 1970).

74. There is a reason for the maxim that “possession is nine-tenths of the law.”

75. Such technology is not outside the purview of science fiction, however. If ideas could be purged from the minds of others, then Jefferson’s argument would be weaker still.

76. Adam Mossoff, *What Is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 405–06 (2003); see also Samuelson, *supra* note 60, at 370 (the most important rights associated with property are use, enjoyment, possession, transfer, and exclusion).

77. Mossoff, *supra* note 76, at 405–06.

78. *Id.* at 418.

and use the same secret? Why should acquisition and use of an idea that is free for all to discover merit any protection?

Pamela Samuelson argues the contrary. Even though information may be acquired, used, and transferred, she relies on the *Masland* point of view that trade secret misappropriation is about breach of confidences or other use of improper means. Trade secrets are not property, but instead the enforcement of social values.⁷⁹

3. Bundle Theory

The middle ground is to treat trade secrets as a “Hohfeldian” bundle of rights,⁸⁰ wherein trade secret rights are simply a collection of social rights and duties. This is an approach this Article takes below as part of substantive property analysis. A problem with the bundle of rights theory is that the word “property” ceases to have any real meaning.⁸¹ With the bundle, it is impossible to determine what particular bundle makes a set of rights property and what bundle renders a set of rights “not property.”

4. An Alternate Categorization

It is because of the fundamental disagreement among the three theories above that the debate about trade secrets (and other intangible assets, for that matter) continues. In the alternative, this Article proposes different categories of intellectual property, at least as those categories apply to trade secrets. I call the categories “collateral property” and “substantive property.”

Aside from the effect that any nomenclature might have on the collective mindshare,⁸² whether trade secrets are called property or not matters primarily in cases where a statutory or constitutional right is triggered by “property.”⁸³ I call this “collateral property.”

79. Samuelson, *supra* note 60, at 374–75.

80. See generally Wesley N. Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 *YALE L.J.* 710 (1917).

81. Thomas C. Grey, *The Malthusian Constitution*, 41 *U. MIAMI L. REV.* 21, 30 (1986) (“[Modern scholars] see property in resources as consisting of the infinitely divisible claims to possession, use, disposition, and profit that people might have with respect to those things. There is, on this conception, no essential core of those rights that naturally constitutes ownership.”).

82. See Lemley, *supra* note 15.

83. See, e.g., *Warner-Lambert Co. v. Execuquest Corp.*, 691 N.E.2d 545, 547 (Mass. 1998) (holding that trade secrets are property under section 93A of the General Laws of Massachusetts, which requires a loss of property to allow for an injunction).

For all other intents and purposes, trade secrets are a bundle of rights; the only differences between trade secrets, patents, and real property are the collection and mixture of rights. I call this “substantive property.” Thus, whether trade secrets are normatively justified as “substantive property” will depend on whether the bundle of rights itself is normatively justified.⁸⁴

This is not to say that property rights are unimportant or that trade secrets are not property. Indeed, if you asked most business owners, they would say that their trade secrets are their property. This tends to support the philosophical and populist justification for trade secrets discussed below. However, because trade secrets are so different from real and personal property, and even from other forms of intellectual property, normative analysis of specific property rights granted is helpful to justify why trade secret owners call their information property.

B. Collateral Property

There is no shortage of judges and scholars willing to call trade secrets “property.”⁸⁵ The reasons vary, but they reflect in large part an underlying acceptance that information can be “owned” so long as it is not generally available. Normatively, however, the moniker “property” does not necessarily justify protecting information from “improper” discovery by others. Instead, calling trade secrets property is usually important in cases where some important decision factor other than trade secret misappropriation depends on whether the information at issue is considered property or not. In fact, some cases may go so far as to protect information as property even if it is not a trade secret.⁸⁶

For example, section 2860 of the California Labor Code states that the employer “owns” everything the employee “acquires” by virtue of

84. It is here that Mark Lemley is concerned. Lemley, *supra* note 15. Because the term “property” is rarely discussed with such precision, he worries that lawmakers will grant more and more rights to intellectual property so that their “bundle” approximates the bundle of rights associated with real property. *See also* Chiappetta, *supra* note 8, at 150.

85. Milgrim attempts to find every case doing so. 1 ROGER M. MILGRIM, MILGRIM ON TRADE SECRETS 73–98 (2006).

86. *Int'l News Serv. v. Associated Press*, 248 U.S. 215, 237 (1918) (stating news reports are “quasi property” with respect to competitors, even if not with respect to the public); *USM Corp. v. Marson Fastener Corp.*, 393 N.E.2d 895, 903 (Mass. 1979) (“A plaintiff who may not claim trade secret protection either because it failed to take reasonable steps to preserve its secrecy or because the information, while confidential, is only ‘business information,’ may still be entitled to some relief against one who improperly procures such information.”).

his or her employment.⁸⁷ If trade secrets were not “property” in the sense of ownership, then the Labor Code would be illusory—employees could claim that they own every discovery made using the resources of the employer.⁸⁸ In an extension of this concept, the Supreme Court determined that unpublished news stories gathered from public sources were “property” of the *Wall Street Journal* for the purposes of insider trading laws.⁸⁹ Similarly, in 1998, the Massachusetts Supreme Court relied on *Peabody* to support a finding that trade secret customer information was “property” for the purposes of a Massachusetts unfair competition claim.⁹⁰ In each of these instances, the collateral right attaches regardless of how we might consider liability in a trade secret action.

Each of these examples hardly shakes the foundation of intellectual property law. It is quite reasonable from a transaction costs (as well as common sense) point of view that employers will own the confidential information created by their employees during the course of business. It is also quite reasonable that trade secret misappropriation would be called unfair competition.

In an oft cited case, the U.S. Supreme Court had an opportunity to address this state law issue and both affirmed that trade secrets could be property and left the issue up to the states.⁹¹ In *Ruckelshaus*, pesticide manufacturer Monsanto challenged, as a Fifth Amendment taking, a statute that allowed the Environmental Protection Agency to disclose its trade secret data to the public.⁹² The Court determined that under

87. CAL. LAB. CODE § 2860 (West 2003).

88. *See, e.g., Am. Alloy Steel Corp. v. Ross*, 308 P.2d 494, 496–97 (Cal. Dist. Ct. App. 1957) (stating that confidential information is property of the employer, general information is not). *But see Chiappetta, supra* note 8, at 162–63 (arguing that the default should not be that the employer owns all information and that the employer must instead give employees clear notice of what the employer considers to be a trade secret).

89. *Carpenter v. United States*, 484 U.S. 19, 26 (1987) (“Confidential business information has long been recognized as property.”). Intellectual property scholars are troubled by *Carpenter*. *See Samuelson, supra* note 60, at 396 (stating that *Carpenter* is “disturbing” because employees had no reason to know that their employer might consider their work or production schedules property). On the other hand, from a labor management point of view the decision makes sense; allowing employees to maintain rights in confidential company information—whether or not a trade secret—would be disastrous on a level far greater than any musings about the justification for trade secret law.

90. *Warner-Lambert Co. v. Execuquest Corp.*, 691 N.E.2d 545, 546–47 (Mass. 1998) (holding that trade secrets are property under section 93A of the General Laws of Massachusetts, which requires a loss of property to allow for an injunction).

91. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984).

92. *Id.* at 999.

Missouri law, which followed the Restatement (First) of Torts at the time, trade secrets were property, and thus could be subject to a taking.⁹³ In doing so, the Court relied in part on a Missouri case decided in 1917,⁹⁴ which makes sense because the shift from “property” to “unfair competition” around the time of *Masland* had not yet become widespread.

In his treatise, Milgrim proudly calls his second chapter “Trade Secrets as Property”⁹⁵ and relies on cases like those above to argue that trade secrets are property. In that chapter, however, Milgrim focuses less on the policy reasons for having trade secrets in the first place and more on the collateral aspects of trade secret property, such as assignment, takings, and inheritance.⁹⁶ The questions Milgrim addresses have long been settled, and they do not rely on a “substantive” property view of trade secrets. For example, a valid contract is “property” under the takings clause.⁹⁷ This does not mean a contract automatically has the same rights as real property.

Thus, while trade secrets may quite reasonably be considered property in a variety of circumstances, the underlying question is whether such treatment should have a policy impact on trade secrets *qua* trade secrets.⁹⁸ While treatment of intangible information as property in collateral areas may be substantive judgments, those judgments do not shed much light on why we have trade secrets. Answering the normative question requires further examination of the scope of rights granted to particular information.

C. Substantive Property Rights

The treatment of trade secrets as substantive property dates back to the inception of trade secret law in the United States: “In this court, it is

93. *Id.* at 1003–04.

94. *Lockett v. Orange Julep Co.*, 196 S.W. 740, 743 (Mo. 1917) (“[S]aid formula is the sole property of the plaintiffs.”).

95. 1 MILGRIM, *supra* note 85. Milgrim is quick to point out that “Trade Secrets as Property” used to be his first chapter, but the passage of the UTSA required him to put a definitional discussion first. *Id.*

96. *Id.*

97. *Lynch v. United States*, 292 U.S. 571, 579 (1934) (stating that a valid contract was the subject of a taking).

98. Professor Chiappetta and others call this “conversational” property and assume that the word “property” used in conversation implies a certain set of rights unless precision is used. Carter, *supra* note 64, at 716; Chiappetta, *supra* note 8, at 150. I argue the contrary—calling trade secrets “property” is not relevant to modern trade secret misappropriation case law. The UTSA has not been amended in more than twenty years.

settled that a secret art is a legal subject of property.”⁹⁹ Professor Bone explains that this supposedly “settled” generalization was the culmination of prior cases that used a collateral understanding of property.¹⁰⁰ That is, *Peabody* transitioned collateral rights into substantive rights.¹⁰¹ This conversion had benefits under nineteenth-century law; no injunction could issue in equity unless the secret was “property.”¹⁰² Further, privity was no longer required if the trade secret was property.¹⁰³

However, a “conversion” argument does not necessarily mean that trade secrets should not be considered “substantive” property. For example, *Peabody* relies on a much earlier case, *Vickery v. Welch*,¹⁰⁴ in which the trade secrets are substantive and not collateral. In *Vickery*, the defendant seller was to sell the exclusive right to a secret process as part of a conveyance of a mill, but the seller claimed that he had the right to disclose the process to anyone he wished.¹⁰⁵ The Massachusetts Supreme Court ruled that the value of a secret process lies in its exclusivity; the ability of one person to use information and to keep others from using it is exactly what gives the information a competitive advantage.¹⁰⁶

For some, the exclusivity discussed in *Vickery* would be sufficient to call any given right “property.” For others, this distinction is meaningless, because competitors can reverse engineer the secret or discover it by independent means. Furthermore, it is difficult to say that one can ever exclusively possess information. If someone “takes” a person’s information, the original owner is not divested of possession. Regardless of the outcome of such a debate, it cannot be said that the “property” right granted in *Peabody* and *Vickery* was based solely on collateral concerns. Instead, *Vickery* stands for the proposition that secret information has value precisely because of its secret nature and not because courts call that information property. This aspect of trade

99. *Peabody v. Norfolk*, 98 Mass. 452, 459–60 (1868).

100. Bone, *supra* note 5, at 251–54.

101. *Id.* at 253–54.

102. *Id.*

103. *Id.*

104. *Vickery v. Welch*, 36 Mass. (19 Pick.) 523 (1837).

105. *Id.* at 525–27 (determining whether the seller had a right to disclose the secret is substantive, not collateral).

106. *Id.*; *accord* Cent. Transp. Co. v. Pullman’s Palace Car Co., 139 U.S. 24, 53 (1891) (“Upon the sale of a secret process, a covenant, express or implied, that the seller will not use the process himself or communicate it to any other person, is lawful, because the process must be kept secret in order to be of any value . . .”).

secrets continues to the present—a key requirement under the UTSA is that the information must have independent value based on its secrecy.¹⁰⁷

One would think that the question of whether and how trade secrets are treated as property has been answered—for more than 150 years no less—but this is not so. Nearly two centuries after *Vickery*, the California Supreme Court summarized the transition from the Restatement (First) of Torts to the UTSA, but explicitly refused to answer the question posed here, namely whether trade secrets should be treated as property and whether such treatment makes a difference in practice.¹⁰⁸ Instead, the court summarized the history of trade secrets (including citation to *Masland*) and argued that substantive trade secret rights do not fall exclusively under either the property view or the liability view.¹⁰⁹ It is perhaps more helpful to consider trade secrets as comprising a bundle of rights. The question is whether this bundle is justified; Part III examines three justifications.

D. The Bundle of Rights

A substantive trade secret “property right” is comprised of a collection of rights associated with what might be done with particular information. This, too, is hardly an earth shattering proclamation. The complexity, it seems, is detailing what rights are included in the bundle and whether or not a particular right is appropriately justified.¹¹⁰ To date, this analysis remains incomplete.¹¹¹

In all events, a comparison to the real property bundle is not apt.¹¹² Information simply cannot be protected in the same way that real property can be protected, at the very least because information can be

107. UNIF. TRADE SECRETS ACT § 1(4) (amended 1985), 14 U.L.A. 538 (Supp. 2006).

108. *Cadence Design Sys., Inc. v. Avant! Corp.*, 57 P.3d 647, 649–50 (Cal. 2002).

109. *Id.* But see *DVD Copy Control Ass’n v. Bunner*, 75 P.3d 1, 13 (Cal. 2003) (“By creating a limited property right in information, trade secret law ‘acts as an incentive for investment in innovation.’” (citation omitted)). The California Supreme Court goes on to list almost every single justification for trade secrets. See discussion *infra* Part III. The court wanted to make a strong statement about the policy of trade secrets to show why the First Amendment did not preempt an injunction. See discussion *infra* Part III.

110. See *infra* Parts III, IV (discussing the justification of various rights under trade secret law).

111. Professor Chiappetta describes the bundle as the right to rely on the confidence of others and the right to be free from “bad acts.” Chiappetta, *supra* note 8, at 151–52. This description is too broad to be useful if one is trying to compare the rights to personal, real, or intellectual property.

112. See Lemley, *supra* note 15, at 1032.

replicated without loss, while real property is unique. That said, the suggestion that trade secret rights should be protected like “any other” property is hardly the end of the world for efficient intellectual property laws. While those who disfavor the property motif may bristle that comparisons to real property will lead to overprotection of information, it is quite possible that the focus is wrong.¹¹³ Real property is not the “infinite rights of exclusion” straw man that it is made out to be. If the bundle of rights for real property were unending, there would be no nuisance, attractive nuisance, zoning regulations, land use regulations, building codes, adverse possession, fence laws, endangered species laws, public easements, and so forth.¹¹⁴ Instead, each of the above laws and their limitations on the real property bundle of rights gets analyzed for normative justification, economic efficiency, and other considerations. So, too, are the bundle of rights afforded to trade secrets and any other intellectual property, for that matter. Rather than stopping at the comparison to real property, it may make sense to focus on the limits of real property rights and analogize them to intangibles.¹¹⁵

What, then, is the bundle of rights associated with trade secrets? It is not simply the right to exclude, nor is it simply the right to acquire, use, and dispose.¹¹⁶ Furthermore, the rights must be additional to and/or different from those that would exist in the absence of trade secret law;¹¹⁷ otherwise, there would be no need to have trade secrets in the first place. The following are rights and duties abstracted from trade secret law:

- The right to keep certain information secret and still obtain legal protection;¹¹⁸

113. As noted above, the one area where the nomenclature matters is the extent to which the term “property” has an effect on laws that create a bundle of rights that is greater than necessary to achieve the goals of intellectual property law. *See generally id.* However, with respect to trade secrets, despite the “property” brand since *Ruckelshaus*, trade secret law has not shifted toward overprotection. *But see* Samuelson, *supra* note 60 (expressing concerns about the extension of protection to non-trade secret information).

114. While appropriate treatment of “property” in the law may require careful judgment, some of these examples were borne of common law; as such, one cannot say that protection will be ever-expanding just because something is called “property.”

115. *See, e.g.,* Michael A. Carrier, *Cabining Intellectual Property Through a Property Rights Paradigm*, 54 DUKE L.J. 1 (2004) (conducting an extensive review of limits in real property and analogizing those limits to intellectual property).

116. Chiappetta, *supra* note 8, at 152 (“[W]e must be extremely wary of gap-filling and demand precision in any ‘trade secrets as property’ discussion.”).

117. For example, the right not to have a contract breached is not a right that comes with trade secret law; that would exist anyway.

118. This may seem obvious given the fact that these are secrets, but this right is a very

- Including the right to exclude others from disclosing certain information, so long as certain prerequisites are met;¹¹⁹
- Including the right to exclude others—even those without privity or actual knowledge—from using certain information, so long as certain prerequisites are met;¹²⁰
- The duty to attempt to keep information secret;¹²¹
- The right to use certain information as one wishes and still receive protection even if others have the same information;¹²²
- The right to not use certain information if one wishes and still obtain legal protection;¹²³
- The right to recover damages for harm caused by illicit use or disclosure of certain information, so long as certain prerequisites are met;¹²⁴
- The right to recover the benefits from others for the illicit use or disclosure of certain information, so long as certain prerequisites are met;¹²⁵
- The right to transfer, devise, or otherwise make exclusive grants of certain information;¹²⁶ and
- The right to compensation for a government taking of certain information.¹²⁷

Most of the rights and duties on this list are different from those associated with real property, personal property, and even other types of intellectual property. So long as discussion about the rights of trade secret holders points to the above bundle,¹²⁸ then the risk of overprotection is limited. Keeping those that make the rules focused on the bundle and not “property” rhetoric may be difficult, but this should not be a large problem with respect to trade secrets. Because the nature

clear differentiator from patent law.

119. UNIF. TRADE SECRETS ACT § 2 (amended 1985), 14 U.L.A. 619 (Supp. 2006).

120. *Id.* §§ 1(2), 2.

121. *Id.* § 1(4).

122. This, too, may seem obvious, but not all patents may be practiced by their owners, if they are based on someone else’s patent. The Patent Act only allows remedies for infringement, not a right to use.

123. This right is granted under the UTSA, but not in the Restatement. UNIF. TRADE SECRETS ACT § 5; *see* RESTATEMENT (FIRST) OF TORTS (1939).

124. UNIF. TRADE SECRETS ACT § 3.

125. *Id.*

126. *See generally* 1 MILGRIM, *supra* note 85.

127. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986 (1984).

128. Of course, the terms “certain information” and “certain prerequisites” must be defined, and I do so later in this Article.

of the information is by definition secret, the impact of expanding rights to trade secrets on the public is quite limited. Thus, the policy debate is between many companies who want to simultaneously keep and appropriate secret information. It is not surprising that the protection under trade secret law has not expanded significantly during the time of the UTSA, which is now more than twenty-five years old.¹²⁹

III. THE JUSTIFICATION FOR TRADE SECRETS

This Part addresses—from strongest to weakest—three alternative normative justifications for the bundle of rights associated with trade secret law: economic justifications, philosophical justifications, and populist justifications.

A. Economic Justification of Trade Secrets

Perhaps the best justification for the existence of trade secrets is a purely economic one,¹³⁰ for two primary reasons. First, trade secrets relate to the economic value of information; it stands to reason that economic analysis is the appropriate way to justify the law.¹³¹ Second, economic analysis shows that the particular bundle of rights associated with trade secrets adds to societal wealth in a defensible, potentially measurable and provable way.

In summary, the bundle of rights associated with trade secret law is justified because it enhances the marginal benefits of society more than the marginal costs. Ironically, the best justification also requires the most explanation. Thus, the Article includes a complete analysis in Part IV, which analyzes the marginal societal benefits (and costs) associated with the bundle of rights granted by trade secret law. As will be discussed below, the primary benefit of trade secret law is the decrease in both the amount spent on protecting secrets and the amount spent by those who seek to learn them.

However, creating incentives to innovate is a very minor justification of trade secret law.¹³² To be sure, additional protection of secret

129. Indeed, trade secret rights in practice have not been significantly broadened in the last hundred years, though there are always outlier cases.

130. This is the case, at least, in our market economy. Economists subscribing to a view of shared resources might disagree. *See, e.g.*, EUGEN LOEBL, *HUMANOMICS: HOW WE CAN MAKE THE ECONOMY SERVE US—NOT DESTROY US* 29–34 (1976).

131. Chiappetta, *supra* note 8, at 93.

132. For other criticism of this justification, see Bone, *supra* note 5, and Chiappetta, *supra* note 8.

information does provide some incentives, discussed below with respect to the labor value theory, as well as with respect to forced disclosure of information.

Because forced disclosure is not the status quo, however, the marginal incentive to innovate provided by trade secret law is small¹³³ because companies would still protect secret information by—obviously enough—keeping such information secret.¹³⁴ Such information need not be an innovation—even the earliest trade secret law protected customer information.¹³⁵

Patents and copyrights foster an incentive to create by allowing for a period of exclusive use. The exclusivity is required because of the “public good” nature of innovations and original works. If others could freely use innovations and original works, then the creator might not be able to recover the cost of creation. By allowing the creator exclusive use, the creator can more readily recoup costs of creation.

In industries where there is no self-help, patent and copyright may be the only source of protection to encourage innovation. Trade secrets do not fall into this category because the inability to protect information by self-help does not change with trade secret law. If a company cannot keep its secrets confidential, trade secret protection will not add new abilities to keep the information secret. Thus, information that owners would otherwise keep secret shares little of this “public use” property; if information can be kept secret through self-help, then owners will spend more money to keep the information secret even in the absence of the law. This is discussed in more detail below.

As a result, trade secret law (or even secrecy without the law) does not necessarily confer an opportunity for the owner to charge more than would be available on the open market.¹³⁶ In fact, to the extent that

133. One would expect a forced disclosure rule to hinder incentives for innovation. The extent of such an effect would depend on the mix of potentially patentable innovations versus unpatentable innovations.

134. To the extent that trade secrets eliminate wasteful spending or otherwise reduce the cost (or increase the value) of research, then companies may spend more on innovation—this is not what I mean by incentives to innovate in this context.

135. See, e.g., *Empire Steam Laundry v. Lozier*, 130 P. 1180 (Cal. 1913). Further, a primary economic question is whether a company should divulge its information in a patent application. For a thorough discussion, see LANDES & POSNER, *supra* note 6, at 294–333, 354–71.

136. It is not clear that copyrights or patents confer this right either. While an invention might be incorporated into a device such as a DVD player, one cannot say that monopoly profits are available to the maker of the DVD player. Indeed, the invention might be necessary simply to compete.

trade secrets reduce production costs, they would lead to lower pricing in the market. A trade secret must have competitive value, but every company has information that has competitive value. Take customer lists, for example. Knowing who to contact will reduce costs of sales *vis a vis* a company's competitors. This fact does not mean that a company can extract monopoly pricing; while the company may have a "leg up," product quality and pricing will still affect competition.

The same is true for a secret process for making goods. Assume there is a secret process for making food taste better or making a widget more cheaply. Producers compete with other food and widget makers, and they still have price competition. Their competitors will have their own methods for taste enhancement and cost reduction.

One concrete example is the tax program market: TurboTax and TaxCut. Each product costs approximately the same amount and the two are in stiff competition. Each has source code that is a trade secret; having that source code gives each an advantage over the other to the extent that the code includes special routines, and both have an advantage over those who do not have a product. Now, if an Intuit employee wants to compete, he or she might take the source code and call the new product "SuperTax." That employee will save development time and can undercut the price the other two companies charge because of lower costs. That lower price does not mean that the original pricing was monopolistic—the prices charged would reflect the marginal costs of producing the program with some rate of return on the investment in development. Thus, even if there were no trade secret law, Intuit would likely create a tax program if it saw market demand, and it would want to protect the TurboTax source code, even though it has no monopoly rents from its trade secrets.

B. Philosophical Justification of Trade Secrets

There are two primary philosophical branches that justify trade secrets: labor value and veil of ignorance.

1. Labor Value Theory

The most cited philosophical theory, as reflected in the *Peabody*¹³⁷ case, is one where those who create value through their labor ought to

137. *Peabody v. Norfolk*, 98 Mass. 452, 457 (1868) ("It is the policy of the law, for the advantage of the public, to encourage and protect invention and commercial enterprise. If a man establishes a business and makes it valuable by his skill and attention, the good will of that business is recognized by the law as property.").

“own” the end product of their labor.¹³⁸ This theory is often called a “Lockean” theory after John Locke and his theory of property. Locke posited that one who improves the land with his or her labor should be entitled to ownership of that land.¹³⁹ Under this theory, even information that is not secret could still be property.¹⁴⁰ This theory is the implicit basis for any business owner’s consideration of trade secrets as valuable property.

An initial criticism of this theory is that Locke was dealing with real property and not intellectual property, which can be “possessed” by two people at the same time. For example, the Supreme Court ruled in *Feist Publications, Inc. v. Rural Telephone Services Co.*¹⁴¹ that pure facts, like names and addresses in a telephone book, cannot be protected by copyright simply because they were obtained by the “sweat of the brow.”¹⁴² This criticism does not necessarily apply to trade secrets, however. The value of the trade secret is not its novelty (like a patent) or its originality (like a copyright) but rather its secrecy. It follows that the labor used to discover or assemble such information may “belong” to the originator if that information is not generally known. Two people might even know the same information, and each might own it as against others who do not.

138. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1002–03 (1984) (citing Locke as a justification of trade secrets as property).

139. JOHN LOCKE, *THE SECOND TREATISE OF GOVERNMENT* § 27 (J.W. Gough ed., Basil Blackwell 1956) (1690). *But see* LOEBL, *supra* note 130, at 32–33.

The owner of a factory or business is making full use of the economic, social, and cultural infrastructure which society has paid for. . . . If we think in terms of this new concept of ownership, however, then we can regard the owner of a means of production . . . as a kind of trustee who uses the nation’s “capital.”

Id.

140. *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 236 (1918) (protecting published news and stating that “the right to acquire property by honest labor or the conduct of a lawful business is as much entitled to protection as the right to guard property already acquired”). In *International News*, the value was based on timeliness and not secrecy, and was thus protected. Professor Bone criticizes Lockean theory because it does not explain the secrecy requirement. Bone, *supra* note 5, at 284. If one assumes, however, that the information has value because it is secret, then the underlying normative basis for requiring and protecting secrecy makes sense, even if the owner might use self-help to keep the secret as well. If the information does not have value because it is generally known, then there would be little “labor value” to protect it because the information is already available.

141. *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

142. *Id.* at 353–55. Note, however, that an entire telephone book can be protected from slavish reproduction even if a large amount of the information within it may not be protected. *Id.* at 361.

Thus, under this Lockean view, we would not necessarily expect trade secret rights to be lost upon inadvertent or wrongful disclosure. This leads to another potential criticism of the Lockean theory: it may tend to overprotect information in contravention to the end goal of innovation and freedom of information. The argument is that labor should not be enough to create exclusive ownership of information where valuable social goals can be achieved through the sharing of information. Locke, however, would not go so far as to protect property to the exclusion of all others in society. Locke makes clear that his theory is based on the non-scarcity of land, such that one person's improvement of land will not deprive others of their ability to improve neighboring land.¹⁴³ Analogized to trade secrets, this principle means that trade secret owners should not be able to exclude others who independently develop the same information. This means, as well, that once information is generally known, even if wrongfully, then the rest of society should not be restrained from using the information to "improve" their own businesses.

Perhaps the most persuasive criticism of Lockean theory is that the underlying support for it is lacking. For example, why should the state of nature result in a world where people own what they create? After all, Hobbes comes to a contrary result, namely that nature is a "state of war" in which each person is free to take from others and/or self-defend until society as a whole agrees to an offshoot of the Golden Rule.¹⁴⁴ Additionally, according to the strong form of the Coase theorem, if transaction costs are low, then it should not matter who is initially granted possessory rights, so there is no reason why the developer of information necessarily must have rights.¹⁴⁵

Detractors thus assert that Locke must fall back on a utilitarian analysis for justification, such that the philosophical analysis collapses into an efficiency analysis.¹⁴⁶ I do not give great weight to this criticism from a normative justification point of view. Norms are broadly

143. LOCKE, *supra* note 139, §§ 36–38; *see also* Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 *YALE L.J.* 1533, 1540 (1993) (discussing Locke-based limits on ownership).

144. THOMAS HOBBS, *LEVIATHAN* pt. I, ch. 14 (Michael Oakeshott ed., Basil Blackwell 1960) (1651).

145. *See also* Lemley, *supra* note 15, at 1038–39 (discussing property distribution arguments associated with the Coase theorem). *See generally* R. H. Coase, *The Problem of Social Cost*, 3 *J.L. & ECON.* 1 (1960).

146. Lemley, *supra* note 15, at 1031 n.1, 1068.

accepted standards,¹⁴⁷ and so long as the Lockean theory is widely accepted as a morally justified foundation for rights, then the theory is sufficient justification for the rights, whether or not the result is efficient and whether or not one can determine exactly where the lines can be drawn from the theory.¹⁴⁸ Moral rights in works of art are a good example of a broadly accepted (in Europe, at least) set of rights that are not necessarily economically efficient.¹⁴⁹ Nonetheless, one can advance an argument that there is normative justification for the notion that artists should be able to control how their art is displayed, regardless of how we might want to balance those rights against owners of the tangible expression of that art or even against society. Whether one agrees that widely accepted norms are a sufficient justification will depend on whether one agrees with the moral force of the underlying reasoning.¹⁵⁰

For those who disagree with the moral force of this argument unless there is a utilitarian justification, Locke relied in part on utilitarian analysis—namely that labor put into the land will improve it for all of society.¹⁵¹ This is similar to the notion that intellectual property laws (and the limitations placed on exclusive use of such intangible assets) are designed to foster innovation and creativity. Even trade secrets, which by definition are not publicly disclosed, can have a wealth enhancing effect, such as lower prices for consumers and enhanced quality of goods.

Furthermore, there are other utilitarian explanations for the Lockean theory. For example, owners may tend to value the information they “discover” through their labor more than others, even if idiosyncratically.¹⁵² Even the simple fact that a company is using a

147. A norm is “a standard, model, or pattern regarded as typical.” THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1199 (4th ed. 2000).

148. *But see* David McGowan, *Copyright Nonconsequentialism*, 69 MO. L. REV. 1, 3 (2004) (stating there is little benefit in a theory that “makes no predictions about how adopting it as law would affect the real world”).

149. *See, e.g.*, 17 U.S.C. § 106A (2000). This is a weaker version of moral rights than is available in Europe, but still provides protection even to those who no longer own possessory or copyright rights in an object.

150. This is always true—many widely accepted “norms” are morally repugnant to others.

151. LOCKE, *supra* note 139, §§ 37–39. Although there is no tragedy of the commons with respect to information, trade secret information can still be used for the benefit of society, and protection gives incentives to do so.

152. This may even simply arise from cognitive dissonance, which is a psychological condition whereby people will sometimes modify their beliefs to synchronize contradictory attitudes. Cognitive Dissonance (L. Festinger), *Explorations in Learning & Instruction: The*

particular but otherwise publicly available process to the exclusion of other processes can have value; the fact that competitors may overestimate the barriers to entry into a market has a real, if difficult to measure, value to the owner. An attribution of higher value warrants protection of trade secrets that includes the right to exclude where the information would be kept secret by default.¹⁵³

Similarly, it is reasonable to assume that people gain utility (more aptly a reduction in disutility) from the security associated with the ability to keep others from taking or using what they value to their detriment.¹⁵⁴ This utility extends beyond reducing expenditures to protect information; reducing the worry associated with potentially losing (or losing value of) a valuable asset creates utility.¹⁵⁵

Finally, the strong form of Coase theorem assumes that transaction costs are zero, but in the real world, transaction costs are common and often high, especially with respect to licenses of secret information.¹⁵⁶ As a result, the right should initially be vested in the person whereby value and transaction costs are optimized.¹⁵⁷ Someone who expends labor to develop a trade secret—rather than to license the information from someone else—has already considered the cost/benefit choices, or the labor would not have been expended in the first place. Thus, in the absence of any clear justification to the contrary, if there are to be any rights at all, then initial rights should be placed with the developer of the secret.

The end result of each of the above utilitarian “justifications” that give moral force to the labor theory is an increased incentive to develop

Theory Into Practice Database, <http://tip.psychology.org/festinge.html> (last visited Nov. 4, 2006). Analogized to information, if one invests an extensive amount, then one might (irrationally) value it more highly than it is otherwise worth in order to eliminate the dissonance of the truth that the information has little value to others.

153. Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 *HARV. L. REV.* 713, 760–62 (1996).

154. Hill, *supra* note 8, at 10 (citing Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules and Inalienability Rules: One View of the Cathedral*, 85 *HARV. L. REV.* 1089, 1105–06 (1972)) (discussing the benefits of “control” in a property rule); *see also* Wendy J. Gordon, *On Owning Information: Intellectual Property and the Restitutory Impulse*, 78 *VA. L. REV.* 149, 225–27 (1992) (discussing negative effects on the holder’s control and autonomy). This discussion simplifies matters by collapsing unjust enrichment moral theory into a Lockean form of utility maximization.

155. This is similar to the utility that people gain from not being “on the run” from police. Aside from the costs associated with avoiding capture, a criminal will also suffer disutility related to always looking over his or her shoulder.

156. LANDES & POSNER, *supra* note 6, at 365–66.

157. Lemley, *supra* note 15, at 1038.

information that becomes a trade secret. If exclusive use were to be eliminated (or if owners were forced to share their secrets with the world), the incentive to create would certainly decrease, even if not entirely.

It is important to note the subtle difference between a complete economic justification and the utilitarian application of the labor value theory described here. A utilitarian application of labor value theory only goes so far as to say that owners should receive some limited exclusivity. A full economic analysis, however, looks at the entire range of rights to determine if a particular bundle increases or even maximizes social wealth.¹⁵⁸ For example, one might say that someone who works the land should have the right to exclude others based on a philosophical/utilitarian justification, but the precise costs and benefits of a public easement may be analyzed separately for efficiency.

Lockean theory justifies at least some protection for the fruits of trade secret owners' labor, whether the support comes from a belief that natural rights are sufficiently moral or from the utility of granting ownership in a particular way. It is true that the theory as applied to trade secrets is insufficient to justify any particular bundle of rights, but the protection of secrets in general is certainly supported, as is the notion that others can independently develop the same information.

2. Original Position Theory

Contractarian theories relate to hypothetical bargaining of a set of rules by hypothetical individuals who have an interest in the outcome. The result of such bargaining is theoretically normatively justified by ex ante agreements to be bound by a set of rules. John Rawls popularized one such contractarian theory called the "veil of ignorance."¹⁵⁹ The veil of ignorance is a hypothetical "state of nature" that predates the distribution of rights in which the people making the decision about the distribution do not know what position they will occupy after the distribution is complete. Rawls suggests that those forming a society under the veil of ignorance would implement the "maximin" principle—namely selecting a distribution of wealth that maximizes the wealth of the person with the least.¹⁶⁰ This seems reasonable if one accepts the right assumptions—that people operating in ignorance would want to

158. Alas, without sufficient empirical evidence, the maximization question may never be answered.

159. JOHN RAWLS, A THEORY OF JUSTICE 118–23 (rev. ed. 1999).

160. *Id.* at 130–39.

make sure that if they turn out to be the least well off, then they would not be destitute.¹⁶¹ Landes and Posner thus argue that companies would agree to allow reverse engineering because of the benefits such a rule might bring to everyone in the industry.¹⁶²

Professor Bone criticizes contractarian theories in general on the grounds that “real world” companies would protest following the agreements made during hypothetical negotiations by those who do not share their “real world” preferences.¹⁶³ His argument highlights many of the problems with contractarian theory in general, such as that their moral force is too dependent on the constraints on hypothetical bargaining—especially as those constraints relate to those in the real world who would prefer a free market to determine such rules.

Despite this criticism, one particular set of bargaining constraints can shed light on the issue—namely the “veil of ignorance.” Under the veil, the “founders” would not know what position they would occupy, and thus the rules they might agree to are determined to be fair and just. From a moral standpoint, it is irrelevant what real world people would agree to in order for these rules to have normative support. Because debate about rules will always be biased by real world positions, any statements about the justification of rules will be biased as well. The goal, however difficult it might be to achieve through thought experiments, is to determine what someone might agree to if he or she did not know his or her lot in life while making the decision.¹⁶⁴

This leads to a more specific criticism of the veil of ignorance in particular—there is no reason to believe that any particular distribution of rights associated with trade secrets would be the outcome.¹⁶⁵ Why, for example, is reverse engineering allowed? Why is unjust enrichment a measure of damages? Why is improper means broader than common law wrongs? There is no reason to believe that any of the above choices should be the outcome, or perhaps all of them could be a just outcome.

Even if the current set of rules cannot be predicted, veil of ignorance analysis is still useful from a normative point of view. One might be

161. The assumptions relate to aversion to risk, lottery mentality, and the like.

162. LANDES & POSNER, *supra* note 6, at 370. It is not clear whether this view requires the veil of ignorance.

163. Bone, *supra* note 5, at 292–93.

164. A further criticism is that these constraints may simply obviate the need for hypothetical bargaining in favor of simply determining the proper moral rule and imposing it. Even so, it is useful to look at the balancing that one who is self-interested might consider.

165. See, e.g., Bone, *supra* note 5, at 292–93 (discussing KIM LANE SCHEPPELE, LEGAL SECRETS: EQUALITY AND EFFICIENCY IN THE COMMON LAW 57–85 (1988)).

able to consider the balancing those in the original position might have considered given the current set of rules. This may be sufficient for justifying the existence of trade secret law. After all, even with efficiency analysis we have no way of knowing whether a particular rule really is the most efficient in all circumstances. For example, if one assumes that people value that which they create more than others do, but at the same time that people want to build on the work of others, it is well within the bounds of reason that some form of limited protection of trade secrets would be the outcome of a negotiation under the veil of ignorance.

C. Populist Justification

A final possible justification of trade secret law is populist support.¹⁶⁶ In short, the majority (or rather the majority's representatives) in nearly all states support some protection through legislation. For some, this might be sufficient justification. When trade secret law was judge-made law, one could dismiss populism or other forms of "public choice" as a justification. Now, however, with so many state legislatures independently enacting trade secret statutes, it is pretty clear that trade secret law is supported by the masses.¹⁶⁷ It may be that the labor value theory of trade secrets as property underlies populist support.

However, the public has in the past (and even currently) supported morally repugnant and/or economically inefficient laws.¹⁶⁸ Additionally, it is not clear that the public in general has an interest in how trade secrets are implemented; it is not as if product pricing and corporate profits can be directly traced to trade secrets even if secrets may have some effect.¹⁶⁹ More interesting, then, is determining why it is that legislatures choose to have trade secret law.¹⁷⁰ After all, there are a variety of efficient and morally worthy ideas that never make it into law.

166. See, e.g., Lemley, *supra* note 15, at 1046.

167. But see Saul Levmore, *Two Stories About the Evolution of Property Rights*, 31 J. LEGAL STUD. 421 (2002) (discussing the role of interest groups in changing property rights).

168. I will not open a can of worms by identifying my nominations for such laws.

169. *Cent. Transp. Co. v. Pullman's Palace Car Co.*, 139 U.S. 24, 53 (1891) (stating that "the public has no interest in the question by whom [the secret process] is used"); *Morse Twist Drill & Mach. Co. v. Morse*, 103 Mass. 73, 75 (1869) ("Nor does [restraint of trade] extend to a business which is a secret, and not known to the public; because the public has no rights in the secret.").

170. See generally WILLIAM H. RIKER, *LIBERALISM AGAINST POPULISM* 238-41 (indicating that it is impossible to determine what the public as a whole wants as social choice).

From a political economy point of view, those that have much to gain from trade secret law will likely push for its passage, while those that do not have an interest will not oppose it.¹⁷¹ Thus, it is no surprise that trade secret law was added to the legislative agenda and subsequently adopted.¹⁷² However, criticism that the current form of trade secret law is simply the result of lobbying by powerful companies desiring to protect their secrets¹⁷³ is unfounded for three principal reasons. First, trade secrets are much cheaper to obtain and do not grant the absolute exclusive right that patents do.¹⁷⁴ As a result, one would expect small companies to favor trade secret protection over large companies. In fact, this is the case.¹⁷⁵ Second, in general, companies have trade secrets and also want to learn the secrets of other companies; as a result, one might expect that, in general, “industry” would seek to protect trade secrets and that “industry” would also seek exceptions for reverse engineering or other methods of learning information.¹⁷⁶ Third, trade secrets arose from the common law, not the political process, and thus their later political acceptance in forty-five separate jurisdictions is unlikely to be solely driven by interest groups, though those groups obviously had a role in putting trade secrets on the agenda.

Another populist justification for trade secret law is the enforcement of commercial ethical standards.¹⁷⁷ This justification does not work from a utilitarian point of view,¹⁷⁸ nor is commercial morality a primary component of the philosophical analysis.¹⁷⁹ The more likely explanation is simply that people do not like bad acts.

Professor Bone argues that commercial decency is a weak justification for trade secrets because there is no empirical evidence to support a set of norms in any given industry and there is no reason to

171. LANDES & POSNER, *supra* note 6, at 407–08.

172. RIKER, *supra* note 170, at 169–96 (control of the agenda leads to control of the outcome).

173. Michael P. Simpson, Note, *The Future of Innovation: Trade Secrets, Property Rights, and Protectionism—An Age-Old Tale*, 70 *BROOK. L. REV.* 1121, 1121–22 (2005) (“industry” is controlling trade secret law).

174. LANDES & POSNER, *supra* note 6, at 357.

175. Lerner, *supra* note 1, at 18–19.

176. LANDES & POSNER, *supra* note 6, at 366–71.

177. *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012, 1016 (5th Cir. 1970); *RESTATEMENT (FIRST) OF TORTS* § 757 cmt. f (1939).

178. Bone, *supra* note 5, at 294–95.

179. As discussed below, philosophical support for trade secrets comes from protection of the fruits of labor as well as theories about distribution of rights.

believe that each industry would choose the present configuration of trade secrets in order to enforce those norms.¹⁸⁰ This argument does not apply, however, when commercial decency is an outgrowth of populism. What each industry might like is irrelevant; instead, the public chooses to enforce general norms on all industries, regardless of what those industries might want. Such an enforcement of general norms is hardly unheard of.

In the end, as with any other populist theory, whether one accepts populism as a justification of trade secrets will primarily depend on whether one accepts majority rule as a justification, in general, and whether “legitimacy” imparts any sort of moral force.¹⁸¹

IV. THE MARGINAL UTILITY OF TRADE SECRETS

Trade secret law provides (a) protection in addition to contract or tort theories, and (b) remedies not offered by the common law. Thus, economic analysis of trade secret law must be confined to trade secret law in order to be useful. In other words, the analysis must be with respect to the marginal costs and benefits afforded by trade secret law versus the existing common law. Performing an analysis of trade secrets without this distinction can lead to two problems. First, the task of justifying all of tort and contract law, which may underlie trade secrets, would take a book,¹⁸² not an article. Second, failing to consider marginal costs and benefits may lead to overstatements about the costs and benefits of trade secret law, especially in cases where tort and contract law are sufficient and confer the same benefits of trade secret law.

This Part considers the various rights and obligations afforded to trade secret owners and asserts that the marginal benefits of trade secrets outweigh the marginal costs. The Appendix provides a detailed example of the points discussed.

A. *Only Some Information May Be Protected*

The determination of what information may be protected is a key to understanding how trade secrets differ from underlying law.

180. Bone, *supra* note 5, at 294–95.

181. See 1 ALEXIS DE TOCQUEVILLE, *DEMOCRACY IN AMERICA* 264–80 (Phillips Bradley ed., Francis Bowen trans., Vintage Books 1945) (1835) (general discussion of the tyranny of the majority).

182. In fact, it has. See POSNER, *supra* note 13; cf. Chiappetta, *supra* note 8, at 105 (using common law wrongs as the justification for trade secrets and leaving the duty to support that justification to scholars who study those common law wrongs).

1. Economic Value Due to Secrecy

The requirement that the information have value derived from its “secrecy”¹⁸³ distinguishes trade secrets from the common law. Neither breach of contract nor tort law requires that the subject matter have value or that the subject matter not be generally known.¹⁸⁴ The economic benefits of this are twofold. First, unlike contract and tort law, the plaintiff must be protecting something of value before administrative costs are incurred. Second, and more importantly, economic value is a signal to the court that the special rules associated with trade secrets are warranted. Conversely, if the subject matter does not have value from secrecy, then remedies such as injunctions would impose an unjustified social cost by limiting potentially valuable information (though not valuable due to secrecy) from those who could use it.

Critics might argue that trade secret law imposes a cost by keeping valuable information from the public,¹⁸⁵ which is directly contrary to the conventionally understood policies of copyright¹⁸⁶ and patent law. However, this particular social cost is minimal because the information would already be kept secret by the owner in the absence of trade secret law while others would attempt to discover the same information independently.¹⁸⁷ The marginal cost of protecting secret information is that those who would use “improper means,”¹⁸⁸ cannot obtain that information and must duplicate innovation.¹⁸⁹ This is especially

183. As noted in Part I, “secrecy” under the statute means that the information is not generally known. A company keeping information secret means that it does not generally publicize or make the information known and, instead, makes attempts to keep others from learning the information.

184. *Bernier v. Merrill Air Eng'rs*, 770 A.2d 97, 107 (Me. 2001) (affirming breach of contract but denying trade secret information due to lack of value).

185. Chiappetta, *supra* note 8, at 139; Simpson, *supra* note 173, at 1121–22.

186. Even copyright applicants can file source code in redacted form as a trade secret. 37 C.F.R. § 202.20(c)(2)(vii) (2005).

187. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 490–91 (1974).

Even were an inventor to keep his discovery completely to himself, something that neither the patent nor trade secret laws forbid, there is a high probability that it will be soon independently developed. If the invention, though still a trade secret, is put into public use, the competition is alerted to the existence of the inventor's solution to the problem and may be encouraged to make an extra effort to independently find the solution thus known to be possible.

Id.

188. By “improper means,” I include the improper use of secret information by employees who move to new jobs.

189. In the absence of trade secret law, more patent applications would be filed, which

pronounced where former employees must “recreate the wheel” or, even worse, where employees with experience are not assigned to key projects because of the risk of use of confidential information. As discussed below, this marginal cost is likely outweighed by the benefits of protection, especially considering the fact that “duplicate innovation” or reverse engineering may lead to improvements better than the first secret.¹⁹⁰

The discussion thus far has assumed that because the information has value to the owner, there should be some protection. This might not necessarily be true; perhaps it would be more efficient if competitors could simply take what information they want without repercussion, or even if every company were forced to disclose its information. There are bound to be times when the cost of such activity is well justified by the value of such secrets, and the competitor might even be able to make better use of the information so that society will be better off. The subsections below test the alternatives, namely “forced disclosure” and “no liability.”

a. Forced Disclosure

It may be that the most efficient rule requires that owners disclose all information learned during business operations. Such disclosure would fall into two categories: low cost and high cost.

Low cost forced disclosure might include rules that software be distributed with its source code¹⁹¹ or rules that competitors be allowed to tour factories. Contrary to the discussion in Part III.A, a low cost forced disclosure rule would likely have an impact on incentives to innovate. Because others could utilize information cheaply without expending the costs of development, owners might receive a much smaller rate of return on investment in developing valuable information and thus might be less likely to develop such information. However, with copyright and patent protection, the most valuable improvements and writings might be protected even if disclosure were forced. Thus, one would expect that the incentive to create otherwise unprotectable information would decrease more than the incentive to create information that is otherwise

would exclude *all* use of the information for a period of time. Expenditures would then shift from duplication to “designing around” patents.

190. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 160 (1989) (noting that reverse engineering allows for significant advancement); LANDES & POSNER, *supra* note 6, at 365, 370.

191. Indeed, this is a rule implemented by open source software owners.

protectable. The requirement that information have value is a “bootstrap” incentive to create secret information. This is not quite the quid pro quo associated with patent filings, but it is nonetheless an important societal tradeoff—if you create valuable secret information, society will protect it.

High cost forced disclosure would relate to disclosure of information that is not easily shared in a timely manner, such as detailed customer information, pricing, product roadmaps, and other ephemeral or unwritten information.¹⁹² In practice, high cost forced disclosure would fail because enforcement and administration costs would be sufficiently high that information producers would risk nondisclosure.¹⁹³ Additionally, owners would be more likely to keep information in memory rather than in writing, which would likely make the information less valuable to its owner with no offsetting benefit.

Further, at the present time, there is no mechanism that would allow third parties to determine whether or not a business has developed high disclosure cost information and what that information is. Even factory tours might fail to disclose useful information, as secrets might be effectively “hidden in plain sight.”¹⁹⁴ As a result, lawsuits might be filed just to learn whether or not a claim is present. The outcome would likely be either (a) a court system overburdened with so many frivolous lawsuits that the meritorious claims might be lost, (b) a world in which owners keep information secret anyway, with the hope of not being sued, or (c) a series of agreements between competitors in which each company agrees not to sue the other. None of these outcomes are particularly palatable from an efficiency point of view, in light of the alternatives for developing and learning information.

Even if all companies followed the rules, the signal to noise ratio would probably eliminate all value—indeed, just reaching agreement on what is a sufficient disclosure and what system would track disclosures is difficult to fathom. It is possible, of course, that there are a few secrets that are difficult or impossible to reverse engineer and that would be more valuable if shared. The cost of “setting free” the vast amount of information held by companies but not shared—whether or not they are

192. It is interesting to note that this information was granted much less protection under the Restatement (First) of Torts, but is now given much more protection under the UTSA.

193. Chiappetta, *supra* note 8, at 118–19.

194. Edmund W. Kitch, *The Law and Economics of Rights in Valuable Information*, 9 J. LEGAL STUD. 683, 698 (1980).

trade secrets—would cause so much turmoil that the information might still be lost.¹⁹⁵

b. No Liability

Even if disclosure were not forced, one could envision a rule where companies can maintain secrecy, but also where competitors have no liability for using improper means to obtain secrets other than the existing common law. The problem with this rule is twofold. First, as discussed throughout this Part, the common law is insufficient to create liability in all cases. I discuss the failings of tort and common law in each subsection, but, in general, liability would be insufficient for those not in privity of contract, for certain costly behavior that is not a tort, and with respect to remedies. Furthermore, without clear definitions of trade secrets, employee agreements might be interpreted too narrowly, allowing employees to escape liability by claiming that information was not really “confidential.”

Second, such a rule might increase the number of transactions as well as transaction costs. Ostensibly, if there were only one competitor and one owner, then the owner would either spend more to protect information or pay the competitor not to take the secret. In reality, there is usually one secret holder and many competitors who would like the information. The amount of protection would be determined by the value of the information to the owner and potential acquirers, the cost of protection, and other factors. For example, the ability to protect against employees absconding with information is difficult and costly, and the owner would have to choose between inefficient ways to keep information from being taken by employees, suing for the limited remedies available for breach of contract, or paying the employees more than they could gain by absconding.

Without some added protection, as the number of potential competitors increases, the transaction costs of the owner negotiating with (or possibly suing for breach of contract) each potential misappropriator would be prohibitively high.¹⁹⁶ As a result, the owner is entitled to keep the value from the trade secret by default rather than having to distribute its value by paying others not to take the secret.

195. For example, a crafty Coca-Cola Company would bury its secret formula in a disclosure that also includes the molecular composition of every material used in every building in the company.

196. Kaplow & Shavell, *supra* note 153, at 766.

2. Requiring No More than Reasonable Efforts to Maintain Secrecy

The fact that trade secrets may be protected without requiring more than reasonable efforts is a primary economic justification for having trade secret law.¹⁹⁷ Perhaps a better way to state this proposition is that the ability to recover damages changes the definition of what is reasonable and efficient.

In the absence of trade secret law, one would expect the efficient amount spent on protection of the secret to be the point where the marginal cost of protection equals the marginal likelihood of theft or accidental disclosure, multiplied by the potential loss after misappropriation or accidental loss.¹⁹⁸ That is, spending is efficient where an extra dollar spent decreases the expected loss by no more and no less than a dollar. Without the protection of trade secret law, the loss to the owner will be higher because the loss will include any loss of trade secrets, regardless of the reason.¹⁹⁹

With trade secret law, however, potential loss is limited to accidental disclosure, undetected misappropriation, and loss due to insufficient protection.²⁰⁰ This potential loss is by definition a subset of, and thus lower than, the potential loss without trade secret protection. Thus the efficient amount of protection—“reasonable” protection under the UTSA—will be lower than if there were no trade secret law.²⁰¹ Further, protection will be more targeted toward detection and prevention of accidental disclosure, in addition to protection against “standard” attempts at misappropriation.

197. *USM Corp. v. Marson Fastener Corp.*, 393 N.E.2d 895, 902 n.12 (Mass. 1979) (“[I]ndustrial security procedures need to be *optimized* rather than *maximized*. Beyond the optimum point, the direct and indirect costs of further security outweigh the value of the protection.” (citation omitted)).

198. See generally LANDES & POSNER, *supra* note 6, at 366. This is similar to the Hand Formula in negligence actions: reasonableness = efficient. *Rockwell Graphic Sys., Inc v. DEV Indus., Inc.*, 925 F.2d 174, 180 (7th Cir. 1991) (“Obviously it could have taken more precautions. But at a cost, and the question is whether the additional benefit in security would have exceeded that cost.”).

199. Some recovery might be possible via other means, but there are marginal benefits to trade secret law.

200. Additionally, companies will also consider the probability of success in court as well as litigation costs in determining how much protection is necessary. The example in the Appendix elucidates this.

201. Of course, this is not an exact science—as discussed below, juries will consider the circumstances of the alleged misappropriation in determining whether reasonable precautions were taken.

Thus, ironically, the law of trade secrets is necessary to cause less money to be spent on the protection of secrets, and as a result to cause less money to be spent by those trying to appropriate someone else's trade secrets, even if that means misappropriation is successful more often. Without a rule protecting trade secret holders even when their precautions against improper acquisition or accidental loss are only "reasonable," the amount spent by owners and takers would escalate without any corresponding social benefit.²⁰² This is why absolute secrecy is not required; the cost of achieving absolute secrecy will often be so high that the value of the secret is spent on ensuring that there can be no possible accidental disclosure without any corresponding social benefit.

Precautions fall into two categories. The first category—"standard" efforts to exclude and control—is exemplified by physical methods such as higher fences, technical methods such as computer passwords, legal methods such as nondisclosure agreements, and enforcement/detection methods such as security cameras.²⁰³ One would expect at least some of these measures to be implemented whether or not the law protected trade secrets, though the level might vary depending on the value of the secret.

The second category of precautions includes "non-standard" measures—precautions where secrecy is enhanced by fragmenting information or otherwise failing to trust the standard methods. These methods include only trusting family members, workplace rules that limit copying of information to a point where it is much less useful, and rules that the secret information may never be completely assembled in one place at the same time. It is with respect to the second category that trade secret law most differs from the underlying common law. For example, without trade secret law, owners would have to maximize "self-help" protection by obtaining specific confidentiality contracts

202. Professor Lichtman calls this the "arms race." Douglas Lichtman, *Property Rights on the Frontier: How the Law Responds to Self-Help*, 1 J.L. ECON. & POL'Y 215, 232 (2005); see *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012, 1016 (5th Cir. 1970) ("Our tolerance of the espionage game must cease when the protections required to prevent another's spying cost so much that the spirit of inventiveness is dampened. Commercial privacy must be protected from espionage which could not have been reasonably anticipated or prevented."); see also LANDES & POSNER, *supra* note 6, at 369 ("A decision in favor of *Christopher* would have induced firms in DuPont's position to invest heavily in roofing their construction sites.").

203. In a world without trade secrets, detection would be limited and focused primarily on detecting malfeasance by those entrusted with information under a nondisclosure agreement where contractual remedies are available.

with every single public official who might learn about the secret in the course of work,²⁰⁴ with every vendor who visits the company (including each of their employees separately), and so on. Trade secret law, however, implies that certain people are “low risk” for stealing secrets, and reasonable precautions might be taken even without a specific nondisclosure agreement.²⁰⁵ Contract law alone does not allow for a solution to maximize efficiency.

A real world example illuminates this point. A client proudly told me about how his company’s new development center in China was set up to protect trade secrecy: fingerprint scanners, almost no Internet access, expensive network filtering appliances to scan outgoing email, special locks on the computers, disabled CD-ROM drives and portable drives, extensive physical security, and so forth. These expensive and potentially efficiency-reducing measures are not installed in the United States (though here there are other more “standard” precautions). The only difference in the client’s decision making is the perceived inability to enforce trade secret rights in China.

Where only “standard” methods of protection are required, competitors will need to spend less to appropriate trade secret information. They might actually succeed more often, but even so, the “arms race” escalation will not occur. Instead, competitors will either: (a) spend less money and succeed and avoid detection, (b) spend less money and fail or get caught, or (c) not make the attempt due to the threat of litigation and damages.²⁰⁶ Each of these outcomes leads to more efficient decision making than the alternatives. The potential for damages and deterrence is enough to keep owners from spending more, and thus in all events the competitor spends less.

3. Requiring at Least Reasonable Efforts to Maintain Secrecy

Given the desire to avoid wasteful spending on trade secrets, it is unclear why the law should require trade secret owners to use

204. *Masonite Corp. v. County of Mendocino Air Quality Mgmt. Dist.*, 49 Cal. Rptr. 2d 639, 648–49 (Ct. App. 1996) (trade secret status not lost where public agency inadvertently discloses information); *Plastic & Metal Fabricators, Inc. v. Roy*, 303 A.2d 725, 731 (Conn. 1972) (citing *Peabody v. Norfolk*, 98 Mass. 452 (1868)) (supporting the determination that a sheriff and clerk seeing information does not defeat secrecy).

205. *K-2 Ski Co. v. Head Ski Co.*, 506 F.2d 471, 474 (9th Cir. 1974) (holding no loss of trade secrecy because plaintiff’s competitor, the defendant, did not attend a conference where the plaintiff displayed its secret product); *Masonite Corp.*, 49 Cal. Rptr. 2d at 648–49; *Plastic & Metal Fabricators*, 303 A.2d at 731.

206. Litigation and remedies are discussed below. See discussion *infra* Part IV.C.

reasonable efforts to maintain secrecy.²⁰⁷ After all, why not just rely on the court system and avoid all “wasteful” protection?²⁰⁸ Indeed, the “reasonable efforts” requirement seems to impose costs not associated with the common law because contract law protecting information does not require such efforts, nor does tort law.²⁰⁹

However, requiring some efforts to maintain secrecy does serve a purpose. Consider the definition of “efficient” above; the marginal cost of protection equals marginal change in likelihood multiplied by the potential loss. In the absence of trade secret law, one might expect efficient/reasonable precautions to be spent in any event. Trade secret law attempts to force this same optimization by requiring efficient protection measures; to the extent it succeeds, the marginal effect of this requirement is close to zero—with or without trade secret law, the same amount would be spent on protection.

Given this baseline, granting protection where less than “reasonable” precautions are taken might confer a social benefit due to less spending by owners. However, without the requirement, trade secret owners would under-protect information in some instances, perhaps even strategically. This could have costly consequences. If the misappropriator is a repeat offender, willing to gather information from whatever sources are available, then requiring those with more valuable secrets to use reasonable precautions might shift appropriation efforts to a path of lesser resistance and ostensibly lesser harm if the appropriator is successful.²¹⁰ If the appropriator’s effort is shifted to public information, for which there is no harm, then the entire cost of the misappropriation efforts might be avoided.²¹¹

Also, the reasonable precautions requirement is a signal and potential proxy for the fact-finder to determine that the trade secret has value and that it is in fact secret.²¹² This reduces administrative costs;

207. See, e.g., Kitch, *supra* note 194, at 698. This explicit rule is part of the definition under the UTSA; it was less emphasized under the Restatement, though it was still one of the factors considered with respect to whether the information was “secret.”

208. See, e.g., Robert A. Mikos, “Eggshell” Victims, *Private Precautions, and the Societal Benefits of Shifting Crime*, 105 MICH. L. REV. 307 (2006) (a precautions requirement may shift crime to those who take fewer precautions).

209. Kaplow & Shavell, *supra* note 153, at 769 (property rule not requiring fences is efficient).

210. See Mikos, *supra* note 208, at 343.

211. One would, of course, have to consider any additional development costs of the appropriator if the information is not as helpful.

212. *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 179 (7th Cir. 1991) (“Under the second theory of trade secret protection, the owner’s precautions still have

rather than having to analyze detailed information about the special value a secret might have as compared to whether it is public, which might be difficult even for trained economists, fact-finders can infer that the secret must have had some value or the owner would not have spent money to keep it secret.²¹³ Unfortunately, the value of this signal is mixed, primarily because reasonable precautions are a jury question, and *ex ante*, an owner may not know if the jury will agree with the level of precautions to be asserted.²¹⁴

Furthermore, if owners are not required to expend reasonable precautions, then owners could sue in order to seek compensation when the information is disclosed inadvertently, or by those who are unaware that the owner considers the information secret. In some cases, this would cause an *in terrorem* effect²¹⁵ that might limit the use of otherwise publicly available information or force settlements that simply shift wealth with no societal benefit. In other cases, this would allow rent-seeking that would unnecessarily increase administrative costs without any offsetting benefit to society.²¹⁶

For the most part, however, the requirement of reasonable precautions would likely not change any behavior—if litigation is more

evidentiary significance, but now primarily as evidence that the secret has real value.”); Lichtman, *supra* note 202, at 226–27; *see also* LANDES & POSNER, *supra* note 6, at 368 (only trade secret owners know what they consider secret, and thus have the burden of identifying secrets by showing that they protected against accidental loss).

213. This also leads to interplay with “improper means,” which is discussed below. *See* discussion *infra* Part IV.B.1. *But see* Kitch, *supra* note 194, at 698 (simply bringing the suit implies that the owner thinks the secret is valuable). Of course, there are many reasons why an owner might bring suit, so investment in protecting the secret helps sort legitimate purposes from illegitimate purposes.

214. Even so, the buildup of case law over time gives some idea about the proper level of protection. Publication in a newspaper is a bad idea; obtaining nondisclosure agreements from employees and telling them what the owner considers secret is a good idea. The margins are more difficult, but, as discussed below, the more the competitor spends to appropriate the secret, the more likely a jury will find reasonable precautions.

215. Kitch, *supra* note 194, at 698–99 (suggesting that such efforts are useful to let employees know what the employer considers secret, so that the employer cannot “foil the policy of free movement of employees unless confined to information that the employer has shown a consistent and meaningful desire to protect”).

216. *See, e.g., Rockwell*, 925 F.2d at 179.

If Rockwell expended only paltry resources . . . why should the law, whose machinery is far from costless, bother to provide Rockwell with a remedy? . . . The remedial significance of such efforts lies in the fact that if the plaintiff has allowed his trade secret to fall into the public domain, he would enjoy a windfall if permitted to recover damages merely because the defendant took the secret from him, rather than from the public domain as it could have done with impunity.

Id.

expensive than “standard” precautions, then owners will exercise those precautions anyway.²¹⁷

Of course, it would be most optimal to not require (or need) any efforts to maintain secrecy and rely on competitors to follow the law,²¹⁸ but as long as there is a chance that a competitor could avoid detection, then some protection must be required either in law or in practice.²¹⁹ Further, as Professor Chiappetta points out, the existence of trade secret law causes spending on protection to shift more toward detection.²²⁰ This has the added benefit of providing notice to potential appropriators that (a) they will likely be caught in the attempt, and (b) if they are caught, the owner will enforce his or her rights.

An interesting complication of this analysis is that, unlike negligence theory, it is the behavior of the “victim” and not the behavior of the “wrongdoer” that is primarily relevant. This harkens to the law of contributory negligence, moral hazard, and insurance;²²¹ the potential victim is required to try to avoid the loss in order to recover for harm caused by the defendant. Where there is a substantial risk of under-protection against an insured loss, a requirement of efficient protection will help avoid that risk.

217. Of course, one would expect most owners to do this on their own, especially given litigation costs. Lichtman, *supra* note 202, at 228 (“No sense in hiring a lawyer when a simple fence will do!”).

218. *Rockwell*, 925 F.2d at 178 (“The first [conception of trade secrets] emphasizes the desirability of deterring efforts that have as their sole purpose and effect the redistribution of wealth from one firm to another.”); Kaplow & Shavell, *supra* note 153, at 768–69.

219. This leads to a related question: Why not just let the competitor take the trade secrets anyway? That might yield the optimal result. Assuming the owner implements reasonable protection, this is not optimal. Assuming there is no protection, the trade secret law does, in fact, allow this result by denying trade secret protection.

220. Chiappetta, *supra* note 8, at 111. This also provides a response to Professor Bone’s assertion that trade secret laws are not providing the optimal amount of deterrence, as evidenced by the growing amount of trade secret theft and litigation. Bone, *supra* note 5, at 274. It may very well be that detection efforts have improved and that departing employees (arguably the largest class of potential misappropriators) have underestimated this improvement (or think they can avoid it). Further, if trade secret law incentivizes less spending on protection, then one might expect appropriators to succeed more often, even if some misappropriation is detected.

221. David D. Haddock et al., *An Ordinary Economic Rationale for Extraordinary Legal Sanctions*, 78 CAL. L. REV. 1, 37–40 (1990) (discussing the problem of eager victims); Gary T. Schwartz, *The Ethics and the Economics of Tort Liability Insurance*, 75 CORNELL L. REV. 313, 341–42 (1990) (discussing variable insurance pricing for moral hazard problems); see also Chiappetta, *supra* note 8, at 133 (discussing accidental disclosure and the last clear chance and justifying liability for acquirers who had reason to know of accidental disclosure).

4. Non-Continuous Use

Another requirement that might be difficult to justify is the UTSA's rejection of the rule that trade secrets be in continuous use in order to have protection. Under the Restatement, a party was required to use a trade secret in order to maintain an action for misappropriation, similar to trademark law.²²² The old rule follows the post-*Masland* unfair competition theory of trade secrets—in order to obtain benefit from the law then one must be using the information in commerce. The economic rationale for the old rule is that one cannot “tie up” information in commerce that is not being used by the owner. If the original owner of the information was not using it, then any party would be able to use the information without liability, despite the means used to learn it. Departing employees best exemplify this issue—they might depart with information that is no longer being used without risk of trade secret liability or injunction. Contract damages would be low as well because the value of unused information is low. One might prefer this outcome to expenditures for independent development, reverse engineering, or transaction costs for a license.

How then is a rule that excludes ex-employees (and others) from taking advantage of otherwise unused information efficient? The answer lies in the requirement that the secret have independent economic value from not being generally known.²²³ It is quite possible for information to have value “on the shelf” of one company but kept away from competitors. A market leader, for example, might create a trade secret manufacturing process, and then later create an even better process. Even though it is using the new process, the company would not want its competitors using the old process in competition.²²⁴

There are four reasons the new rule creates social value. First, the fact that a company has developed new and better secret information means that the old information was not as valuable. As such, allowing competitors to acquire and use “second best” information through improper means²²⁵ does not necessarily outweigh wasteful costs associated with protecting and obtaining the information.²²⁶ Second,

222. RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (1939).

223. UNIF. TRADE SECRETS ACT § 1(4)(i) (amended 1985), 14 U.L.A. 538 (Supp. 2006).

224. *Courtesy Temp. Serv., Inc. v. Camacho*, 272 Cal. Rptr. 352, 357 (Ct. App. 1990).

225. The owner would still keep “on the shelf” information secret in the absence of trade secret protection.

226. These costs are discussed in detail below. See *infra* Part IV.D.

stopping competitors from using “second best” information creates an incentive for the competitor to innovate and independently find the “best” information, or even improve on the original information. Third, this rule encourages the trade secret owner to continue to innovate because it removes a disincentive to further research, namely the chance that a competitor might gain value from the old secret if usage stops. Fourth, it may be that the trade secret owner may want to use the information in the future.

Consider as an illustration Coca-Cola Company’s switch to New Coke in 1985.²²⁷ While the trademark was protected through a variety of merchandise and use on other soft drink products around the world, the “secret formula” for Coca-Cola was no longer in use.²²⁸ Under the Restatement view, Coca-Cola would have lost trade secret rights in the formula, which could have proved disastrous for Coca-Cola had its security measures not been effective. Each of the four efficiency effects discussed above is present. First, allowing PepsiCo to infiltrate Coca-Cola and lawfully take the formula for Coca-Cola just because the formula was not in use would have caused Coca-Cola to implement even more security measures than it already does. Second, if PepsiCo had been able to sell a Coke flavored drink, then PepsiCo might have ceased the research that brought Crystal Pepsi and Pepsi ONE to the world. Third, the ability to keep the old formula as a trade secret encouraged Coca-Cola to innovate by creating the formula for New Coke.²²⁹ Fourth, and most important by far, given the fact that Coca-Cola Classic was later marketed using the original formula, continued protection during the temporary non-use of the “secret formula” makes sense.

B. Liability Only Accrues Under Limited Circumstances

In addition to the definition of trade secrets, certain prerequisites must be met before a competitor can be liable for trade secret misappropriation.

227. The Coca-Cola Company, Heritage, Coke Lore, http://www2.coca-cola.com/heritage/cokelore_newcoke.html (last visited Nov. 19, 2006).

228. Assume for purposes of illustration that the same formula is not used anywhere in the world. This may be an accurate assumption as Coca-Cola is flavored differently in many countries.

229. While many might not call New Coke an improvement, a formula similar to New Coke is still sold in many places as Coke II. Coca-Cola, *supra* note 227.

1. The Use of Improper Means

In order to hold a defendant liable for misappropriation, that defendant must have used “improper means” to obtain the information, where such improper means includes torts, breaches of contract and other confidentiality duties, and non-tort espionage.²³⁰ Conversely, if someone obtains information in good faith or independent research, then there can be no misappropriation. As discussed throughout this Article, improper means goes beyond wrongdoing that is only actionable at common law.²³¹ Examples of such activity are the flyover in *Christopher*,²³² dumpster diving,²³³ and surveillance by electronic means without trespass.²³⁴ The economic question is what social value the “improper means” test adds that would not otherwise be available at common law.

One important result of the improper means test is the extension of trade secret liability to third parties who would otherwise not be liable under the common law, either due to lack of wrongdoing or lack of intentional tort.²³⁵ Indeed, this was the very issue in the *Peabody* case—a third party wanted to use the secret information delivered by someone under contract with the plaintiff.²³⁶ If third parties are not held liable, then wasteful overprotection is more likely to occur. Owners will

230. UNIF. TRADE SECRETS ACT § 1 (amended 1985), 14 U.L.A. 537 (Supp. 2006). This includes defendants who had “reason to know” that the information was improper. *Id.*

231. See Chiappetta, *supra* note 8, at 145 (trade secret law protects more breaches of confidentiality duty than just contract, and breach of contract should be considered a “lesser included” offense); see also *Burten v. Milton Bradley Co.*, 763 F.2d 461, 463 (1st Cir. 1985) (discussing different confidential relationships arising by operation of law).

232. *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012, 1016 (5th Cir. 1970).

233. See, e.g., *Silvaco Data Sys. v. Tech. Modeling Assocs.*, 896 F. Supp. 973, 974 (N.D. Cal. 1995).

234. Such surveillance may violate other statutes, such as section 632 of the California Penal Code, which criminalizes eavesdropping or recording of private communications. CAL. PENAL CODE § 632 (West 1999). Without trade secret law, violations of this statute might not be fully recompensed.

235. Third-party involvement is relatively common. Professor Bone argues that breach of contract, in combination with interference with contract, is sufficient to cover nearly all trade secret misappropriations. Bone, *supra* note 5, at 303. Unfortunately, application of interference with contract is not as clear. First, constructive knowledge is not sufficient for liability, and the actions must be intended to disrupt the relationship, which may be difficult given that the employee has usually left employment by the time of any wrongdoing. *Blank v. Kirwan*, 703 P.2d 58, 70 (Cal. 1985). Second, the competitor may not know about confidentiality obligations. See, e.g., *DSC Commc’n Corp. v. Pulse Commc’n, Inc.*, 170 F.3d 1354, 1364 (Fed. Cir. 1999) (improper means is a jury question where defendant acquired information while visiting a third party).

236. *Peabody v. Norfolk*, 98 Mass. 452, 461 (1868).

increase protection and use potentially inefficient means (such as only allowing family members to work for the company). Also, third-party competitors would be more likely to engage in costly bribes to those who violate their common law duties (such as employees), because the competitor would not have to pay the consequences of the action and the employee may be judgment-proof.

Additionally, the common law may not fully recompense trade secret owners, causing the same wasteful incentives. For example, conversion is preempted as to trade secret information,²³⁷ and damages for conversion only cover the physical value of the item stolen rather than the information on that item.²³⁸ Similarly, trade secret owners might have trouble proving full “expectation damages” or obtaining an injunction for breach of a nondisclosure agreement where the defendant claims that damages should be limited to the cost of recreating information.²³⁹ If trade secret owners are under-compensated, they are likely to increase spending on protection against misappropriation beyond an efficient level.²⁴⁰

The above analysis does not address why otherwise legal actions should be considered improper means. The answer again is an incentive against waste. Although a method of discovering a secret may be legal, it may still be costly and thus discouraged. Trade secret law discourages more than actionable behavior—it discourages wasteful behavior that would otherwise not be actionable. By allowing for damages despite the use of legal means, competitors internalize the options; if it is truly cheaper (including damages) for a company to use a costly but legal means to learn information rather than independently develop it, then it should do so, and society will be better off.

While reverse engineering and independent development may also be costly, those methods do not lead to an escalation of the cost of protecting against such legal methods. The reason is that companies cannot spend money to stop independent development, and they will

237. *Tronitec, Inc. v. Shealy*, 547 S.E.2d 749, 755 (Ga. Ct. App. 2001); *see also Harper & Row Publishers, Inc. v. Nation Enters.*, 723 F.2d 195, 200–01 (2d Cir. 1983), *rev'd on other grounds*, 471 U.S. 539 (1985).

238. *See, e.g., Micro Data Base Sys. v. Nellcor Puritan-Bennett, Inc.*, 20 F. Supp. 2d 1258, 1263 (N.D. Ind. 1998) (damages for theft of disks and manuals limited only to value of physical object, not information therein).

239. That is, defendants would claim that the “expectation” for the nondisclosure agreement is not the full value of the information (or loss thereof), but rather the value associated with the head start of a competitor.

240. Kaplow & Shavell, *supra* note 153, at 768–69.

spend money to thwart reverse engineering whether or not trade secret law exists. One might argue that outlawing reverse engineering might stop escalation of efforts to hide designs or to reverse engineer, but the result of such a rule is indeterminate. To the extent reverse engineering is difficult to detect, companies would continue to try to thwart efforts. There would also be little effect for those companies that cannot hide their product design. Also, many of the benefits of reverse engineering, such as advances based on improving the work of others, would be lost.

Finally, “improper means” is a signal to the fact-finder regarding both the value of the trade secret and the reasonable efforts of the trade secret owner. The higher the cost of the improper means, the more likely that the information is valuable, was the subject of reasonable efforts to remain secret, and was not independently developed.²⁴¹ Otherwise, a competitor would not spend so much trying to discover the secret. The effect of this signal is that the likelihood of prevailing increases the more a competitor spends (assuming the competitor is discovered). An increased likelihood of a plaintiff prevailing decreases the expected value of such activity for the competitor, and thus is an incentive against wasteful escalation of espionage and an incentive for alternative reverse engineering or independent research. This effect further increases the likelihood that the trade secret owner will be fully compensated for any loss, decreasing the incentive for wasteful protection measures.

2. Determining How the Competitor Obtained the Information

The requirement that a trade secret not be readily ascertainable²⁴² and the related rule that reverse engineering is not necessarily improper means²⁴³ are important parts of trade secret law.

241. Professor Lichtman calls reasonable precautions circumstantial evidence that any taking must have been improper or the competitor would not have succeeded. Lichtman, *supra* note 202, at 226–27; *see also* Rockwell Graphic Sys., Inc. v. DEV Indus., Inc., 925 F.2d 174, 179 (7th Cir. 1991) (“The greater the precautions that Rockwell took to maintain the secrecy of the piece part drawings, the lower the probability that DEV obtained them properly and the higher the probability that it obtained them through a wrongful act; the owner had taken pains to prevent them from being obtained otherwise.”); LANDES & POSNER, *supra* note 6, at 357.

242. UNIF. TRADE SECRETS ACT § 1(4)(i) (amended 1985), 14 U.L.A. 538 (Supp. 2006). Technically, the value of the trade secret must be that it is not readily ascertainable. Readily ascertainable should be distinguished from reverse engineering. It may be quite difficult to determine a trade secret through reverse engineering—one would not want to negate the trade secrecy in those situations. See the discussion below relating to California’s omission of “non-readily ascertainable” from the definition of a trade secret.

243. *See supra* note 40 and accompanying text. Reverse engineering might be barred if

a. Reverse Engineering and Independent Discovery

The ability to independently discover or reverse engineer information would be available without trade secret law, and thus the costs and benefits of such activity are not materially changed by protection of trade secrets.²⁴⁴ This right creates social benefits caused by broader access to valuable but unpatented information.²⁴⁵ Furthermore, it is an activity that can create positive externalities.²⁴⁶

Finally, Landes and Posner argue that if reverse engineering is allowed but acquisition by improper means is not, then owners will spend less on protecting against improper means.²⁴⁷ Because competitors can reverse engineer, protection against theft has a lower benefit, so expenditures on protection will be lower. Even so, this effect might be mitigated if owners use costly technical measures to make reverse engineering difficult. However, the UTSA's allowance of reverse engineering has little marginal effect on technical measures to stop reverse engineering. Even without trade secret law, companies have an incentive to thwart reverse engineering. So long as reverse engineering is legal,²⁴⁸ the addition of trade secret law makes a difference only in those cases where "snooping" is cheaper than reverse engineering. The full effect is difficult to measure; however, without trade secret law information owners would spend more to prevent

the competitor steals the device to be analyzed or if a party breaches a contract in which reverse engineering is prohibited. *Bernier v. Merrill Air Eng'rs*, 770 A.2d 97, 108 (Me. 2001); UNIF. TRADE SECRETS ACT § 1 cmt. ("The acquisition of the known product must, of course, also be by a fair and honest means, such as purchase of the item on the open market . . .").

244. One exception might be administrative costs associated with litigation where parties have a contractual relationship but one party independently develops information. The cost of proving independent development might impose a social cost, but even this cost might occur without trade secret law, as the owner would sue for breach of contract.

245. LANDES & POSNER, *supra* note 6, at 361 (noting that the first to patent a new innovation gets exclusive use despite duplicative efforts, while discovery of trade secret innovation does not mean that parallel efforts by others will go to waste).

246. *Rockwell*, 925 F.2d at 178 ("This difference in treatment is not explained, but it may rest on the twofold idea that reverse 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."). *But see* Chiappetta, *supra* note 8, at 130–31 (discussing various factors that reduce the positive externalities of reverse engineering).

247. LANDES & POSNER, *supra* note 6, at 367–68.

248. This Article does not consider contracts that bar reverse engineering as they are a matter for further research. However, to the extent that anti-reverse engineering contracts are enforced, then costs of technical measures to stop reverse engineering will go down. However, to the extent that such contracts are difficult to enforce, then self-help costs will go down much less. The effect on access costs is indeterminate; the answer largely depends on the quality of self-help, deterrent effect of contracts, and the costs of enforcement.

appropriation efforts, making “snooping” more expensive in comparison to reverse engineering.

b. Readily Ascertainable

The “not readily ascertainable” factor is part of the definition of a trade secret in most states, but that factor should be considered an exception to misappropriation of trade secrets; this is the more efficient rule. For example, under California law, the fact that information is readily ascertainable is a defense, but only if the competitor actually “readily ascertained” the information through independent means.²⁴⁹ In other words, if one trespasses to obtain information or is a departing employee, it is not a defense that someone else could have easily discovered the information by independent research.²⁵⁰

An example might be helpful. Suppose an employee absconds with a customer list that is otherwise secret. Further, assume that one could easily look in the yellow pages (or use an Internet search engine) to find out the same names of potential customers who would be interested in the product. In most states, the employee would not be liable because the list would not be a trade secret—the information is “readily ascertainable.” In California, however, the employee would be liable because he or she did not actually perform the independent research, but instead misappropriated the list.²⁵¹

This distinction is important. The California rule outlaws efforts to appropriate information from the trade secret owner even if someone else could have cheaply learned the secret. This reduces the incentive for the owner to overprotect information when it is uncertain about how expensive it would be for a competitor to recreate the same information.²⁵² Further, this is an efficient burden shifting mechanism that enhances the incentive for competitors to research where it is

249. *Sargent Fletcher, Inc. v. Able Corp.*, 3 Cal. Rptr. 3d 279, 286–87 (Ct. App. 2003); *ABBA Rubber Co. v. Seaquist*, 286 Cal. Rptr. 518, 529 n.9 (Ct. App. 1991).

250. Compare this to the UTSA form of the rule: the trespasser is not liable if the information is easily discovered.

251. These are the basic facts of *ABBA Rubber Co.*, 286 Cal. Rptr. 518.

252. This is not to say that the competitor has no choice; misappropriating readily ascertainable information causes a wealth transfer from the owner to the competitor with no corresponding social benefit. If the competitor must pay damages, then the competitor can decide whether it is less costly to do independent research or whether it is less costly to appropriate otherwise secret (but easily duplicated) information, so long as it also pays the owner. Thus, the rule treats secret but readily ascertainable information just like any other information, so that the owner does not have to take different protection measures for different types of information.

inexpensive to do so instead of expending resources on appropriation activities that are otherwise disfavored.²⁵³

The California rule also reduces litigation costs and uncertainty relating to litigation. The misappropriator that would be liable under California's rule, by definition, has not done the independent research; even so, the defense of "readily ascertainable" is often asserted only after a lawsuit is filed. If litigation has commenced, the California rule bypasses extensive discovery, trial time, expert costs, and other administrative costs associated with the plaintiff proving a negative, namely that the information is not readily ascertainable. Instead, the defendant is liable if he or she did not actually do the research but instead used improper means to obtain the information. This is a bright line rule in favor of re-creation if such re-creation is inexpensive rather than leaving matters uncertain—whether something is "readily ascertainable" is a question of fact.

The alternate view is that the California rule unfairly prejudices guilt where information has little value in secrecy. Under this view, if the information is readily ascertainable then there should be no liability for appropriating it (even by improper means) because the value of the information is low, meaning there are no effects on the incentive to innovate. The argument continues that the California rule privatizes easily findable information and it is unfair and costly for competitors to be sued over such information. The "prejudgment" is that the competitor is liable if he or she did not happen to keep good records.

For example, Professor Chiappetta agrees that the California rule should apply to "bad acts," but, with respect to voluntary disclosures to those with a duty of confidentiality (for example, employees or production partners), he argues that the owner should make an investigation and have a bona fide belief that the information is not available elsewhere.²⁵⁴ The argument is that if the information is available elsewhere, then the owner may not "privatize" the information just because the information is being disclosed in a business transaction. Instead, Professor Chiappetta argues that the owner must really believe

253. It is true that this rule means it will be more difficult for the recipient to show that information was discovered elsewhere rather than misappropriated, but the cost of proof at trial in the few cases where this is an issue would be offset by the costs of owners trying to determine what information might be available elsewhere when deciding what information they want to protect.

254. Chiappetta, *supra* note 8, at 121–29, 149. This proposal also rejects the current UTSA rule barring protection for information that is readily ascertainable.

that the recipient cannot readily obtain the information elsewhere if trade secret protection is to apply.

The distinction between “bad acts” and “voluntary disclosure” seems unnecessary with respect to whether or not a misappropriator who fails to do independent research can be held liable for taking information that is otherwise easily discovered. The fact that the owner takes reasonable precautions (including negotiating a nondisclosure agreement) implies that the owner believes the material is not readily ascertainable elsewhere. Therefore, requiring the owner to perform a search to prove a negative (that the information is not readily ascertainable) would be wasteful. Instead, it should be the acquirer who must object to confidentiality restrictions on information that he or she believes is readily ascertainable. While simple research might be duplicated unnecessarily, there is no reason to believe that such costs are greater than the costs associated with an owner doing research to prove a negative and then document it at the time of agreement.

From a transaction costs point of view this makes sense as well. Consider the thousands and thousands of confidentiality agreements that companies enter into annually. Consider as well the volume of secret information created by employees after signing a non-disclosure agreement. Only in a small fraction of those cases will the recipient want to use the information it receives for purposes outside that relationship. In contrast, the cost of determining whether every single piece of information created is readily ascertainable would be quite large, if not boundless. Thus, *ex ante* rule making will yield more efficient outcomes if, in a few cases, an information recipient is required to take steps to document independent research in a few cases rather than if, in every case, information owners are required to complete exhaustive searches for all public domain information that might be disclosed without regard to how the recipient might use such information.

Professor Chiappetta’s analysis also seems to assume that if the supposedly confidential information is available elsewhere, then the consideration²⁵⁵ for trade secret protection would fail.²⁵⁶ This view does not necessarily enhance efficiency. Nondisclosure agreements are tied to production contracts, evaluation contracts, employment contracts,

255. *Id.* Professor Chiappetta calls this the *quid pro quo* that allows the holder to leverage confidential information into higher value. *Id.* at 122–23.

256. *Id.* at 122–23. Professor Chiappetta argues that breach of contract might still apply, but not the additional remedies associated with trade secret misappropriation. *Id.*

and other value added arrangements, whether implied or express. In other words, trade secrets are usually disclosed for reasons other than simply obtaining the information. If a recipient needs the information to reach its goals (say, a salary or a production contract), then the recipient would agree to protect the confidential information of the owner, whether or not the same information could be “pieced together” elsewhere at a lesser cost.²⁵⁷ If the recipient believes that the information can be ascertained elsewhere, then he or she can either refuse to enter the contract, or at some later date can “ascertain” the information without liability.²⁵⁸ This does not mean that the recipient should be able to use the information it receives without trade secret liability simply because the owner did not first verify that the information was not available elsewhere.

As such, it does not make economic sense to place the burden on the owner to research whether information might be readily ascertainable elsewhere, nor does it make sense to allow someone who enters into a contract with the owner to use secret information in breach of a duty simply because some third party might be able to easily compile the information.²⁵⁹ Placing the burden on the recipient does not “privatize” the information; it merely forces the recipient to abide by the covenants that were given to obtain contractual benefits in the first place.

257. Consider, for example, ABA Model Rule of Professional Conduct 1.6, which requires that an attorney keep confidential all information learned in the course of representation, whether or not privileged. MODEL RULES OF PROF'L CONDUCT R. 1.6 (2003). The burden of this rule on the attorney is a cost of obtaining the fee for representation, and it is irrelevant whether someone else might discover the same information elsewhere.

258. The owner may have uncertainty that leads to litigation, but there is no reason why readily ascertainable information cannot be excluded from an agreement in advance if it is truly readily ascertainable.

259. See Frank H. Easterbrook, *Contract and Copyright*, 42 HOUS. L. REV. 953, 963 (2005).

ProCD offers \$100 to anyone who brings it a phone book it does not already have. *E* sends in a book. Must ProCD pay? Of course it must—even though the phone book is in the public domain, *E* has created an economic benefit by bringing it to ProCD's attention. Information is *not* free—indeed ignorance is rampant—so we enforce contracts that traffic in ‘public domain’ information.

Id.

C. Enforcement and Remedies

1. Loss to the Owner

Compensating the trade secret owner for the lost value associated with the trade secret is the critical mechanism that encourages reduced expenditures on prevention and appropriation.²⁶⁰ The economic mechanism is relatively simple—the reimbursement of loss²⁶¹ increases the expected value (by decreasing the expected loss) of the owner to a point where the owner will be less likely to spend more on protection. Because any loss is likely insured, the diminishing effectiveness of spending on protection measures would no longer be optimal.

Similarly, the potential that the competitor will have to compensate the owner lowers the expected value of the appropriation activity. Because of this, alternatives that do not include the risk of damages liability look more attractive.

2. Unjust Enrichment

The UTSA also allows for the recovery of the misappropriator's profits, so long as the amounts are in addition to the owner's loss.²⁶² Unjust enrichment is not typically available for breach of contract.²⁶³

Mark Lemley is an outspoken opponent to such damages in the context of intellectual property; he argues that the incentive to create is maximized so long as actual losses are paid, and disgorging additional benefits to the plaintiff in addition to that is unnecessary to create incentives.²⁶⁴ While this argument might apply to patents and copyrights, it does not fit as well with trade secrets. As discussed above, the incentives associated with trade secrecy are to allocate fewer resources to protection and appropriation of secret information.²⁶⁵

260. The effect of litigation costs, detection costs, and likelihood of success are considered below. *See infra* Part IV.D.

261. More technically, this is the chance of reimbursement upon successful litigation, assuming that a competitor is successful at appropriating the secret.

262. UNIF. TRADE SECRETS ACT § 3 (amended 1985), 14 U.L.A. 633–34 (Supp. 2006).

263. *A-C Compressor Corp. v. Zeno*, No. 96-0620, 1996 WL 737299 (Wis. Ct. App. Dec. 27, 1996) (unjust enrichment damages available on contract only if the information at issue qualifies as a trade secret); *see also* Hill, *supra* note 8, at 13–15 (discussing the difference between expectation damages and unjust enrichment). *But see* *Celeritas Techs. v. Rockwell Int'l*, 150 F.3d 1354 (Fed. Cir. 1998) (contract damages higher than trade secret damages, and plaintiff must elect remedies), *cert. denied*, 525 U.S. 1106 (1999).

264. Lemley, *supra* note 15, at 1068.

265. There are, of course, incentives to disclose the trade secret as well; such incentives are associated with patent protection in exchange for disclosure. *See generally* LANDES &

Because the economic justification of trade secrets differs from the justification for patents and copyrights, disgorging unjust enrichment is important. If the competitor values the secret in an amount more than the owner will lose or if the court undervalues the amount of the owner's loss, then the competitor will have an incentive to spend more on appropriation. In turn, this will cause the owner to spend more on protection than it otherwise might need to if it had the remedy, leading to the same "arms race" without a commensurate gain in expected social value.²⁶⁶ Thus, the law disgorges the additional benefit in order to reduce the competitor's incentive to focus more resources on appropriation.

3. Attorneys' Fees

The UTSA provides for attorneys' fees to the plaintiff for willful misappropriation.²⁶⁷ In the economic terms discussed in this Article, the likelihood of fee shifting will increase as the amount the competitor spends on appropriation increases. The marginal effect of this rule is that competitors will have another incentive not to escalate appropriation efforts.

4. Injunction

The trade secret injunction is the primary basis for "exclusivity" of a secret. Injunctions are difficult to obtain in contract cases.²⁶⁸ It is not by chance that injunctions are the last remedy discussed here; if transaction, administrative, and enforcement costs are zero, and if all parties have perfect information, then all parties would be indifferent

POSNER, *supra* note 6, at 328–29 (discussing that patent law's economic value is in large part convincing inventors to share inventions rather than keep them secret, as well as reducing costs of licensing innovation).

266. Any social gain due to the competitor's larger value on the secret will be offset, in large part, by the probability of detection and loss at trial, in addition to administrative and enforcement costs such as attorneys' fees.

267. UNIF. TRADE SECRETS ACT § 4. The UTSA also provides for punitive damages for willful misappropriation and fee shifting to the defendant for bad faith claims. *Id.* §§ 3–4. These remedies are not addressed here, though punitive damages will tend to create the same incentives that fee shifting will create. They might also create the risk of over litigation, though the fee shifting risk for frivolous litigation counters this somewhat.

268. *Electro-Craft Corp. v. Controlled Motion, Inc.*, 332 N.W.2d 890, 897, 903 (Minn. 1983) (no injunction or other relief under employee nondisclosure agreements where plaintiff could not prove trade secrecy with reasonable efforts to maintain secrecy); Bone, *supra* note 5, at 282 (noting that contract enforcement against companies hiring ex-employees is likely to be insufficient).

between damages (a liability rule) and an injunction (a property rule).²⁶⁹ However, in the real world parties do not have perfect information, and there are transaction costs.

First, an injunction would be necessary to keep the defendant from disclosing the secret to anyone else, thus enhancing the potential loss or even destroying the trade secret altogether.²⁷⁰

Second, if one expects that courts might undervalue the damages (especially given the cost of ascertaining damages), then an injunction rule would be necessary.²⁷¹ Additionally, if the damages are potentially uncollectible, then an injunction would add an additional disincentive to overprotect secrets.²⁷² Also, to the extent that an owner might negotiate with potential parties for licenses, the availability of an injunction will allow for better definition of rights.²⁷³ Finally, and perhaps most importantly, trade secret misappropriation is ongoing—a pure liability rule would require the owner to seek damages on a regular basis,²⁷⁴ causing extremely wasteful enforcement and administration costs simply to transfer wealth from one party to another.²⁷⁵

Returning to the question that opened this Article, irreparable injury should be assumed for the purposes of a permanent injunction. The trade secret statute acknowledges this and does not require a showing of irreparable injury.²⁷⁶ An owner may otherwise have

269. Kaplow & Shavell, *supra* note 153, at 763.

270. DVD Copy Control Ass'n v. Bunner, 10 Cal. Rptr. 3d 185, 192 (Ct. App. 2004) (no trade secret where widespread dissemination, even if wrongful, destroyed secrecy).

271. Miller Mech., Inc. v. Ruth, 300 So. 2d 11, 13 (Fla. 1974) (“It is precisely because damages are so difficult to show that injunctive relief becomes a favored remedy.”); Kaplow & Shavell, *supra* note 153, at 768–69.

272. *But see* Kaplow & Shavell, *supra* note 153, at 770 (stating that collection risk is not a factor if failure to pay a judgment means return of property). Analogized to trade secrets, the risk of ongoing damage for continued use of trade secrets and failure to pay a judgment is low where the misappropriator is out of business.

273. *Id.* at 767 (noting that a property rule does not create incentive for “takers” to negotiate, but does create incentive and reduce transaction costs for owners to negotiate).

274. It is unlikely in the real world that all future potential damages for ongoing damages could be measured at an initial trial, especially if the competitor were to later share the information with others. *See, e.g.*, Basicomputer Corp. v. Scott, 973 F.2d 507, 511–12 (6th Cir. 1992) (calculation of loss of goodwill is inherently difficult, such that assumption of irreparable injury is appropriate).

275. *But see* Chiappetta, *supra* note 8, at 156–57 (fashioning and enforcing injunctions may cost society too much in administrative costs).

276. Cadence Design Systems, Inc. v. Avant! Corp., 57 P.3d 647 (Cal. 2002). Other areas of intellectual property do not require evidence of irreparable injury. Taylor Corp. v. Four Seasons Greetings, LLC, 403 F.3d 958, 968 (2005) (“Taylor certainly has the right to control the use of its copyrighted materials, and irreparable harm inescapably flows from the

difficulty proving irreparable injury since, after all, the owner could visit the courthouse on an annual basis in order to prove damages on an ongoing basis or could obtain a royalty.²⁷⁷ Thus, except in extreme cases, an injunction is a mechanism to reduce the cost of litigation where the end result will simply be reimbursement of damages.²⁷⁸ If continuing damages can be avoided in the first place by stopping the use of the trade secret at the end of the trial, then that should be a less costly outcome on balance.²⁷⁹

A more complex question is whether permanent injunctions should issue where the “secret is out” because the defendant is using the information. If the information is temporary—for example, plans for a new product that will be revealed when the product is released—then barring use of that information after it becomes public would create costs without any commensurate social gain. However, a “head start” injunction might be necessary in order to deter wasteful appropriation activities, where it is difficult or impossible to calculate the cost of losing the “head start” in the marketplace.

D. Enforcement Costs and Detection

The above discussion bears on external costs such as litigation and other enforcement costs and measures to avoid detection that affect the economic analysis. There are three primary concerns with the economic justification of trade secret law. The following will discuss these three primary concerns.

denial of that right.”). This Article does not address whether such a presumption should be rebuttable or not, but in special circumstances an injunction might not issue; the UTSA provides for a royalty in such cases. UNIF. TRADE SECRETS ACT § 2(b) (amended 1985), 14 U.L.A. 619 (Supp. 2006); *see also* eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837 (2006) (injunctions must be granted under principles of equity); N.Y. Times Co. v. Tasini, 533 U.S. 483, 505 (2001) (“[I]t hardly follows from today’s decision that an injunction . . . must issue.”); *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578 n.10 (1994) (citing 17 U.S.C. § 502(a)) (emphasizing that courts “may” grant injunctions).

277. *See* UNIF. TRADE SECRETS ACT § 2 (allowing for a compulsory license instead of an injunction in exceptional circumstances).

278. Of course, there are costs to enforce an injunction, and such costs are not small where the matter at issue is by definition not public. However, the broad contempt remedies for violation of an injunction may be sufficient to deter such violations in most cases.

279. The costs of enforcing a royalty and enforcing an injunction are similar. Both involve determining whether the defendant is still using the information.

1. Little Known Effect on the Arms Race

The first concern is that a requirement of reasonable precautions may reduce incentives to overprotect some amount, but not enough to make a difference, especially where detection of misappropriation is difficult.²⁸⁰ Competitors will arguably continue to spend money and owners will continue to use self-help because the legal remedy is not available if detection of expensive surveillance is difficult or impossible. Professor Lichtman suggests that the “battleground” simply shifts to more expensive means of appropriation, using an example of covering the entire construction site in the *Christopher* case to avoid aerial surveillance, followed by thermal satellite imagery by the competitor.²⁸¹

Professor Bone supports this argument by providing a detailed game theory model that shows that the level of precautions owners will take under trade secret law versus the level of precautions they will take without trade secret protection is indeterminate.²⁸² His model implies that the amount of money owners spend to protect secrets and the amount of money that competitors spend to appropriate secrets will depend on the type of protection, the marginal effects of spending on protection, and the marginal effects of spending on (mis)appropriation. As discussed in Professor Lichtman’s example, there may be cases where owners will continue to spend money on protection despite the possibility of damages recovery, and there may be times when competitors continue to spend money on appropriation despite liability risk.²⁸³

These are all valid points and should be the subject of empirical study. Even so, the fact that there is some reduction in the incentive to overprotect weighs in favor of trade secrets for a variety of reasons.

First, the fact that there are some circumstances in which unnecessary spending on protection and appropriation is achieved may be enough to justify trade secret protection.²⁸⁴ Having the option to litigate allows owners and competitors to internalize the expected costs and benefits in order to make an efficient decision. Thus, one would expect that owners in fields where misappropriation is harder to detect will shift spending away from litigation and toward more protection.

280. Bone, *supra* note 5, at 277 n.161.

281. Lichtman, *supra* note 202, at 232.

282. Bone, *supra* note 5, at 277–78.

283. See *supra* note 202 and accompanying text.

284. Kaplow & Shavell, *supra* note 153, at 764 (potential for breakdown of bargaining or underestimation of damages justifies property based protection).

This is a better outcome than requiring all owners to spend more on protection.

Second, the escalation concerns do not take into account the alternatives that competitors have under trade secret law, namely reverse engineering and independent development,²⁸⁵ or even licensing. Additional expenditures to appropriate information from a competitor may be less costly than the alternatives if the competitor faces no risk of damages liability. Once trade secret law applies, however, the competitor faces a risk of both litigation costs and returning any value gained from the appropriation. This additional risk reduces the expected benefits from appropriation and makes reverse engineering more attractive.²⁸⁶ The end result is that when there are alternatives, competitors will have less incentive to spend funds on appropriation, which means less expenditure on protection. Even though this may not apply in every case, a world in which appropriators are at risk for legal fees should lead to more efficient outcomes, even if that outcome is sometimes spending more money on appropriation.

The above two examples are an extension of the general principle that where the parties must internalize the costs and benefits of their actions, we expect socially efficient results to occur. There is no reason to believe that trade secret law is any different than well established theories of negligence or strict liability and their defenses with respect to governing choices.

2. Incentives to Litigate

The second concern is that trade secret law may impose external costs associated with an incentive to litigate, especially where the “reasonable precautions” requirement is too low.²⁸⁷ Given an increase

285. LANDES & POSNER, *supra* note 6, at 367–68 (legal reverse engineering creates incentive for less spending on protection against theft). *But see* Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575 (2002) (discussing positive economic effects of attempts to limit reverse engineering).

286. Of course, reverse engineering and rediscovery may be duplicative, but there may be positive externalities such as innovation due to the independent research. Additionally, the default is that the competitor would either do the research or appropriate the secret; it is not as if the owner will simply share the secret (though perhaps it could be licensed). Thus, having competitors expend money on research is no change from the status quo in a non-trade secret world.

287. Bone, *supra* note 5, at 277 n.161. “Indeed, the circumstances of trade secret cases and the uncertainty of trade secret law create incentives for frivolous litigation designed to harass competitors rather than to obtain relief for trade secret misappropriation.” *Id.* at 279.

in litigation over time,²⁸⁸ this is certainly a fair point. However, without more data, we do not know how much trade secret misappropriation has been deterred, how many cases are frivolous or meritorious, or how often the misappropriation attempt was efficient given the costs of alternatives and likelihood of detection. Further, this problem might be solved by increasing reasonable precaution requirements and enhancing fee shifting for baseless litigation, not by abandoning trade secret laws.

Wasteful litigation incentives may not be the only reason for increased litigation, however. It may be, for example, that a decrease in spending on protection causes competitors to underestimate their likelihood of detection such that they get caught more often, leading to more litigation. It may also be that detection technology has improved, become easier to hide, or become less costly. Perhaps competitors are risk takers, and thus make the attempt despite the expected losses. Finally, it may be that courts are undervaluing damages, and thus competitors do not actually face the deterrence that the law envisions—this would hardly be a reason to eliminate the law.

Additionally, if a party intends to harass a competitor, it will likely find ways to do so even if trade secret law did not exist. For example, it might bring breach of contract suits against employees.²⁸⁹ Companies might also bring unfair competition claims against competitors. In other words, trade secret law may have only a marginal effect on frivolous and costly litigation.

The question remains whether the need for more empirical information is sufficient to render trade secret law void of support. I believe it is not; there are sufficient meritorious lawsuits, as well as a sufficient reduction in arms races (such as the Chinese company example above) to warrant continued protection for trade secrets while further research is underway.

3. Litigation and Detection Costs

The third concern is that the economic analysis does not consider the cost of enforcement,²⁹⁰ which might cause owners to spend more on

288. *Id.* at 274.

289. They might also bring interference with contract claims against ex-employees' new employers. As previously discussed, this would be difficult to win in the absence of trade secret law. *See supra* note 235 and accompanying text.

290. Professor Bone states that “[s]ome readers might object that ignoring punitive damages here strips trade secret law of some of its deterrent force. However, the indirect cost argument for trade secret law does not purport to turn on the availability of punitive damages.” Bone, *supra* note 5, at 276 n.158. Professor Bone seems to make the same

protection rather than sue,²⁹¹ and the fact that competitors will escalate spending to avoid detection,²⁹² both of which negate any incentives to reduce spending on protection and appropriation.²⁹³ In other words, the concern is that trade secret law does not deter wasteful spending on appropriation, but instead it may encourage even more wasteful spending on appropriation, which now includes additional costs to avoid detection, and, later at trial, additional costs to determine whether the information at issue was really a trade secret and/or misappropriated.

While it is true that enforcement costs will decrease the amount plaintiffs will receive (and thus create an incentive to overprotect rather than bring suit), there are a few reasons why enforcement costs do not materially change the economic analysis. First, the competitor will also be spending attorneys' fees, so the incentive to avoid litigation is mutual.²⁹⁴ Second, additional damages, such as unjust enrichment disgorgement, shift more risk to the competitor and provide the owner with more insurance, so the incentive to overprotect is reduced.²⁹⁵ Third, if the competitor must pay attorneys' fees when it overspends on appropriation (because jurors would find willfulness when the defendant spends more on improper means), then the incentive to overspend is reduced, decreasing incentives to escalate.

assumption about attorneys' fees because his example does not include fee shifting. *See id.* While it may be true that less complete analysis by others does not discuss fee shifting, fees are still part of the economic consideration.

291. This decision alone is not necessarily inefficient. Trade secret owners can be expected to select the mix of litigation and protection that maximizes wealth conditioned on their estimates about what their competitors might be doing.

292. From a logical point of view, this argument is tenuous. It seems odd to think that because competitors will spend money to avoid detection, then the alternative should be a decrease in trade secret protection. Perhaps the result should be increased penalties for spending money to avoid detection, as that is arguably more efficient than the owner paying more to install anti-detection measures because there is no trade secret remedy.

293. Bone, *supra* note 5, at 275.

294. Professor Bone argues both that litigation costs deter owners from suing and also that trade secret law encourages frivolous litigation. *Id.* at 278–79. While both statements may be true, they tend to show that there is an offsetting effect to litigation costs. As shown in the Appendix, litigation costs will actually tend to deter overspending. The risk of costs associated with frivolous charges may cause competitors to stay even further away from acts that might be construed as misappropriation.

295. Of course, the incentive to file frivolous litigation may be increased, but a party filing litigation to harass a competitor is unlikely to consider the likelihood of winning any damages prior to doing so. If this is true, then unjust enrichment would only affect bona fide litigants.

A similar analysis applies to detection costs.²⁹⁶ It may be true that competitors have an incentive to spend more money under a trade secret system in order to avoid detection.²⁹⁷ It may also be true that such expenditures might increase the avoidance of detection. However, it does not follow that an “arms race” will occur. First, because the competitor has reverse engineering and independent development options, expending resources on avoiding detection is not a foregone conclusion. Second, if the owner shifts costs from protection to detection, then for the same spending the likelihood of undetected activity is reduced, and the likelihood of the owner winning at trial increases because juries will infer improper means from the attempted avoidance of detection. Third, if attorneys’ fees are also shifted because the increased expenditures by the competitor are viewed as willful misappropriation, then the expected benefits to the competitor are reduced. Fourth, while detection of the theft of intangible information may be difficult,²⁹⁸ if owners see competitive products by ex-employees being quickly developed,²⁹⁹ then they will have a good faith basis to instigate litigation; the mere threat of the costs of litigation should decrease the incentive to misappropriate. The result is that the incentive for competitors to engage in high spending should be less than it would be in the absence of the law.³⁰⁰ In the alternative, if the competitor attempts misappropriation anyway, then one might assume that the value of the information to the competitor was worth the additional costs.

The common ex-employee scenario best illustrates the point. The cost for an employee to appropriate secret information for competitive use is usually low; there is little incentive for overspending on appropriation because there is no need—perhaps some attempts to

296. Professor Bone includes detection costs in enforcement costs. Bono, *supra* note 5, at 278–79. I consider detection costs to be part of protection. First, detection efforts may fend off lawsuits—if someone is caught in the act of misappropriation, settlement may be more likely. Second, detection increases the chance of compensation after a loss; this is not an enforcement expense but instead an alternative method to avoid the loss. Professor Chiappetta postulates that the existence of trade secret law allows owners to shift what funds they spend on protection to detection rather than elimination of risk altogether. Chiappetta, *supra* note 8, at 111.

297. It is not clear that is the case; even without trade secret law, competitors might still attempt to avoid detection to limit reputational effects or common law liability.

298. See Bone, *supra* note 5, at 278.

299. *Id.* at 281 (concurring that detection cost is lower for employees).

300. The example in the Appendix illustrates this principle. This analysis will not always hold true, of course, but an entire body of law should not be discarded due to exceptions.

avoid detection, but little more. However, in the case of employees, the potential costs of protecting information can be a drag on efficiency.³⁰¹ The best way to reduce this incentive to overprotect³⁰² is to allow for collection against the ex-employee (and more important, the ex-employee's new employer),³⁰³ even if sometimes the ex-employee might avoid detection or other damages. Having the chance to recover losses in the future creates an incentive for the owner to avoid inefficient precautions.

Finally, none of the analysis to date has considered the effect of threatened misappropriation.³⁰⁴ If a competitor spends money to avoid detection and is caught, then the owner can seek an injunction at the very least, even if no misappropriation has occurred. An owner might rationally do so if its expectation of future damages is high enough based on future efforts by the competitor. The result, however, is wasted appropriation costs and an increase of litigation costs of the competitor, which places downward pressure on the incentive to spend more money on appropriation and detection avoidance.

CONCLUSION

Trade secrets are sure to remain an important part of U.S. law, and the discussion in this Article shows that there are three potential reasons for their importance; those reasons are not irrational or inefficient. Further work can be done to make the analysis more precise as well as to learn more about how trade secrets influence decisions to innovate, but the analysis here is a good starting point for better understanding how trade secrets affect business expenditures.

301. *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 180 (7th Cir. 1991).

302. If the company is in an industry where overprotection is too costly in any event, then the marginal effect of trade secret law will be greatly reduced. Even so, having the option allows the company to make the most efficient choice of protection.

303. *But see* Bone, *supra* note 5, at 282–83 (discussing costs of detection relating to ex-employees). The prediction that start-up companies will buy information rather than hire ex-employees to avoid detection (and thus increase anti-detection costs) seems unlikely. Most companies, start-ups especially, tend to value the minds of the employees even if they are bringing trade secrets and even more so when the company only has reason to know, but not actual knowledge, of wrongdoing by the ex-employee. *See, e.g.*, *Henkel Corp. v. Cox*, 386 F. Supp. 2d 898, 901, 903–04 (E.D. Mich. 2005) (ex-employee who misappropriated information testified that he may or may not have shared that information with others at his new employer).

304. UNIF. TRADE SECRETS ACT §§ 2, 3 (amended 1985), 14 U.L.A. 619, 633–34 (Supp. 2006).

APPENDIX: AN ILLUSTRATIVE EXAMPLE

An example of the analysis in Parts III and IV will help illustrate the points made. Assume that a secret is worth \$1000 to a company (O), but the same information is worth only \$500 if the information were also in the hands of a competitor (C). Presumably, the competitor would then have \$500 of value in an efficient market,³⁰⁵ assuming the secret is the entire value of the business—simplifying assumptions made for the sake of example.

Without more, there is no social gain by protecting the trade secrets. The owner may be unhappy, but such is life. In the optimal world, we would want neither party to spend money to protect or to take the information, which are inherently wasteful activities.³⁰⁶ Also, we would not want the competitor to reverse engineer or perform any research to develop the same information unless we knew that the effort would advance knowledge beyond the owner's level of information because that expenditure would just shift revenues between the parties without the creation of new social benefit.³⁰⁷ Finally, we would expect the competitor to independently develop or bargain for use of the secret if the competitor valued the information more than the owner.

Unfortunately, we do not live in the optimal world, and the above assumptions do not hold true. The competitor wants some profits and the owner is unwilling to transfer rights to the secret. Thus, the competitor will either appropriate the owner's information or independently develop or reverse engineer it. Hopefully, these acts would create additional social benefit by building on the original information. The competitor thus has choices to make about how much to spend to obtain the information, leaving the owner choices about how much to spend to protect the information.

305. Instead of O selling ten units at \$100, O would sell five units at \$100, and C would sell five units at \$100.

306. Of course, if C could costlessly obtain the information, and O did not spend any money on protection, then O might not have the incentive to produce the information in the first place. However, from a marginal point of view, O would be protecting the information anyway, and the only question is how much.

307. This assumes, again, that the owner is not obtaining monopoly profits or otherwise under-producing. *See supra* Part III.A.

A. No Trade Secrets

In the absence of trade secret law, one would expect the competitor to spend as much as possible to obtain the secrets, up to a point where it is marginally cheaper to independently develop. In theory, the competitor would spend an amount that would maximize his chances of success in light of whatever the owner is spending.³⁰⁸ Similarly, the owner would spend as much as possible to protect the secrets, up until the point where it is marginally less costly³⁰⁹ to lose the secret than to protect it. How much each spends will depend on how much the other spends and the likelihood of success depending on cost levels. This leads to three variables:

- o is the amount the owner spends for protection and detection;
- c is the amount the competitor spends for appropriation and avoiding detection; and
- $p(o,c)$ is the probability of appropriation based on the amounts spent.³¹⁰

Complex math could be used if we knew what the function p looked like, but in general we do not; here a simple table will suffice for illustrative purposes. The table that follows shows nine states of the world, where o is low (\$50), medium (\$100), and high (\$150), and where c is low (\$50), medium (\$100), and high (\$150).

One final introductory point: in this illustration, I combine the costs for detection and protection/appropriation; one would expect that more costly means of appropriation include resources allocated to not getting caught and that more costly means of protection include better ways of detecting misappropriation. Furthermore, one would expect that expenditures on protection include expenditures to avoid accidental disclosure. In each box, I put the following values:

- P is my assigned probability $p(o,c)$ for a specified value of o and c ;³¹¹

308. Professor Bone sets up this game theory approach very thoroughly. Bone, *supra* note 5.

309. “Cost” of loss here is an expected value, that is, the probability adjusted loss.

310. The competitor does not always know that the information will have a particular value. A more complex model would include a term that incorporates the probability that the actual value of the information will be equal to the perceived value. For the sake of simplicity, included in probability p is the probability that the information is “successfully” appropriated, meaning that it has the anticipated value.

311. $p(o,c)$ is defined such that the probability of appropriation increases as c increases, but with diminishing returns. Similarly, the probability of appropriation decreases as o increases, but also with diminishing returns.

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- $O_{L,M,H}$ is the expected value O gets in low, medium, and high states of the world; and
- $C_{L,M,H}$ is the expected value C gets in low, medium, and high states of the world.

The following formulas define O and C:

- $O_x = V - (P*L) - o$, where V is the value (here \$1000), and L is the Loss (here \$500); and
- $C_x = (P*L) - c$, where L is the Loss to the owner, but also the gain to the competitor (here \$500).

Given the above definitions, the following table describes my hypothetical world without trade secrets.³¹²

Table 1

		<i>c</i>					
		\$50		\$100		\$150	
<i>o</i>	\$50	P	0.4	P	0.7	P	0.9
		O_L	\$750	O_L	\$600	O_L	\$500
		C_L	\$150	C_M	\$250	C_H	\$300
	\$100	P	0.2	P	0.5	P	0.7
		O_M	\$800	O_M	\$650	O_M	\$550
		C_L	\$50	C_M	\$150	C_H	\$200
	\$150	P	0.05	P	0.35	P	0.55
		O_H	\$825	O_H	\$675	O_H	\$575
		C_L	-\$25	C_M	\$75	C_H	\$125

An examination of this table shows that a Nash Equilibrium is reached when both *o* and *c* are highest. O is better off by spending the most money for protection no matter what C spends. C is better off by spending the most money for appropriation no matter what O spends. Consequently, this example requires no assumptions about whether or not O or C knows what the other will be spending.

Note as well that because O has spent the maximum amount, C does not even recoup his costs—C spends \$150 for appropriation and can only expect \$125 in return. If C is a risk taker or (more likely) values

312. Note that the non-trade secret world includes contract and tort law, and that is not built into this model. Thus, the assumption here is that the appropriation is either not actionable at common law, or is undertaken by someone without privity, such as a recipient of information from an internal spy.

the information more than O, then C would still be expected to spend the most. In all events, whether C attempts to misappropriate will depend on the costs of independent discovery.

This illustration shows that without trade secret law the likely outcome is an over-allocation of resources on protection and appropriation.

B. Basic Trade Secret Assumptions

The next table implements some basic trade secret assumptions to show how trade secret law affects decision making. Let us now assume that in addition to the probability of appropriation, we also have a probability of success in an ensuing lawsuit. I define the following new variable:

- $q(o,c)$ is the probability of recovery by O for the appropriation, meaning O discovers the misappropriation and wins a lawsuit.

In the next table, therefore, the following example result is added:

- Q is the assigned probability of recovery $q(o,c)$ for a given level of o and c .

In this example, Q increases as o increases to account for increased probability of detection and increased probability of a fact-finder finding reasonable precautions and improper means. Assuming that \$100 is considered to be the likely “reasonable precautions,” there is a large jump in Q when o increases from \$50 to \$100.

Similarly, Q decreases as c increases because the likelihood of detection decreases.³¹³ However, this decrease is tempered when o is high for two reasons. First, when o is high then the likelihood of detection increases. Second, assuming the competitor’s activities are discovered when o is high, the large expenditures on protection and the large expenditures on improper means greatly enhance the likelihood that a fact-finder will rule in favor of the owner. These effects wind up offsetting each other, except for when o is medium and c is high, in which case C has the best chance of avoiding detection.

The formulas for determining outcome are as follows:

- $O_x = V - (P*L) - o + (P*Q*L)$; and
- $C_x = (P*L) - c - (P*Q*L)$.

313. A more correct and complex example would separate probability of detection from probability of success. However, combining the two into one probability does not affect the ability of the example to illustrate the principles so long as the combination takes into account the interactive effect of the variables on each other.

The owner now has the chance to recover losses, while the competitor has the chance of paying damages.

Table 2

		<i>c</i>					
		\$50		\$100		\$150	
<i>o</i>	\$50	P	0.4	P	0.7	P	0.9
		Q	0.3	Q	0.4	Q	0.4
		O _L	\$810	O _L	\$740	O _L	\$680
		C _L	\$90	C _M	\$110	C _H	\$120
	\$100	P	0.2	P	0.5	P	0.7
		Q	0.7	Q	0.8	Q	0.6
		O _M	\$870	O _M	\$850	O _M	\$760
		C _L	-\$20	C _M	-\$50	C _H	-\$10
	\$150	P	0.05	P	0.35	P	0.55
		Q	0.7	Q	0.8	Q	0.8
		O _H	\$843	O _H	\$815	O _H	\$795
		C _L	-\$43	C _M	-\$65	C _H	-\$95

Here, the competitor has lost almost all incentive to allocate resources to appropriation. Only when the owner spends little on precautions would the competitor have a chance at recouping costs, and even then only a risk taking competitor (or one who expects loss to be undervalued) might consider such an action.³¹⁴ This table also shows that requiring reasonable precautions has the desired effect—O's outcome is maximized spending \$100. While the outcome might be indeterminate when C is high, if C knows that O will be spending reasonable precautions, then C would never be high.

C. Competitor Has a Higher Value

The above examples assume that the competitor gains the same amount that the owner loses. A more realistic scenario is that the competitor values the secret more than the owner will lose. This is a situation in which one might ordinarily want a transfer to occur.

314. This is not necessarily contrary to the empirical evidence showing large amounts of theft. It may simply be that those who are experiencing theft are under-protecting. Further, if the competitor is caught, it may be that the competitor was a risk taker or misjudged the owner's level of precaution.

However, in the absence of bargaining or with high transaction costs, the table below shows that under the “basic” trade secret rules the expected outcome is higher spending on precautions and appropriation.

The formulas for O and C are as follows:

- $O_x = V - (P*L) - o + (P*Q*L)$; and
- $C_x = (P*(L+B)) - c - (P*Q*L)$, where B equals the additional benefit to the competitor by having the information.

In the example, B is \$300, so the Loss to O is \$500, but the benefit to C is \$800.

Assuming a loss only damages rule, the following table shows the outcome.

Table 3

c

		<i>c</i>					
		\$50	\$100	\$150			
<i>o</i>	\$50	P	0.4	P	0.7	P	0.9
		Q	0.3	Q	0.4	Q	0.4
		O _L	\$810	O _L	\$740	O _L	\$680
		C _L	\$210	C _M	\$320	C _H	\$390
	\$100	P	0.2	P	0.5	P	0.7
		Q	0.7	Q	0.8	Q	0.6
		O _M	\$870	O _M	\$850	O _M	\$760
		C _L	\$40	C _M	\$100	C _H	\$200
	\$150	P	0.05	P	0.35	P	0.55
		Q	0.7	Q	0.8	Q	0.8
		O _H	\$843	O _H	\$815	O _H	\$795
		C _L	-\$28	C _M	\$40	C _H	\$70

The results are interesting. First, C will have an incentive to spend a high amount no matter what O spends (although O must spend less in order for C to make money). O is a bit more indeterminate. If O knows that C will spend a high amount or is risk averse, then O will spend a high amount, and the combined expected value for O and C is lower than what O would have if O simply spent \$100 on protection and C did not attempt to misappropriate. Otherwise, O might spend less and risk a lower benefit. As Professor Bone predicts, it is unclear whether society is better off in this scenario because there is no clear choice for either party.

D. Attorneys' Fees

The results of the additional benefit to C are tempered somewhat by attorneys' fees. The table below shows that although fees might offset the amount that O might recover in litigation, the fees paid by C actually have a much larger effect on C's behavior than the fees have on O's behavior. The revised formulas are:

- $O_x = V - (P*L) - o + (P*Q*L) - (P*F)$, where F is the amount of fees for litigation (here assumed to be \$200 for both parties); and
- $C_x = (P*(L+B)) - c - (P*Q*L) - (P*F)$.

Based on this, the new table is as follows.

Table 4

		<i>c</i>					
		\$50		\$100		\$150	
<i>o</i>	\$50	P	0.4	P	0.7	P	0.9
		Q	0.3	Q	0.4	Q	0.4
		O _L	\$730	O _L	\$600	O _L	\$500
		C _L	\$130	C _M	\$180	C _H	\$210
	\$100	P	0.2	P	0.5	P	0.7
		Q	0.7	Q	0.8	Q	0.6
		O _M	\$830	O _M	\$750	O _M	\$620
		C _L	\$0	C _M	\$0	C _H	\$60
	\$150	P	0.05	P	0.35	P	0.55
		Q	0.7	Q	0.8	Q	0.8
		O _H	\$833	O _H	\$745	O _H	\$685
		C _L	-\$38	C _M	-\$30	C _H	-\$40

The results are still indeterminate. The competitor will want to spend a high amount in all states of the world, but can only expect to recoup the investment if the owner decides against protection, which is unlikely, given that O is maximized when *o* is either medium or high, but not low. Even with this uncertainty, the risk of attorneys' fees reduces C for all values of *c* and *o*, to the point that investing any money in appropriation will be unlikely.

E. Unjust Enrichment and Fee Shifting

Finally, the above indeterminate results become determinate by the application of unjust enrichment disgorgement and fee shifting. The

following table includes a calculation for both of these remedies available under trade secret law, and they yield a clear best case solution with the assumptions under this example. The formulas for each unjust enrichment outcome are as follows:

- $O_x = V - (P*L) - o + (P*Q*(L+B)) - (P*F)$; and
- $C_x = (P*(L+B)) - c - (P*Q*(L+B)) - (P*F)$.

This last table includes another column, which assumes that the owner can recoup attorneys' fees from the competitor in cases where the competitor has spent the most on appropriation (and thus is considered a "willful" misappropriator). The formulas for this last column are:

- $O_x = V - (P*L) - o + (P*Q*(L+B)) - (P*F) + (P*Q*F)$; and
- $C_x = (P*(L+B)) - c - (P*Q*(L+B)) - (P*F) - (P*Q*F)$.

The table below implements all of these assumptions and formulas.

Table 5

		<i>c</i>			<i>fee shift</i>		
		\$50	\$100	\$150	\$150		
\$50	P	0.4	P	0.7	P	0.9	0.9
	Q	0.3	Q	0.4	Q	0.4	0.4
	O _L	\$766	O _L	\$684	O _L	\$608	\$680
	C _L	\$94	C _M	\$96	C _H	\$102	\$30
\$100	P	0.2	P	0.5	P	0.7	0.7
	Q	0.7	Q	0.8	Q	0.6	0.6
	O _M	\$872	O _M	\$870	O _M	\$746	\$830
	C _L	-\$42	C _M	-\$120	C _H	-\$66	-\$138
\$150	P	0.05	P	0.35	P	0.55	0.55
	Q	0.7	Q	0.8	Q	0.8	0.8
	O _H	\$843	O _H	\$829	O _H	\$817	\$905
	C _L	-\$48	C _M	-\$114	C _H	-\$172	-\$244

It appears that when all remedies are fully developed, the only levels of spending that give the competitor a chance to recoup expenditures are low and medium. Further, if the competitor knows the owner will spend at least \$100 in reasonable precautions (which is its best outcome for O when *c* is low or medium), then C would not even make the attempt. Furthermore, with fee shifting where *c* is high, the competitor

is unlikely to ever spend a high amount, which means that the owner will never have an incentive to spend a high amount.

The above illustration can be further modified to test a variety of these assumptions: what happens if losses are under-valued? What happens if p and q change more or less than assumed at each value of o and c ? What happens if the benefit to C exceeds the value to O? What if the parties have differing legal fees? What if fee shifting is available when c is at a medium level? Each of these questions may change the analysis, but regardless of such changes, the basic model shows that trade secret law tends to push expenditures on protection and appropriation downward, and with all remedies attached, many efforts to misappropriate trade secrets may not happen at all. They certainly would not be rewarded.