
Stephanie Zimmerman

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Stephanie Zimmerman*

I. INTRODUCTION: WHY ONE SET OF STANDARDS IS NOT WORKING

Trade-secret theft may be "the greatest threat to United States economic competitiveness in the global marketplace." By the year 2000, United States companies reported losing over $1 trillion from intellectual-property theft, and that number is growing by an estimated $250 billion each year. Additionally, intellectual property often

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* J.D., The Dickinson School of Law of The Pennsylvania State University, 2012; M.B.A., The Smeal College of Business of The Pennsylvania State University, 2012; B.A., Political Science, San Francisco State University, 2008. I thank my family and friends for all of their love and support over the years; especially my parents D'Ann and Jeff and my sister and best friend, Meg. I also thank my professors, especially Geoffrey Scott, and the staff of the Penn State International Law Review for making this Comment possible. In loving memory of Leonard Zimmerman and Marjorie Whitehead.


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represents an enterprise’s most valuable asset. The rapid growth of the field and international policies towards intellectual property over the last two decades underscore its value. Despite international efforts to establish an intellectual-property framework, countries are left to their own devices to enforce the purported international minimum standards.

Since various countries’ intellectual-property laws have developed independently of one another, the push for homogenization of intellectual-property protection and enforcement throughout the world presents difficulties. Through attempts at streamlining international law on intellectual property, countries are forced to assess their domestic treatment of private intellectual-property rights and whether they are in fact meeting international standards. However, individual countries’ laws are a product of the values emphasized in the country. The assumption that countries will alter years of jurisprudence to enforce a legal structure that is not necessarily reflective of their values and understanding of the law is a difficult assumption to make.

A comparison of trade-secret laws across different countries is intriguing, since trade-secret law development is relatively new in most countries, though the concept itself is very old. Trade secrets are an extremely valuable form of intellectual property. The power of a trade secret is its potential immortality. However, trade secrets have severe limitations as well. Once the information is misappropriated, it is

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7. Id. at 122.
8. Id.
9. Id.
11. See Poltorak & Lerner, supra note 3, at 41 (discussing that while trade secrets have their limitations, they still represent highly valuable corporate assets and “are not to be taken lightly”).
12. Id. at 39.
13. Id. at 41.
generally lost for good, and the developing entity no longer has a recognized property interest in it. This juxtaposition calls for the careful protection of trade secrets and a clear understanding of the parameters of such protection.

Even the United States, considered a leader in intellectual-property protection, has been critiqued by intellectual-property scholars for its lack of comprehensive, effective protection for trade secrets. Still, the United States was instrumental in international structuring of minimum standards for intellectual property, including trade secrets, and other nations have formatted their trade-secret laws to those of the United States. Yet today new models are gaining attention that may challenge the dominant United States framework.

This Comment recognizes the importance of international candor surrounding the protection of valuable medical data through trade-secret laws. After presenting the problem of international trade-secret protection in Part I, Part II introduces the relationship between health and intellectual property and the position that the global community has taken towards trade secrets.

This Comment continues in Part III with a discussion of United States culture and history of trade-secret-law development. While the United States has a strong history of intellectual-property rights recognition, the United States is without a federal cause of action for trade-secret misappropriation. The United States has been slow to confront the problem of trade-secret misappropriation and has been ineffective in protecting their trade secrets internationally.

Part IV discusses and compares Chinese culture and trade-secret law development. China has recently tried to show the international community that it is sincere about protecting intellectual property. However, China's newly enacted laws are questionably effective.

14. Id.
15. See Sell, supra note 6, at 60-61, 1-2.
17. See Sell, supra note 6, at 1-2.
18. Id.
20. See supra Part I.
21. See infra Part II.A.-B.
22. See infra Part III.A.
23. See infra Part III.B.
24. See infra Part III.C.
25. See infra Part IV.A.
26. See infra Part IV.B.-C.
27. See infra Part IV.D.
Part V\textsuperscript{28} of this Comment briefly discusses the cultural environment of Brazil and the laws that protect trade secrets. This Comment then introduces a new open access framework, encouraged by Brazil, and discusses its impact on the global community.\textsuperscript{29}

Part VI\textsuperscript{30} applies the lessons of the different countries' treatment of trade secret on the medical industry. Part VI\textsuperscript{31} then discusses the failings of The Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS")\textsuperscript{32} to find a proper connection between free trade and international standards and presents the case for candor between countries.\textsuperscript{33} This Comment concludes by revisiting the problems inherent in the current system and where international protection of trade secrets should go from here.\textsuperscript{34}

II. BACKGROUND: HEALTH, TRADE SECRETS AND TRIPS

A. Setting the Stage: Why Intellectual Property Is Important for Health

It is no secret that the United States is facing a healthcare crisis that challenges the very stability of the nation.\textsuperscript{35} This is largely due to the expense of the United States healthcare system\textsuperscript{36} combined with the even greater economic crisis in the United States.\textsuperscript{37} The expense of the United States healthcare system can be attributed to many causes, two of which include technological innovation and the costs of medicines and

\textsuperscript{28} See infra Part V.A.-B.

\textsuperscript{29} See infra Part V.C.

\textsuperscript{30} See infra Part VI.A.

\textsuperscript{31} See infra Part VI.B.

\textsuperscript{32} See Olufunmilayo B. Arewa, TRIPS and Traditional Knowledge: Local Communities, Local Knowledge, and Global Intellectual Property Frameworks, 10 MARQ. INTELL. PROP. L. REV. 155, 157-58 (2006) for a discussion on the evolution of the TRIPS agreement.

\textsuperscript{33} See infra Part VI.B.

\textsuperscript{34} See infra Part VII.

\textsuperscript{35} See President Barack Obama, President of the United States of America, Address on Healthcare to the Joint Session of Congress (Sept. 9, 2009), http://www.whitehouse.gov/the_press_office/remarks-by-the-president-to-a-joint-session-of-congress-on-health-care/ [hereinafter President Barack Obama].

\textsuperscript{36} See American Values Blamed for U.S. Health Care Crisis, Science Daily Article (Dec. 8, 2008), available at http://www.sciencedaily.com/releases/2008/12/081204160558.htm. "The United States boasts the world’s most expensive health care system, yet only one-sixth of Americans are insured. Medical expenditures exceed $2 trillion annually, making health care the economy’s largest sector, four times bigger than national defense. By 2015, the U.S. government is projected to spend $4 trillion on health care, or 20 percent of the nation’s gross domestic product." Id.

\textsuperscript{37} See President Barack Obama, supra note 35 (calling the economic downturn "the worst economic crisis since the great depression").
Politicians in the United States are confronted with quite a challenge as they seek to drive down the costs of healthcare, while simultaneously trying to extend quality access to all citizens. This interplay between cost, quality, and access is at the heart of any healthcare debate. Some developing countries claim that access to current science and technology, which they lack, at concession-rate prices is necessary to promote international peace and stability. Access to such information is often determined by the mechanisms in place to protect valuable intellectual property, such as medical processes, technology, consumer data, and research and development. While "developed" countries, such as the United States, seek to find the balance between affordability, quality and access, they also must contend with the implications of their position for the international market. The direction the United States will take will involve a consideration of their expectations of other countries in the international market with respect to treatment and protection of intellectual property. Accordingly, "developing" countries must define for themselves what type of intellectual-property scheme they wish to implement and enforce.

38. See Alex Lickeman M.D., *A Prescription for the Health Care Crisis: The Real Cause of Skyrocketing Health Care Costs*, PSYCHOLOGY TODAY, Dec. 20, 2009, available at http://www.psychologytoday.com/blog/happiness-in-world/200912/prescription-the-health-care-crisis. Tables 1 and 2 show that pharmaceutical costs are 10% of total healthcare costs and that technological innovation is one of the two main factors driving costs. Id.
39. See President Barack Obama, supra note 35.
40. See Lickeman, supra note 38.
41. See Kogan, supra note 19, at 9-10. Brazil is leading the push for the doctrine of sustainable development, which will "enable developing counties to liberate themselves from endemic poverty and disease, so that they may ultimately achieve economic and social parity with the developed world." Id.
43. See World Trade Organization, http://www.wto.org/english/tratop_e/develop_e/d1who_e.htm (for a discussion on standing as a developed country).
44. See Kogan, supra note 19, at 9-10.
46. See World Trade Organization, http://www.wto.org/english/tratop_e/develop_e/d1who_e.htm (for a discussion on standing as a developing country).
47. See Kogan, supra note 19, at 7. "Furthermore Brazil has opportunistically defined itself, for these and other purposes, as a developing country." Id. See also Allan Segal, Comment, *TRIPS: With a Painful Birth, Uncertain Health, and a Host of Issues in China, Where Lies Its Future?* 7 SAN DIEGO INT’L L.J. 523, 538 (2006) (stating that China designates itself as a developing nation, an unpopular move in the international community).
considering both quality and access to medicines, and their expectations of the international community.  

B. Position of the International Community Towards Trade Secrets

There are multiple forms of intellectual property that impact the medical industry and the corresponding protections that are available. Among the intellectual property necessary to the medical industry are patents and licenses. However, there is another form of intellectual property used in virtually every industry and only gaining in importance as the world becomes ever more integrated and globalized: trade secrets.

Trade secrets can be defined differently where codified by different countries, but some features are general to all conceptions of trade secrets. For example, all trade secrets can be defined as information that is reasonably secret, and information that provides some advantage to the individual who possesses it. The types of information protectable through trade-secret law are: a process, formula, device, or any business secret that the holder has made reasonable efforts to protect. The most popular example for what is protected by trade secrets is the formula for Coca-Cola. Trade secret protection is growing in popularity because, unlike other forms of intellectual property, no application for protection is required, thus the secret information can in fact stay a secret. In addition, any protection or remedies for misappropriation do not expire at some statutorily defined point. This infinite property interest can be an incredibly appealing

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48. See Gibbons & Vogel, supra note 45, at 263.
49. Id.
50. See generally Fellmeth, supra note 42, at 443-44.
51. Id. at 445. See also Gibbons & Vogel, supra note 45, at 262.
52. See Bouchoux, supra note 4, at 194.
53. Not known to the general public and subject to reasonable efforts at secrecy. Id.
54. See Poltorak & Lerner, supra note 3, at 37.
55. Id.
56. See Bouchoux, supra note 4, at 195. The classic example is [ ]he recipe for Coca-Cola, which is rumored to be placed under lock and key, with no one person having access. If the recipe or process for making the beverage had been patented, its owner would have enjoyed exclusive rights for only a limited time, after which the recipe or process would enter the public domain. In contrast, maintaining the recipe and process as trade secrets results in protection in perpetuity, as long as reasonable efforts are made to safeguard the confidentiality of the information.
57. Id.
58. Id.
feature for companies who want to prevent their work product from entering the free market at some later date.\textsuperscript{59}

With the increasing business and production conducted overseas, businesses rely on trade secret law to protect their companies' most valuable assets.\textsuperscript{60} Still, the specific trade secret protection offered by each country can vary internationally or even across states, as is the case in the United States.\textsuperscript{61} In an effort to provide consistency in protection, and expectations of protection, the global community has endeavored to create uniform standards.\textsuperscript{62} The TRIPS agreement is the most comprehensive multilateral agreement on intellectual property.\textsuperscript{63} Article 39.2 of TRIPS requires that "undisclosed information," trade secrets or "know-how," benefit from protection.\textsuperscript{65} The aim of the World Trade Organization ("WTO"), the implementing body of TRIPS, is to narrow the gaps between the way intellectual property rights are protected around the world, bringing them under common international rules.\textsuperscript{66}

\begin{thebibliography}{9}
\bibitem[59]{59} See POLTORAK \& LERNER, \textit{supra} note 3, at 39.
\bibitem[60]{60} See Halligan, \textit{supra} note 10, at 657-658.
\bibitem[61]{61} \textit{Id.} at 662.
\bibitem[62]{62} See SELL, \textit{supra} note 6, at 121. See also World Trade Organization Overview: the TRIPS Agreement, http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm (last visited Feb. 4, 2010) \textit{[hereinafter TRIPS Agreement]. "Standards: In respect to each of the main areas of intellectual property to be covered by the TRIPS Agreement, the Agreement sets out the minimum standards of protection to be provided by each Member." \textit{Id.}}
\bibitem[63]{63} See TRIPS Agreement, \textit{supra} note 62.
\bibitem[64]{64} \textit{Id.}

According to Article 39.2, the protection must apply to information that is secret, that has commercial value because it is secret and that has been subject to reasonable steps to keep it secret. The Agreement does not require undisclosed information to be treated as a form of property, but it does require that a person lawfully in control of such information must have the possibility of preventing it from being disclosed to, acquired by, or used by others without his or her consent in a manner contrary to honest commercial practices.

\textit{Id.}
\bibitem[65]{65} \textit{Id.} The agreement also protects pharmaceutical marketing data. \textit{Id.}
\bibitem[66]{66} See World Trade Organization Intellectual Property: Protection and Enforcement, http://www.wto.org/english/theWTO_e/whatis_e/tif_e/agrm7_e.htm (last visited Feb. 4, 2010) \textit{[hereinafter IP: Protection and Enforcement]. It establishes minimum levels of protection that each government has to give to the intellectual property of fellow WTO members. In doing so, it strikes a balance between the long term benefits and possible short term costs to society. Society benefits in the long term when intellectual property protection encourages creation and invention, especially when the period of protection expires and the creations and inventions enter the public domain. Governments are allowed to reduce any short term costs through various exceptions, for example to tackle public health problems. And, when there are trade disputes over intellectual property rights, the WTO’s dispute settlement system is now available. \textit{Id.}}
While the intent behind the WTO and TRIPS is to create homogeneity across the world, this method of facilitating trade and increasing protection and competition creates problems. A “one size fits all” approach does not work without consistent domestic enforcement. This approach requires signatory nations to not only enforce TRIPS standards but also to maintain and enforce their own trade secret law structure. Enforcing a trade secret law structure is difficult for those countries lacking a clear, uniform trade secret law or the political or judicial body to do so. Additionally, the TRIPS approach forces less influential countries with different goals and legal structures to adopt the dominant model created by the countries with the most influence. Consequently, the less influential countries feel backed into a corner. These countries must choose between adhering to less-than-optimal policies and placing themselves in a disadvantaged position in relation to a majority of the international community. The tension between what countries agree to and what they will actually support domestically creates a major problem for trade-secret security.

By studying the foundations of different countries the international community can assess which policies the different countries will support and enforce. On the surface, the disparity between United States, China, and Brazil trade-secret laws is minimal. However, the cultural differences between the United States, China, and Brazil have a direct impact on their treatment and enforcement of intellectual-property rights. These differences create questions as to the feasibility of TRIPS and the aims it purports to serve.

67. See Sell, supra note 6, at 121-122.
68. Id. at 121.
69. Id.
70. See Arewa, supra note 32, at 163.
71. Id. at 158-159 for a discussion on how international trade accords are negotiated and implemented in a world of “power asymmetries and webs of history and culture that often condition the assumptions and relationships of participants in such negotiations.” Also, “relative competitive, including scientific, technological, and institutional capacity, can play an important role in determining the beneficiaries of a particular global intellectual property framework or bilateral or regional agreements within such a framework.”
72. See Sell, supra note 6, at 1.
73. See Arewa, supra note 32, at 158-159.
74. Most Countries are already TRIPS signatories and enjoy the trade benefits that follow from membership. Id.
75. Id.
76. See Sell, supra note 6, at 121.
III. TRADE SECRET LAW IN THE UNITED STATES

A. Historical Development of United States Trade Secret Law and Culture

United States trade-secret protection is an evolving phenomenon. Trade secrets have historically been treated differently than other forms of intellectual property in the United States. This treatment is largely a result of the kaleidoscope of legal theories from which trade-secret protection arises, such as contract, property, fiduciary relationship, and unjust enrichment. And while the protection of confidential information dates back to Roman times, a trade-secret asset was not recognized in the United States as a constitutionally protected property right until 1984. This delayed conceptualization of a trade secret as property has likely led to its rapid increase in popularity over the last couple decades.

The relationship between the United States and intellectual property generally, and trade-secret law specifically, can be grounded in United States cultural aims and values. American culture starts from the proposition that distinctive sections and geographic areas may be inherently different, yet a dominating “spirit” unifies all Americans. This “spirit” can be described as “scientific effectiveness,” which stands as the basis for United States productivity and force as a nation. American hopes and dreams center around increasing living standards and continually growing “bigger and better.” Americans tend to operate as a more competitive, individual basis than as a collective

77. See generally Halligan, supra note 10, at 663-64.
78. Id. at 661 (referring to the reasons for the “step-child” treatment of trade secrets as historical).
80. See Halligan, supra note 10, at 662. See also Jorda, supra note 10, at 11.
81. See Halligan, supra note 10, at 661-62. “Patents and trademarks are the by-products of the Industrial Revolution. Copyrights date back to the invention of the printing press, if not earlier. Trade secrets were viewed at various times as unfair competition or quasi-contract rights with different labels attached to such rights in law and equity.” Id. See also Ruckelshaus v. Monsanto, 467 U.S. 986, 1002 (1984) (holding that trade secrets are a property right recognized by the United States Constitution) cited in Halligan, supra note 10, at 662.
82. See Jorda, supra note 10, at 11.
83. See UNESCO, INTERRELATIONS OF CULTURES: THEIR CONTRIBUTION TO INTERNATIONAL UNDERSTANDING 235 (1971) (proposing that this “dominating spirit” be called “scientific effectiveness”) [hereinafter UNESCO].
84. Id. at 235.
85. Id. at 236.
Finally, Americans are driven by the "American dream": the ingrained feeling and belief that everyone has potential to succeed. Such tenets of American culture have influenced United States formulation of trade-secret law. Examples of such influence are the ease and duration of protection, the new and developing nature of the law, and the inherent policy of encouraging innovation and competition. Trade-secret protection can offer a comparatively quick, easy, and cheap way to protect property that might otherwise be protected through more formal conceptions of intellectual property such as patent law. There are no government formalities and no time limits on protection of the intellectual property, contrary to patents and copyrights. Additionally, if a company or individual submits a "secret" for patent approval and is denied, the secret will be lost and in the hands of their competitors. Unfortunately, due to the relative newness of trade-secret laws, there remain issues of standardization and enforcement. Still, the desire to be competitive at home and abroad fuels the growing utilization of trade-secret protections today.

B. United States Trade-Secret Laws and Regulation

Evidence of the developing nature of the law is reflected in the lack of uniformity of trade-secret protection in the United States. While the United States Supreme Court has recognized trade secrets as property, the misappropriation of trade secrets remains unregulated by federal law. Although a criminal cause of action for misappropriation of trade secrets exists under the Economic Espionage Act ("EEA"), there is no federal civil cause of action. Instead, trade secrets are regulated by varying state laws as each state is free to enact its own statutes governing

86. Id.
87. Id.
88. See A.B.A. PRIVACY & COMPUTER CRIME COMMITTEE, SEC. OF SCI. & TECH. L., INTERNATIONAL GUIDE TO PRIVACY 59 (Jody R. Westby ed., 2004) (describing the UTSA, drafted by the National Conference of Commissioners on Uniform State Laws, promulgated in 1979) [hereinafter INTERNATIONAL GUIDE TO PRIVACY].
89. See Halligan, supra note 10, at 662. See also Jorda, supra note 10, at 11.
90. Id.
91. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 59.
92. See BOUCHOUX, supra note 4, at 193.
94. See Halligan, supra note 10, at 662. See also Jorda, supra note 10, at 11.
95. See FINK & MASKUS, supra note 5, at 19, 42.
96. See Halligan, supra note 10, at 662. See also Jorda, supra note 10, at 11.
97. See BOUCHOUX, supra note 4, at 194.
98. Id. See also Jorda, supra note 10, at 11.
trade secrets. While most states have adopted some form of the Uniform Trade Secrets Act ("UTSA"), there remains "glaring holes and discrepancies." As a result, there are inconsistent regulations for trade secrets, which has led some intellectual property scholars in the United States to call for an overarching federal law to regulate trade secrets and create a federal civil cause of action.

1. Civil Cause of Action under the UTSA

Thus, states must rely on their own statutory and common law, misappropriation claims, unfair-competition claims and state contractual claims for protection of trade secrets. Many state statutes borrow their law from the UTSA, which has a two-part definition of "trade secret." Under the UTSA, trade secret is generally defined as "information, including a formula, pattern compilation, program, device, method, technique or process" that derives "independent economic value" from "not being known or discoverable by others," and is "the subject of efforts that are reasonable under the circumstances to maintain its secrecy."

Individual courts will usually draw from a list of factors to determine whether something is a trade secret and whether efforts at protecting that secret were in fact "reasonable." Examples of such factors include the extent to which the information is known outside the owner's business, the extent of measures taken to keep the information secret, the value of the information, the relative time and money expended by the owner in developing the information, and the relative ease or difficulty for another to acquire the information. In addition, the secrecy requirement is not absolute; rather the "reasonable" effort

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99. See BOUCHOUX, supra note 4, at 194.
100. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 59. See also BOUCHOUX, supra note 4, at 194 (stating that the NCCUSL envisioned that each state would adopt the act).
102. See Jorda, supra note 10, at 11. See also Halligan, supra note 10, at 656-57 (discussing the need for a federal civil cause of action that streamlines enforcement of trade-secret misappropriation).
103. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 59.
104. Id. UNIFORM TRADE SECRETS ACT § 1(4) (Drafted by the National Conference of Commissioners on Uniform State Laws, as amended 1985).
105. See UNIFORM TRADE SECRETS ACT § 1(4). See also BOUCHOUX, supra note 4, at 193 (describing the economic value as actual or potential).
106. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 59. UNIFORM TRADE SECRETS ACT § 1(4).
107. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 60-61.
108. Id.
inquiry creates a sliding scale for the court to balance the value of the information against the measure taken to protect it.\textsuperscript{109}

2. Misappropriation and Remedies under the UTSA

Once the analysis for "trade secret" is complete, courts turn to misappropriation.\textsuperscript{110} The UTSA outlines two forms of misappropriation: acts through "improper means" and acts in violation of a valid nondisclosure or confidentiality agreement.\textsuperscript{111} If the court finds that a trade secret has been misappropriated, it will award remedies.\textsuperscript{112}

Civil remedies usually consist of three types: injunction, monetary damages, and attorney’s fees.\textsuperscript{113} The UTSA provides injunctive relief for actual or threatened misappropriation of information that can be viewed as a trade secret.\textsuperscript{114} A court may additionally award two types of monetary damages: compensatory and exemplary.\textsuperscript{115} Compensatory damages are awarded for an actual loss or unjust enrichment resulting from misappropriation.\textsuperscript{116} However, if a court feels that the misappropriation was willful and malicious, the court can award exemplary damages up to twice the amount of actual or compensatory damages.\textsuperscript{117}

3. Framework and Enforcement under the EEA

The EEA is a federal criminal act regulating the misappropriation of trade secrets.\textsuperscript{118} The EEA was passed in 1996 and is composed of two sections, Section 1831\textsuperscript{119} and Section 1832.\textsuperscript{120} Section 1831 regulates economic espionage committed by foreign governments, foreign instrumentalities, and foreign agents.\textsuperscript{121} Section 1832 regulates trade-secret theft that benefits anyone other than the true owner.\textsuperscript{122} Both

\begin{itemize}
  \item \textsuperscript{109} Id. at 60.
  \item \textsuperscript{110} Id. at 60-61.
  \item \textsuperscript{111} Id. at 61 (noting that the UTSA defines “improper means” as “theft, bribery, misrepresentation, breach or inducement of breach of duty to maintain secrecy, or espionage through electronic or other means”).
  \item \textsuperscript{112} See \textit{INTERNATIONAL GUIDE TO PRIVACY}, supra note 88, at 61.
  \item \textsuperscript{113} Id. See also Budden, Lake & Yeargain, supra note 93.
  \item \textsuperscript{114} See Budden, Lake & Yeargain, supra note 93.
  \item \textsuperscript{115} Id.
  \item \textsuperscript{116} Id.
  \item \textsuperscript{117} Id.
  \item \textsuperscript{118} Economic Espionage Act, 18 U.S.C. §§ 1831-1832 (1996).
  \item \textsuperscript{119} Id. § 1831.
  \item \textsuperscript{120} Id. § 1832.
  \item \textsuperscript{121} See Halligan, supra note 10, at 664.
  \item \textsuperscript{122} Id.
\end{itemize}
Sections have an “intent component,” requiring that the misappropriation have been “knowingly” committed.\textsuperscript{123}

The definition of “trade secret” is broader under the EEA than it is under the UTSA and state civil statutes.\textsuperscript{124} Trade secret protects “all forms and types of financial, business, scientific, technical, economic, or engineering information, formulas, designs, prototypes, methods, techniques, processes, whether or how stored, complied, or memorialized physically, electronically, graphically, photographically, or in writing.”\textsuperscript{125}

The two-part requirement for information to be considered a trade secret under the EEA is similar to that under the UTSA: the owner has taken “reasonable measures” to keep the information secret\textsuperscript{126} and the information derives “independent economic value, actual or potential, from not being generally known to, and not being ascertainable through proper means by, the public.”\textsuperscript{127}

Section 1831, “economic espionage,” covers more than outright theft by a foreign government, instrumentality, or agent.\textsuperscript{128} This section can also be used to prosecute trafficking in stolen trade secrets and the attempt and any conspiracy to commit such offenses.\textsuperscript{129} Section 1831 imposes more severe penalties\textsuperscript{130} than Section 1832, reflecting Congress’ belief that foreign agents pose the greatest risk to American businesses.\textsuperscript{131}

Section 1832, “theft of trade secrets” for economic or commercial advantage, applies to a broader range of activities and offenders but contains prosecutorial limitations not present in Section 1831.\textsuperscript{132} Under Section 1832, (i) the intended benefit realized must be economic in nature, (ii) the thief must intend or know that the offense will injure the rightful owner, and (iii) the stolen information must be “related to or included in a product produced for or placed in interstate or foreign

\textsuperscript{123.} See Cormier, Kozell & McCurdy, supra note 2, at 763.
\textsuperscript{124.} See Dilworth, supra note 1. See United States v. Martin, 228 F.3d 1, 11 (1st Cir. 2000) ("the Act defines 'trade secret' broadly, to include both tangible property and intangible information").
\textsuperscript{126.} Id.
\textsuperscript{127.} Id.
\textsuperscript{128.} Id. § 1831(a)(1-5). See also Cormier, Kozell & McCurdy, supra note 2, at 767.
\textsuperscript{130.} Compare 18 U.S.C. § 1831 (1996) ("fined not more than $500,000 or imprisoned not more than 15 years or both") with 18 U.S.C. § 1832 (1996) ("fined under this title or imprisoned not more than 10 years, or both").
\textsuperscript{131.} See Dilworth, supra note 1.
\textsuperscript{132.} See Cormier, Kozell & McCurdy, supra note 2, at 767.
commerce." 133 Section 1831 offers a greater range of remedies, reflecting Congress' heightened concern with respect to foreign actors; still prosecutions under the EEA have occurred largely under Section 1832, even though Section 1832 imposes a tougher prosecutorial burden. 134

An advantageous feature inherent in federal legislation is the access to the federal court system. Federal courts provide for national service of process. 135 National service of process can be particularly important in trade-secret cases where evidence and witnesses are scattered across the country. 136 The location of evidence and witnesses can present a major difficulty in pursuing trade-secret misappropriation under state statutes because trade secrets are inherently time sensitive. 137 Additionally, criminal sanctions are likely to be a much stronger deterrent than civil sanctions. 138 Some intellectual-property "thieves" view civil sanctions as merely "the cost of doing business." 139 Federal statutes, other than the EEA, used by prosecutors to combat the misappropriation of trade secrets have been largely unsuccessful. 140

C. Consequences for the United States Globally

Grappling with disparity in the law among the varying states and the federal government can be viewed as a microcosm for the U.S. experience when working with and within foreign countries. In fact, unifying the legal structure for trade-secret law in the United States would likely strengthen the United States' ability to compete in the international market. 141 Furthermore, the lack of uniformity could be viewed as a failure to comply with both the North American Free Trade Agreement ("NAFTA") and TRIPS, 142 since both international instruments mandate national standards for trade-secret protection within

133. 18 U.S.C. § 1832(a) (1996). See also Cormier, Kozell & McCurdy, supra note 2, at 812 n.40 (noting that this requirement is broader than the UTSA's corresponding provision that requires that the person misappropriating the trade secret be the one benefiting from its disclosure or use).
134. See Cormier, Kozell & McCurdy, supra note 2, at 768.
135. See Halligan, supra note 10, at 667.
136. Id. at 668.
137. Id.
138. See Cormier, Kozell & McCurdy, supra note 2, at 763 (discussing the importance of Federal protection of intellectual-property rights given the current ease in which illegitimate goods can be distributed).
139. Id.
140. Id. at 765 (these include the National Stolen Property Act, the Trade Secrets Act, the Mail and Wire Fraud statutes and the Racketeer Influenced and Corrupt Organizations Act).
141. See Halligan, supra note 10, at 658.
142. See Jorda, supra note 10, at 13. See also Halligan, supra note 10, at 671.
individual signatory countries. These realities present a particularly large problem when considering that an estimated eighty to ninety percent of all new technology could potentially be protectable through trade-secret law. Additionally, the threat from trade-secret misappropriation is not only economic. Beyond monetary damages, intellectual-property theft can also be a serious threat to the health and safety of the general public. For example, when counterfeit materials are used in pharmaceuticals they can be incredibly harmful to consumers who unknowingly ingest them.

A survey conducted by the leading authoritative resource on proprietary-information losses by United States companies confirmed that sixty percent of respondents knew of attempted or actual trade-secret theft occurring within their respective companies. Moreover, the primary beneficiaries of the theft were foreign entities. These statistics are particularly relevant to a medical-services inquiry because information vital to the medical industry not only includes scientific formulae and processes but also research and development, and consumer data, which are protected largely through trade secret. These facts show that trade-secret policies espoused by the United States are largely unsuccessful. While the United States has a strong history and rhetoric of protecting private-property rights, current United States policies are ineffective in combating the misappropriation of trade secrets.

IV. TRADE SECRET LAW IN CHINA

While the United States is concerned with China’s compliance on piracy and counterfeiting issues, Chinese trade-secret law is facially very similar to the United States laws; moreover, China has a nationwide

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143. See Jorda, supra note 10, at 13.
144. Id.
145. Id.
146. Id.
147. See Jorda, supra note 10, at 13. See also Halligan, supra note 10, at 671.
150. See Halligan, supra note 10, at 660 (citing ASIS INTERNATIONAL, “China, Russia and India were identified as the top intended non-U.S. recipients of compromised information”).
151. See Fellmeth, supra note 42, at 445. See also Gibbons & Vogel, supra note 45, at 262.
152. See Segal, supra note 47, at 536.
civil cause of action for the misappropriation of trade secrets. However, enacting and enforcing such laws are not the same. There are benefits for China internationally in developing intellectual-property legislation that appears counter to Chinese culture and tradition.

A. **Historical Development of Chinese Trade-Secret Law and Culture**

Intellectual-property recognition and rights are relatively new in China. China first began developing intellectual-property laws in 1979 following reform. The first intellectual property-centered rights dispute was in 1992. China has had intellectual-property law structures in place since the 1980s, but training for intellectual-property personnel has lagged behind. Additionally, China has been comparatively slow to raise public awareness on the importance of intellectual-property rights. This is likely due to China’s roots in

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155. *Id.*


159. *See* *China Intellectual Property Strategy, supra* note 153 (discussing the creation of the China Patent Office in 1980 and the “Patent Law of the People’s Republic of China” in 1985 with corresponding related laws and regulations to follow). In 1979 China had unified registration of trademarks; the “Trade Mark Law” went into effect in 1983 accompanied by corresponding rules, regulations and revisions. *See id.* Copyright Protection was established in the 1990s with the “Copyright Law” and the Law Against Unfair Competition was adopted and promulgated in 1993. *See id.*

160. *See China Intellectual Property Strategy, supra* note 153 (stating that “the intellectual property service and support system and training for all types of intellectual property personnel lag behind its development”).

161. *See China Intellectual Property Strategy, supra* note 153 (stating that “the quality and quantity of the self-relied intellectual property still cannot meet the demands of economic and social development”). “The public awareness of the importance of intellectual property is comparatively weak and the capacity of market entities to utilize intellectual property is not very strong.” *See id.* “Infringement of intellectual property is still a relatively serious problem.” *See id.* *See also* Intellectual Property Protection in China, Ministry of Commerce of the P.R.C., Protect Your
Confucianism, a collectivist philosophy. Under Confucian ideology there is minimal emphasis on the rights of original creators of goods. Moreover, copying in China has traditionally been viewed as respectful. Accordingly China’s tradition and history are incongruous with modern intellectual-property law.

China is a one-party state with power centralized under the Chinese Communist party (“CCP”). In the early 1980s, China reorganized the structure of the government and the CCP. This reorganization rehabilitated parts of the nation purged during the Cultural Revolution and emphasized “the maintenance of discipline, loyalty, and spiritual purity in the face of increasing international contact.”

A Chinese scholar reflects the Chinese approach to international treatment of intellectual-property rights, stating that “[m]ore often you, the United States, go from the specific to the general. You think if you[.,] [China,] do well on human rights, IPR [intellectual property rights], then we’d be friends. Chinese are just the opposite; if we are friends we can deal with specifics easier.”

China began building its current, modern legal structure in the late 1970s. At that time, China also began opening itself economically to the rest of the world. Since then, China has developed legal codes in the areas of criminal, civil, administrative, and commercial law. Yet the legal system is not independent of the government; a problem that is

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162. See Segal, supra note 47, at 539-40.
163. Id. at 540.
164. Id.
165. See generally id. at 539-40 for a discussion on China’s legal culture and lack of intellectual property tradition.
166. See CHINA, supra note 157, at 10219.
167. Id.
168. The country is governed under the constitution of 1982 as amended, the fifth constitution since the accession of the Communists in 1949. Administratively, the country is divided into 22 provinces, five autonomous regions, and four municipalities. Despite the concentration of power in the Communist party, the central government’s control over the provinces and local governments is limited, and they are often able to act with relative impunity in many areas.
170. See CHINA, supra note 157, at 10219.
171. Id.
172. Id.
especially acute on the local level, where corrupt officials manipulate the process to protect themselves and limit citizens’ rights.”

B. China’s Trade-Secret Laws and Regulation

China’s leaders have stated their desire to improve the national understanding and treatment of intellectual property. Likewise, China’s leaders are padding a legal structure for the protection of trade secrets, or as they refer to it generally, protection against “unfair competition.” The leading law, enacted in 1993, is the Law Against Unfair Competition of the People’s Republic of China (“Unfair Competition Law”).

The Unfair Competition Law has been modified by different regulations, such as Regulations on Prohibiting Anti-Competitive Practices of Public Enterprises, Regulations Prohibiting Infringement of Commercial Secrets, Regulations on Prohibiting Unfair Competition Activity Concerning Imitating Specific Names, Packaging or Decoration of Well-known Commodities, and Regulations on Prohibiting Unfair Competition in Prize-Attached...
Sales. The regulations are further clarified by the “Interpretation of the Supreme People’s Court on Some Issues Concerning the Application of Law in the Trial of Civil Cases Involving Unfair Competition.”

China’s State Administration for Industry and Commerce (“SAIC”) is the oversight body for intellectual-property protection. Under the SAIC, the Antimonopoly and Anti-Unfair Competition Enforcement Bureau is responsible for the implementation of the Unfair Competition Law. The Local Administration for Industry and Commerce (“AIC”) is responsible for administrative enforcement of the law.

The Unfair Competition Law defines “business secrets” as “technical information and operational information which is not known to the public, which is capable of bringing economic benefits to the owner of rights, which has practical applicability and which the owner of rights has taken measures to keep secret.” This definition of “business secrets” is similar to the general understanding of what the United States considers a trade secret. However, the meaning of the terms within the definition as interpreted by Chinese courts and scholars differ from the meaning the terms have attained in the U.S. and may not be so intuitive.

1. “Not known to the public”: The “public” in this definition does not refer to the general public, but to current or prospective industry competitors or people who want to obtain economic benefit by exploiting the secret. The “public” is also limited to the Chinese “public”-if a trade secret is known outside of China, but not inside

182. See IPR TOOLKIT, supra note 175.
183. Id.
184. Id.
185. Id.
186. See Zuber, supra note 176.
187. See INTERNATIONAL GUIDE TO PRIVACY, supra note 88, at 59.
188. See Zuber, supra note 176.
China, it is considered “unknown to the public” under this definition. “Unknown” means secret and not accessible through public channels.

2. “Potential economic benefits”: Through tangible or intangible means, the trade secret must be able to generate profit or commercial value, or provide a competitive advantage.

3. “Practical applicability”: The information should be specific and immediately useful and applicable to industrial and business applications. It cannot be mere theory or general principle.

4. “Measures to keep secret”: Before an owner of a trade secret can claim infringement, he must show that he took proper and reasonable steps to keep the information secret, and he should be able to trace those steps through written record.\(^\text{189}\)

Article 10 of the Unfair Competition Law further defines “infringement” once a business secret has been established:

1. obtaining business secrets from the owners of rights by stealing, promising of gain, resorting to coercion or other improper means;

2. disclosing, using, or allowing others to use business secrets of the owners of rights obtained by the means mentioned in the preceding item;

3. disclosing, using or allowing others to use business secrets that he has obtained by breaking an engagement or disregarding the requirement of the owners of the rights to maintain business secrets in confidence.\(^\text{190}\)

Article 10 of the Unfair Competition Law also provides for third-party liability.\(^\text{191}\) A third party is considered to have infringed the business secrets of others where he “obtains, uses[,] or discloses the business secrets of others when he obviously has or should have full awareness of the illegal acts” discussed above.\(^\text{192}\)

\(^{189}\) Id. (citing Judge Cheng Yongshun’s book, A FURTHER STUDY OF TRADE SECRET’S LEGAL FEATURES.)

\(^{190}\) See Zuber, supra note 176.

\(^{191}\) Id.

\(^{192}\) Id.
C. Unfair Competition Law: Enforcement, Liability and Remedies

1. Administrative Enforcement and Remedies

Chapter III of the Unfair Competition Law, “Supervision and Inspection,” gives the AIC the power to investigate and enforce penalties for acts of unfair competition. Possible penalties include confiscating the illegal income, ordering the business operator to cease the illegal act, imposing a fine, and revoking the business operator’s business license. Additionally, under the business-secrets regulations, AICs have the authority to instruct the return of drawings, blueprints, and other materials containing business secrets; and to order the destruction of goods manufactured using stolen business secrets if such goods would disclose the secrets to the public if made available. The AIC can impose a fine of between 10,000 Renminbi (“RMB”) and 200,000 RMB. However, critics feel that these AIC fines are not large enough to deter unfair competition. Furthermore, the AICs do not award individual compensation in unfair-competition cases; injured parties must instead turn to civil litigation.

2. Civil Actions and Remedies

If the injured party feels that the administrative action was not adequate or seeks compensation in the form of damages, then he or she can appeal before a People’s Court. However, the plaintiff has a high burden of proof in an appeal before the People’s Court. First, the plaintiff must prove that what he is seeking to protect does meet the definition of trade secret as described above. Then the plaintiff must prove that the other party unlawfully infringed plaintiff’s business secret. While judges are fair, they are unfortunately not obligated in the People’s Court to follow precedent, making the plaintiff’s case more difficult.

193. Id.
194. See IPR TOOLKIT, supra note 175.
195. Id.
196. See Zuber, supra note 176.
197. Id.
198. See IPR TOOLKIT, supra note 175.
199. See Zuber, supra note 176.
200. Id.
201. Id.
202. Id.
203. Id.
In determining monetary damages, courts have followed the model articles in the Unfair Competition Law. Where the offending party causes damages through his actions, he shall be responsible for compensating the injured party for those damages. Where the losses to the injured party are difficult to ascertain, courts will calculate damages based on the infringer’s increased profits as a result of the misappropriation. In addition, the infringing party is responsible for the fees involved in investigating the case. It can take an average of four to seven years for a case to be heard, and it is rare for large damages to be awarded.

Along with damages, an injured party can request an injunction. Injunctions are the easiest method for a trade-secret owner to prevent further infringement because owners only need to request a preliminary injunction from the court.

3. Criminal Penalties

Article 219 of China’s Criminal Law, Crimes of Disrupting the Order of the Socialist Market Economy, outlines criminal liability for a party infringing the business secrets of another. Article 219’s description of infringement of a business secret is almost a mirror image of Article 10 of The Law Against Unfair Competition.

Article 219 further states that if a party commits any of three acts of infringing on business secrets and, as a result, causes “heavy losses” to the business secret owner, he or she can be sentenced to a prison term of a maximum of three years in addition to being fined. Article 219 does not specify what “heavy losses” are, but it does state that the total amount of the damages is not an important factor in determining whether heavy losses have been caused. Therefore, Article 219’s definition of criminal infringement of business secrets is broad enough to encompass any damage incurred as a result of misappropriation. Article 219 also states that the defendant may be sentenced to a prison term of no more than three years in addition to being fined. Additionally, if the defendant causes heavy losses to the business secret owner, he or she may be sentenced to a prison term of no more than three years in addition to being fined.

204. See Zuber, supra note 176.
205. See IPR TOOLKIT, supra note 175.
206. Id.
207. See Zuber, supra note 176.
208. Id.
209. Id.
210. Id.
211. Id.
212. Id.
213. Id. See, e.g., Ningobo Oriental Movement Ltd v. Ningbo Yuanda Co Ltd and Li Guoqi (1999) (Individual defendant found liable for infringement for stealing and using the plaintiff’s trade secret, causing plaintiff to suffer damages of more than RMB
not define "heavy losses," however, in 2004, the Supreme People's Court and Supreme People's Procuratorate issued a judicial interpretation. Under the interpretation, "heavy losses" are defined as 500,000 RMB for individuals and 1,500,000 RMB for an enterprise.

Article 219 further states that if the consequences of infringement are "especially serious," then the infringing party will be sentenced to no less than three and no more than seven years in prison and will be forced to pay a fine. Under the interpretation, "especially serious" is incurring losses of 2,500,000 RMB for individuals and 7,500,000 RMB for an enterprise.

Additionally, Article 219 provides for third-party liability under the Unfair Competition Law where an infringer knows or should have known that the information in question falls under one of the three categories of business secrets. There are likely more instances of criminal infringement than what is reported because business-secret owners fear that reporting to the authorities may expose the business secret during criminal prosecution. Since one of the requirements for a business secret is that it is not public knowledge, such exposure could completely devalue the secret, and it explains owner hesitations.

D. Consequences for China Globally

Enforcement of business-secret rights following infringement is more difficult in China than in the United States. These enforcement difficulties require that companies in China take comprehensive, preventative measures to protect their business secrets. The same is true for foreign companies operating in or together with China.

1,000,000. The Ningbo Dongjiang People's Court sentenced the defendant to three years in jail and a fine of RMB 200,000. See also, Zuber, supra note 176.
214. See IPR TOOLKIT, supra note 175.
215. Id.
217. See Zuber, supra note 176.
219. See Zuber, supra note 176.
221. See id. (these measures include: (1) Trade Secret Audit: If development and protection of trade secrets is a dynamic process in your company, it's advisable to implement a regular method by which you screen your trade secret program, identify all potential trade secret information and ensure its current protection; (2) Restricted access areas, passwords and clearance levels for all users of the secret information; (3) Encrypting and physically securing of sensitive materials; (4) Enabling users of secret information to gain access to only the necessary part of the information, whenever necessary.)
Similar to the United States, China has adopted methods through contract law for prevention of infringement of business secrets. Methods adopted by China include Employee Confidentiality Agreements and Agreements Not to Compete. Employee Confidentiality Agreements are codified in Article 102 of the Labour Law of the People’s Republic of China, which states that when an employee “breaches a confidentiality agreement provided in the employment contract, causing economic damages to the employer, he or she is responsible for compensating the damages according to the law.”

Current and former employees normally must keep the information confidential until it becomes generally known to the public by other means. Agreements Not to Compete are not codified in Chinese law, but Chinese courts have recognized and upheld such agreements as long as they contain certain provisions. With both forms of preventative measures, the more specific the contracts are regarding the business secret to be covered, the more effective they usually are.

When China’s leaders decided to trade within the international community, China desired to become a contracting party to the WTO and enjoy the benefits of such membership. Thereafter, in December 2001, China became a party to the WTO.

possible; (5) Classification methods, including something as simple as the use of stamps on materials identifying them as “SECRET,” “CONFIDENTIAL,” etc.; (6) Written confidentiality and non-compete agreements with everyone who will have any contact with trade secrets; (7) Employee identification IDs and visitor clearance requirements (8) Employee handbooks with provisions regarding trade secrets, photocopying policies, etc. (9) Reference and background checks on all managers, key employees and persons who will have regular access to any secret information (10) Performing exit interviews with departing employees and providing a reminder of their continuing confidentiality obligations.

223. See Halligan, supra note 10, at 660 n.57 (citing ASIS INTERNATIONAL, “China, Russia and India were identified as the top intended non-U.S. recipients of compromised information”).

224. See Zuber, supra note 176.

225. Id.

226. Id.

227. Id

228. Id. (1) Specific scope of the non-compete limitation; (2) Term—must be fair and reasonable. Local regulations dictate a maximum length, typically a maximum of three years; (3) The Amount of Compensation—a non-compete is invalid in China unless the employer provides necessary economic compensation to the employee who is obligated not to compete during the non-compete period. Regulations provide that the minimum annual compensation for non-compete obligations is half of the employee’s annual total income the employee received the year before he or she left; (4) Method of payment of the compensation; (5) Liabilities for breach of the agreement. Id.

229. See Zuber, supra note 176.

230. See Segal, supra note 47, at 538.

231. Id.
Once China signed the WTO agreement it also had to sign TRIPS, because of the all-encompassing aims of the WTO. As previously discussed, TRIPS mandates trade-secrets legislation within signatory states. Yet when China signed to the WTO and TRIPS in 2001, it took advantage of WTO regulations that allows a signatory nation to designate itself as a developing nation. As a result, China could take more time to implement the required changes within the country so that they were in compliance with TRIPS. While completely legal, the move was not well received in the international community, since the purpose behind signing on was presumably to bring China up to international standards rather than simply buy time for compliance.

In recent years, commerce between China and the rest of the world has increased dramatically. And while China has shown support for intellectual-property regulation, there remains doubt about China's resolve to adopt international intellectual-property standards.

V. AN ALTERNATIVE MODEL: BRAZIL AND OPEN SOURCE

While the United States represents the dominant model on intellectual-property law and China openly appears to be following suit, Brazil, once also a follower, has recently presented an alternative path. Brazil now proposes an "open source model" that has gained attention from the international community. This new model could be viewed as a threat to the United States, but given the history and development of Brazil it may present a better future for her country.

232. Id.
233. Id. See also, Jorda, supra note 10, at 13 and Halligan, supra note 10, at 671.
234. See Segal, supra note 47, at 538.
235. Id. at 538-39.
236. Id. at 536.
237. Id. "Several recent high profile patent court decisions, as well as the virtually unabated piracy of copyrighted materials, have raised doubts about the resolve of the Chinese government to adopt the standards of international IP protection mandated by TRIPS". Id.
238. See generally SELL, supra note 6, at 1-3 for a discussion of United States involvement and leadership in IP law development.
239. See supra Part IV.
240. See supra Part V.B.
241. See Kogan, supra note 19, at 7.
242. Id.
243. Id.
244. Id.
245. See generally id. at 20-30 for a discussion of how Brazil's "IP opportunism" may pose a threat to U.S. property rights.
A. History and Culture of Brazil

Brazilians focus on community and maintaining a high degree of social involvement. Brazil is rich with natural resources and opportunities for economic growth. Yet the country is saddled with the after-effects of hundreds of years of a plantation society. As a result, there is a massive gap between the rich and the poor in an otherwise wealthy country. Consequently, experts state that Brazil lacks the “core human capital, namely, education, and a market-friendly enabling environment that incorporates strong recognition and protection of exclusive intellectual property rights.” Additionally, the government suffers from systematic corruption, making domestic goals, such as affordable national healthcare, difficult to accomplish. In the midst of this political environment, Brazil has enacted laws that protect unfair competition.

B. Brazil Trade-Secret Law

Brazil, and more generally Latin America, does not have a history of trade-secret law. However, Latin American countries have basically protected the same information that trade-secret laws of other countries protected with its prevention of dishonest commercial practices or unfair-competition laws. In 1996 Brazil overhauled its intellectual-property laws, placing trade-secret protection formally under the rubric of “unfair competition.”

Brazilian intellectual property law under the unfair competition provisions in Article 195 of the “Lei de Propriedade Industrial”
SECRET'S OUT

protects trade secrets. Article 195 establishes as statutory federal felonies the following acts:

1. The unauthorized disclosure, exploitation or use of confidential knowledge, information or data usable in the industry, in commerce or in the providing of services (except that which is public knowledge or which is obvious to a person skilled in the art) to which the person had access by means of a contractual or employment relationship, even after termination of the contract.

2. The unauthorized disclosure, exploitation or use of the results of tests or other undisclosed data, the elaboration of which involved considerable effort and which has been presented to government entities as a condition for obtaining marketing approvals. This does not apply when disclosure is necessary to protect the public.

Relief under Brazil trade-secret and unfair-competition law broadly mirrors that of the United States and China. Compensatory and punitive damages, and injunctions are all available remedies. The statutory federal felonies listed above are punishable by detention of three months to one year, or a fine. However, Brazilian law does not define "confidential knowledge," making it difficult for the judicial system to determine the information to be protected by the law.

Conversely, a lawsuit can be filed prior to and to prevent the disclosure of trade secrets. A preventative lawsuit may be necessary when entities must submit trade secrets to a government agency for government authorization. For example, the submission of marking approval for a pharmaceutical product requires filing with the government agency; a preventative suit would bar other entities or applicants of generics from accessing the filed secret.

While this broad overview reflects the commonalities of United States, Chinese, and Brazilian treatment of trade secrets, Brazil has recently challenged its own degree of protection afforded to intellectual
property in the country. Brazil now presents an example of an alternative method of conceptualizing intellectual property that could have a big impact on international trade.

C. New Global Framework Advanced by Brazil

Brazil has defined itself as a developing country and has been promoting a controversial global framework that calls for open access of knowledge and technology for developing countries. This framework is grounded in an “expanded notion” of sustainable development that challenges strong intellectual-property rights by favoring public or communal rights over private-property ownership. The framework is fairly simple, requiring a continuous flow of any new science and technology to be transferred to self-defined developing countries at concession-rate prices. While Brazil and its growing number of supporters in this movement maintain that this model will enable developing countries to “liberate themselves from endemic poverty and disease so that they may ultimately achieve economic and social parity with the developed world,” others feel that this model actually hinders such countries’ prospects for scientific, technological, economic and social advancement.

Brazil has advocated a critical reading of TRIPS that would create a greater balance between intellectual-property protection and public-health objectives. Brazil has influenced the World Health Organization (“WHO”) to openly encourage a flexible reading of TRIPS that would make public health concerns paramount. In 2003, the WHO World Health Assembly (“WHA”) issued a resolution advising developing countries to structure legislation to take advantage of this flexible reading. In 2006, the WHO proposed an “alternative simplified system for protection of intellectual property.” The system would allow for royalty-free copying of patents if necessary for public-health reasons. The system proposes that research and development, one of the largest driving costs factors of medicine, would then be

268. See Kogan, supra note 19, at 4-9.
269. Id.
270. Id.
271. Id.
272. Id. at 8-9 (referring to these prices as “essentially free”).
273. See Kogan, supra note 19, at 10-11.
274. Id. at 36.
275. Id. at 38-39.
276. Id. at 39.
277. Id. at 42.
278. See Kogan, supra note 19, at 43.
financed in other ways, such as taxes or government subsidies. Again, intellectual-property scholars seem divided on what such a plan would do to innovation, affordability and access.

VI. IMPLICATIONS OF EACH MODEL IN THE UNITED STATES, CHINA AND BRAZIL

A. Trade Secrets and the Medical Industry

Protecting valuable medical technology and data as trade secrets is becoming more prevalent across the globe. Companies are turning to trade-secret protection prior to or instead of seeking patent protection.

In general, the following are examples of information of particular interest to those in the pharmaceutical, biotechnology and medical device fields that can potentially qualify for protection as trade secrets: NCEs (new chemical entities); chemical formulations; testing or manufacturing processes and methods; new therapeutic candidates; methods of treatment for which patent applications have not published, patents have not issued or FDA approval has not been sought; employee know-how; and highly sensitive and competitively useful business and financial information. The following are examples of information that generally cannot qualify for protection as trade secrets: general knowledge; skills and abilities necessary to perform a job; publicly available information or information that is not sufficiently kept secret; information that is a result of reverse engineering; and information obtained by independent invention.

The above list reflects the wide range of medically related intellectual property that can be protected though appropriate efforts at secrecy as defined by the applicable trade-secret law. Trade-secret protection is vital to the medical industry because often raw materials, research, and production occur at different places in the world, even for a single product or company. Additionally, trade-secret protection garners benefits discussed previously such as a virtual monopoly on the

279. Id.
280. Id. at 39-44.
281. See Gibbons and Vogel, supra note 45, at 262. "The importance of properly protecting intellectual property assets as trade secrets either in lieu of or prior to seeking patent protection is garnering the attention and support of audiences beyond in-house and outside counsel in the fields of biotechnology, pharmaceuticals and medical devices." Id.
282. Id.
283. Id. at 265 (citing Roger M. Milgram, Milgram on Trade Secrets § 1.09 at 1-505-1-647 (Matthew Bender & Co., Inc.)).
284. Id.
285. Id.
Finally, trade secret may be the best and only source of protection for medical-testing data and research and development, which are both crucial to the production of new medicines as well as expensive and time consuming.  

B. Consequences of the Current Systems

The economics of research and development costs is quite influential to the debate over access and affordability. The proposed Brazilian model operates on the assumption that private intellectual-property rights are not necessary for innovation. However, that assumption fails to consider the high costs of research and development. Companies invest their resources to develop medicine knowing that they will be reimbursed for that investment. The Brazilian-model response that taxes or the government could repay that investment is faulty as well. Government funding would raise the costs of medicines for everyone, since the cost to develop them is so high. If the costs are spread out evenly, there will still be many people who are unable afford the medicine, possibly even more so.

Opening access to pharmaceutical data and intelligence may seem appealing for “developing countries” or those who wish to reach the same level economically and health-wise as “developed” countries. However, looking at the history of trade-secret-law development, those countries that have started with a strong conception of private rights seem to have benefited greatly in research and development. Yet, while the access and diversity of medicine has been greater, it has become extremely costly and could be a major cause of the healthcare crisis in the United States. Individual countries want the positives flowing from research-and-development money that follows the privatization of intellectual property, but not the negatives of high

286. See Poltorak & Lerner, supra note 3, at 41 (discussing that while trade secrets have their limitations, they still represent highly valuable corporate assets and “are not to be taken lightly”).
287. See Gibbons and Vogel, supra note 45, at 262.
288. See Kamal Saggi, Trade-Related Policy Coherence and Access to Essential Medicine, in INTELLECTUAL PROPERTY RIGHTS AND SUSTAINABLE DEVELOPMENT 6 (2007).
289. Id.
290. Id.
291. Id.
292. Id.
293. See Saggi, supra note 288, at 6.
294. Id.
295. See Kogan, supra note 19, at 10-11.
296. See generally SELL, supra note 6, at 60-74 for a discussion of United States intellectual-property rights from a historical perspective.
297. See Lickeman, supra note 38.
prices.²⁹⁸ The United States today seems similarly conflicted as American politicians complain about high prices yet push the United States model of privatization of medical knowledge on the rest of the world.²⁹⁹ China appears conflicted as well; despite espousing a strong commitment to intellectual-property rights, China is one of the leading recipients of misappropriated information.³⁰⁰ Amidst this conflict, countries could begin moving in a protectionist direction that actually stunts development and frustrates trade.

The argument for free trade in relation to providing medical services is a strong one.³⁰¹ The argument is two-fold.³⁰² First, free trade allows countries to specialize in activities or production that they have a comparative advantage in vis-à-vis the rest of the world.³⁰³ At the same time, countries can import products that are produced more efficiently by other countries.³⁰⁴ Second, free trade allows for international “diffusion of technology,” meaning that countries can build upon what has already been produced or created by other countries, rather than investing similar time and resources to the same end.³⁰⁵ Basically, countries are not forced to “reinvent the wheel.”³⁰⁶ These same principles are equally applicable in the relationship between trade and health.³⁰⁷ If countries can work together, they can build previously attained knowledge and efficiently specialize production of medicine and testing data. Yet, the failing of TRIPS and current domestic enforcement schemes is the misconception that free trade requires homogenization.³⁰⁸

This Comment argues that global uniformity is not required for free trade and exchange of ideas. A more appropriate goal of trade-secret law is effective global protection and understanding. Countries must individually come to terms with the kind of conception that they have for property and what that means for trading, distributing or manufacturing in the international market. Countries must have a strong identity of what form of intellectual-property protection they value and what they are willing to enforce. If countries can make that assessment and feel that TRIPS is not the most effective scheme for their country, they

²⁹⁹. Id.
³⁰⁰. See Halligan, supra note 10, at 119.
³⁰¹. See Saggi, supra note 288, at 8.
³⁰². Id.
³⁰³. Id.
³⁰⁴. Id.
³⁰⁵. Id.
³⁰⁶. See Saggi, supra note 288, at 8.
³⁰⁷. Id.
³⁰⁸. See Sell, supra note 6, at 1-2.
should vocalize this. What is most detrimental to the international-intellectual property scheme is enacting laws that look like the United States' with no intention of enforcing them but rather an intention to "benefit" from trading with TRIPS signatories. Countries must ally themselves to find a workable solution that promotes sharing of information without the risk of its being unlawfully misappropriated.

VII. CONCLUSION

The United States, Chinese, and Brazilian systems for the protection of trade secrets have distinct similarities and differences. While all three seem to focus on the protection of trade secrets to prevent unfair competition, they have distinguishing bases for their legal structures and enforcement. The concept behind TRIPS was to emphasize homogeneity and minimize the differences between signatory countries with respect to intellectual-property rights in the hopes of advancing global free trade. However, since TRIPS mandates domestic legal structures and enforcement, homogeneity will be lacking, because each state has differing standards. Moreover, domestic or internal conflicts between legal structures further complicate opportunities for consistent application of trade-secret law. Even intellectual-property scholars in the United States, the country considered as the leading source intellectual-property development and jurisprudence, are dissatisfied with the current state of United States trade-secret law. The effectiveness of TRIPS is thus called into question by its own enforcement scheme.

Misappropriation occurs all the time. With increasing globalization and value placed on intangible work protectable through trade secret, effective standards are sorely needed. However, the solution is not a uniform standard produced by those with the most political and economic clout and forced on those with comparatively less influence. Countries need to assess what is best for the health and safety of their own people while remaining true to their values that are consequently actually supportable and enforceable. As long as there is candor between nations there can be differing standards, and countries can choose how to trade with others in a way that achieves effective product sharing while not compromising their people's intellectual property. With the amount of money lost through the misappropriation of trade secrets, countries could instead afford to provide and develop more medicine. Ironically, in the end countries must be open and honest to create a workable solution to the problem of trade-secret theft.

309. See Arewa, supra note 32, at 156-58.
310. See Jorda, supra note 10, at 11.