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Trade Secrets Registry

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I. Introduction

Modern legal systems provide two main mechanisms for protecting inventions: patents and trade secrets.[1] Although the public is more familiar with patent law, the use of trade secret protection is on the rise.[2] This observation is supported by empirical studies showing that manufacturers engaged in research and development in the U.S. do not regard the patent system as an effective way to protect inventions, whereas the system of trade secrets and the use of other means are perceived as being more efficient.[3] Nevertheless, this does not mean that

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1. *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 50 (8th ed. 2011); Josh Lerner, *Introduction to the Economics of Trade Secrets*, HARV. BUS. SCH., http://www.people.hbs.edu/jlerner/TSintro.html (last visited Feb. 1, 2014).

2. Bruce T. Atkins, Note, *Trading Secrets in the Information Age: Can Trade Secret Law Survive the Internet?,* 1996 U. ILL. L. REV. 1151, 1152 (1996); Robert G. Bone, *Exploring the Boundaries of Competitive Secrecy: An Essay on the Limits of Trade Secrets Law, in* LAW, INFORMATION & INFORMATION TECH. 99, 100 (Eli Lederman & Ron Shapira eds., 2001); Michael A. Epstein & Stuart D. Levi, *Protecting Trade Secret Information*: *A Plan for Proactive Strategy,* 43 BUS. LAW. 887, 887 (1988); James W. Hill, *Trade Secrets, Unjust Enrichment, and the Classification of Obligations,* 4 VA. J. L. & TECH. 2, 2 (1999). For extensive usage of this defense in the computer industry, see Gale R. Peterson, *Trade Secrets in an Information Age*, 32 HOUS. L. REV. 385, 386-87 (1995).

3. Thus, for example, a study conducted in 1994 of 1,478 manufacturers engaged in research and development in the U.S. concluded that a patent was not considered an efficient way to protect inventions, as compared to trade secrets and lead time that were noted as the most efficient means. Moreover,

there is a clear preference for either one of the two methods. Most researchers in the field are of the opinion that these methods are complementary, i.e., in some cases it is better for inventors to choose the patent method, and in others the method of the trade secret law. The choice often depends on the type of invention and the individual circumstances of the case.[4] A survey of the legal and economic considerations that the inventor needs to weigh when deciding between the two methods

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the companies' appraisal of the efficiency of trade secrets rose dramatically compared to the study conducted in 1983, to the point where this means became the leading one for the protection of inventions. Wesley M. Cohen, Richard R. Nelson & John P. Walsh, *Protecting Their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (Or Not)* 6, 9, 13, 24, 28, Figure 1-2 & Table 4-5 (Nat'l Bureau of Econ. Research, Working Paper No. 7552, 2000), *available at* www.nber.org/papers/w7552.v5.pdf. For the study from 1983, see Richard C. Levin et al., *Appropriating the Returns from Industrial Research and Development* (Cowles Foundation Discussion Paper 862 (1988)), *available at* http://dido.econ.yale.edu/P/cd/d08b/d0862.pdf. Another study from 1995 of 95 companies in the field of semiconductors concluded that there is a paradox in that on one hand there are grounds for the registration of patents in this industry but on the other hand the companies tend to rely more on trade secrets and other means rather than patents in order to realize a return on their investment in research and development. The paradox is explained, among others, in that the accumulation of patents serves as a type of bargaining chip in the negotiations for the rights to use the technologies of other companies, which is necessary for technological advancement in this industry. Bronwyn H. Hall & Rosemarie Ham Ziedonis, *The Patent Paradox Revisited: An Empirical Study of Patenting in the US Semiconductor Industry, 1979-95*, 32 J. ECON. 101, 102 (2001); *see also* Vincenzo Denicolo & Luigi Alberto Franzoni, *Patents, Secrets, and the First-Inventor Defense,* 13 J. ECON. & MGMT. STRATEGY 517, 517-18 (2004).

4. WILLIAM LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 359, 420 (2003); Cohen et al., *supra* note 3; Epstein & Levi, *supra* note 2, at 887-88; David D. Friedman, William M. Landes & Richard A. Posner, *Some Economics of Trade Secrets Law*, 5 J. ECON. PERSP. 61, 62-64 (1991); Lerner, *supra* note 1; Edmund W. Kitch, *The Nature and Function of the Patent System,* 20 J. L. & ECON. 275 (1977); Edmund W. Kitch, *The Law and Economics of Rights in Valuable Information,* 9 J. LEGAL STUD. 683, 690 n.21 (1980). However, there are those who believe that the protection afforded to trade secrets should be limited. *See* Alan Hyde, *The Wealth of Shared Information: Silicon Valley's High-Velocity Labor Market, Endogenous Economic Growth, and the Law of Trade Secrets* (Sept. 1998), http://andromeda.rutgers.edu/~hyde/WEALTH.htm. As to the opinion which says that trade secrets law should be repealed in all but some exceptional cases, see Bone, *supra* note 2, at 121; Robert G. Bone, *A New Look at Trade Secrets Law: Doctrine in Search of Justification,* 86 CALIF. L. REV. 241, 303-04 & n.281 (1998).

is beyond the scope of this article.

The present article considers four aspects in which the trade secret method is less efficient than the patents method: litigation costs, transaction costs, financing costs, and employment costs. The main part of the article is devoted to the proposal of establishing a particular type of trade secrets registry, with the intention that it will reduce the above-mentioned costs and will improve the efficiency of the trade secret method. I propose a structure for the registration of trade secrets that is likely to solve most of the problems left unresolved by the escrow companies and the Indonesian legislation. A trade secret registry may seem to be a contradiction in terms, because the purpose of a registry is to make public the information registered with it, whereas trade secrets must be kept confidential. But the proposed registry integrates these two principles, so that a part of it remains confidential and another part is open to the public. As part of the registry, trade secrets would be deposited confidentially through coded communication, including dating of the deposit. But, the identity of the holders of the rights with respect to these secrets (including those possessing secondary rights, such as licensees and holders of a mortgage) and the identity of those bound by confidentiality regarding the secrets deposited (such as employees of the owner of the trade secret) will be public information. The proposed registry would be handled by the registrar of trade secrets, a quasi-judicial figure empowered to resolve judicial disputes when necessary.

II. The Costs of Litigating Claims of Patent Infringement and Trade Secret Misappropriation

When an invention is protected by patent, the initial cost of litigating infringement suits should be lower than the cost of bringing a trade secrets appropriation suit. Although a patent is vulnerable to direct and indirect attack,[5] the starting point is

5. Any person may request the nullification of a patent (direct attack) within nine months from the date of its registration, on the grounds that the invention was not suitable for registration as a patent from the outset. *See* 35 U.S.C. § 321 (2012). Additionally, a common argument in defense of a claim of breach of patent is that the invention was not suitable for registration as a

that patent holders are entitled to the protection of their rights. Moreover, in the case of a patent, the scope of the protection must be defined clearly in the patent claims. Therefore, there is no need to begin the proceedings with the question of the scope of the protected right. Moreover, because the patent owner has a monopoly on the use of her invention, there is no need to prove that the information has been taken from the patent owner. Because both self-discovery and reverse engineering are ineffective, it is sufficient for the patent owner to prove that the defendant is using the invention that is the subject of the patent without permission. Nevertheless, when a defendant in an infringement suit challenges the validity of the patent, or argues that her actions did not breach the patent but rather "circumvented" it, the patent owner bears the cost refuting these arguments. Although the burden of proof with respect to these arguments is on the defendant,[6] the patent owner cannot risk having these arguments accepted, and therefore must refute them. Consequently, overall costs of litigation in an action for patent infringement are likely to exceed the costs of litigation with respect to trade secrets.

In the case of information protected by means of a trade secret, the initial costs of litigation in an action for misappropriation should be higher than those in an action for patent infringement. In an action for misappropriation of a trade secret, one must prove, among other things, that: (a) the information meets all the requirement in the definition of a "trade secret," including the plaintiff having taken reasonable security measures;[7] (b) the plaintiff is the owner of the trade

patent from the outset (indirect attack). *See id.* § 282(b).

6. Because the patent serves as *prima facie* evidence of its validity, the burden of proof that the invention is not suitable to be registered is imposed on the breaching defendant. *See id.* § 282(a). "The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." *Id.*

7. Miguel Deutch, *The Property Concept of Trade Secrets in Anglo-American Law: An Ongoing Debate,* 31 U. RICH. L. REV. 313, 340-41 (1997). Professor Deutch explains that, unlike claims for breach of patent, in which the patent registry clearly identifies the boundaries of the protected information, there is no similar level of certainty with respect to the right to a trade secret, because the creation of the right to a trade secret lacks a formal foundation. *Id.* at 341 & n.109. *See also* Bone, *supra* note 4, at 278-79, 281; Hill, *supra* note 2, at 3. The necessary components for recognition of a trade

secret or at least has an exclusive license to it;[8] and (c) the defendant committed the tort of trade secret misappropriation.[9] Furthermore, in an action for trade secret misappropriation, there are likely to be additional costs because of the need to refute the defense arguments, such as (a) that the defendant discovered the trade secret independently or as a result of reverse engineering;[10] (b) that the use of the secret is protected

secret are: (a) secrecy; (b) the information cannot be easily revealed legally; (c) the secret information provides an economic advantage; and (d) reasonable security measures were taken to protect the secret information. *See* UNIFORM TRADE SECRETS ACT § 1(4) (1979) [hereinafter *UTSA*]. The UTSA was a great success, as it was enacted by 47 states. *See Trade Secrets Act*, THE NAT'L CONF. OF COMMISSIONERS ON UNIFORM STATE LAWS, http://www.uniformlaws.org/Act.aspx?title=Trade%20Secrets%20Act (last visited May 19, 2015). But the requirement to take security measures as an independent condition was not required according to the definition in the RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (1995).

8. Unlike a patent, whose owner is registered in the patent registry, there is no certainty with respect to the identity of the owner of a trade secret. *See* Bone, *supra* note 4, at 278-79, 281; Hill, *supra* note 2, at 3. In accordance with US law, the owner of an exclusive license can institute an action for misappropriation of a trade secret within the purview of the license, but afterwards is required to join the licensor. JERRY COHEN & ALAN S. GUTTERMAN, TRADE SECRETS PROTECTION AND EXPLOITATION 278 (1998).

9. Unlike an action for breach of patent, with respect to the misappropriation of a trade secret it is necessary to prove that the defendant took the secret from the plaintiff through the tort of misappropriation of a trade secret. *See* Bone, *supra*, note 4, at 278-79; Deutch, *supra* note 7; Hill, *supra* note 2, at 3.

10. *See* Bone, *supra* note 4, at 278-79. Independent discovery and reverse engineering are permitted actions pursuant to the trade secrets law. Deutch, *supra* note 7, at 353-58. "Proper means include: 1. Discovery by independent invention; 2. Discovery by reverse engineering." UTSA § 1 cmt. Reverse engineering is defined in the Comment to UTSA § 1 as follows: "Discovery by reverse engineering, that is, by starting with the known product and working backward to find the method by which it was developed." *Id. See also* Kewanee Oil Co. v. Bicron Corp*.*, 416 U.S. 470, 476 (1974) ("A trade secret law, however, does not offer protection against discovery by fair and honest means, such as by independent invention. . . or by so-called reverse engineering."); E.I. du Pont de Nemours & Co. v. Christopher*,* 431 F.2d 1012, 1015-16 (5th Cir. 1970), *cert. denied*, 400 U.S. 1024 (1971); Bone, *supra* note 2, at 102, 107; RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 43 (1995) ("Independent discovery and analysis of publicly available products or information are not improper means of acquisition."); RESTATEMENT (FIRST) OF TORTS § 757 cmt. a (1939); Thomas F. Cotter, *Conflicting Interests in Trade Secrets*, 48 FLA. L. REV. 591, 593 (1996); Hill, *supra* note 2, at 2-3 ("Two *proper* means of acquiring a trade secret are independent discovery and reverse engineering. Reverse engineering is the process of learning a trade secret by inspecting the product and figuring out how it works."); Peterson, *supra* note 2, at 450-56.

under the defense of general professional skills or public policy,[11] or (c) that the defendant acquired the trade secret in good faith and for consideration.[12]

Because actions for trade secrets misappropriation are complex and require lengthy litigation, some companies exploit the legal process to prevent former employees from working for a competitor or opening a competing company. Such baseless actions create unnecessary litigation costs, frustrate efficient competition, and inhibit the mobility of employees, all of which affect the flow of information and economic development.[13] A way of stretching out the litigation is to argue that the former employee knew many trade secrets, whereas, in reality, she was exposed only to some of them. Even in cases in which the actions are not completely without merit, the duration of the litigation means that were the court to decide not to limit the occupation of the employee or to shorten the time of the limitation, the decision is usually irrelevant by the time it is rendered because the employee has already found other employment or the potential employer has found another employee. In such cases, the former employer, who lost the action to limit the former employee's occupation, has accomplished what he wanted.

11. In accordance with the exception of the general professional skills, an employee is not liable for the misappropriation of a trade secret if the information that is the subject of the right to a trade secret has become part of his general professional skills. *See* AMP Inc. v. Fleischhacker*,* 823 F.2d 1199, 1205 (7th Cir. 1987); Allis-Chalmers Mfg. Co. v. Cont'l Aviation & Eng'g Corp., 255 F. Supp. 645, 652-53 (E.D. Mich. 1966); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 42 cmt. d (1995); Bone, *supra* note 2, at 113. The public policy exception enables the court to exempt defendants from liability in cases of trade secret misappropriation if the use of the secret is justified for reasons of public policy. *See* RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 40 cmt. c (1995).

12. Even if a person acquired the stolen trade secret in good faith and for consideration, he is still liable to the owner of the secret, but the circumstances of the acquisition give the court discretion to exempt the defendant from remedies in various amounts. For example, the RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 44(2)(d) (1995) imposes liability on the purchaser in good faith and for consideration as well, but permits taking the circumstances into consideration with respect to the remedies. For an expanded treatment, see Deutch, *supra* note 7, at 345-51, 368-69.

13. Bone, *supra* note 4, at 279; Kitch, *Law and Economics*, *supra* note 4, at 698-99. With respect to the societal interest in encouraging the mobility of employees, which contributes to the mobility of information that helps develops the economy, see Hyde, *supra* note 4, at 1-4, 20, 28-30, 32, 34-36, 60.

The possibility of exploiting the need to prove many components in an action for a trade secret misappropriation is also likely to play into the hands of the defendant, who can initiate futile proceedings. For example, a former employee can argue that the information that is alleged to be the trade secret of the company was not in its possession when he was employed there, or that it is information that was discovered by him or by others after he left the company. Such an allegation is made on the assumption that the company will have difficulty proving how long it has possessed the information at issue.[14] Alternatively, the employee can argue that even if the information was in the possession of the company at the time he was employed there, there is no proof that he was indeed exposed to the relevant information or that he had access to it. A decision on such matters is likely to stretch out the litigation and, as a result, to increase its cost.

III. Patents' and Trade Secrets' Transaction Costs

Many people possess the skills required to create new information but lack the ability and the resources to turn the information into a finished product. In other words, the creator of the information, for various reasons, is often unable to maximize the value of the information he has created. Therefore, both the creator of the information and society have an interest in transferring the information from the creator to someone who can turn it into a product.[15] A typical case is one in which a person created information that brought about an improvement in equipment produced by a certain company.[16] In most cases, the creator of the information cannot independently

14. With respect to this problem, see the website of EscrowTech International Inc., which provides escrow "IP audit trail services." *IP Audit Trail Services*, ESCROWTECH INT'L INC., www.escrowtech.com/ip_audit_trail.php (last visited Jan. 1, 2015). For the difficulty caused in the absence of a formal dimension for the scope of protected information, see Deutch, *supra* note 7, at 341.

15. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention, in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 614-15 (Universities-National Bureau ed., 1962); POSNER, *supra* note 1, at 15-20, 22-23, 53-55.

16. Kitch, *The Nature and Function, supra* note 4, at 277-78.

make use of the information in her possession. It would be inefficient for her to establish a factory to produce that instrument merely in order to implement the improvement she devised, and she often does not have the means to do so. The entity that can maximize the value of the information is the company that is already producing the equipment. The public and the creator of the information have an interest in having the information transferred to the company that can use it in the most efficient manner.[17]

The question is: what is the most efficient mechanism for transferring the information from its creator to the company? When comparing the patent option to that of trade secrets, it becomes apparent that the patent option deals well with most of the risks in a transaction involving information. With a patent, there is no problem in presenting the invention in the course of negotiations to a potential purchaser or licensee. The patent creates a defined set of legal rights that is known to both parties at the outset of the negotiations. Patents are disclosed in the patent registry and grant their owners the exclusive right to use them. Therefore, there are no difficulties in presenting the invention in the course of negotiations for the sale of the patent or the granting of a license. Even if the negotiations fail, the company to which the offer was made cannot make use of the patent-protected invention. Following the sale of the patent and its transfer to the purchaser at the patent registry, there is no concern that the previous owner of the patent will "sell" it again, because according to the patent registry, she is no longer the owner of the patent. Nor is there concern that after a patent owner gave an exclusive license to use the patent, which was registered in the patent registry, she will grant additional licenses. The potential licensee can check in the patent registry and ascertain that an exclusive license has already been granted. Moreover, there is no fear that the licensee would falsely represent herself as the owner of the patent or try to "sell" it, because her rights are disclosed in the patent registry. The registration in the patent registry leaves no doubt as to who the owner of the patent is and who the exclusive licensee is. A registered patent also enables the efficient creation of

17. *See* Arrow, *supra* note 15.

partnerships in the information protected by the patent, when the patent owner is interested in entering into contracts with companies that possess complementary information or resources.[18] The patent owner may sell an unspecified portion of the patent to his new partners, and they will also be registered in the patent registry.[19] These advantages, together with some others, have led to the development of a phenomenon known as "patent commercialization."

Conversely, when we examine the ability to carry out transactions of transfers, licensing of, or partnership in trade secrets, the costs of the transaction are significantly higher than the costs of a similar transaction in patents. When the owner of a trade secret wishes to present it for the purpose of selling it or granting a license for its use, she encounters difficulties in exposing the secret in the course of the negotiations. On the one hand, the owner cannot agree to present the secret until the offeree obligates himself by means of a non-disclosure agreement (NDA) not to use the secret and not to pass it on to a third party if the negotiations fail. If the secret is disclosed to a potential buyer in the absence of such a commitment, the latter can erroneously believe that he may use the secret even without the consent of the owner. The buyer can then offer a low purchase price, or else not make any offer to purchase the information, and use the information as he sees fit. On the other hand, there may be a case when the potential buyer agrees to sign the non-disclosure agreement, but finds out that the information is already known to him, which now he will have to prove. This problem is known as Arrow's disclosure paradox. This situation frequently occurs when a person develops an improvement of an existing product and tries to sell the idea to a company that manufactures the product. Given that the idea is intended to improve its product, the company will be concerned that it may have already arrived at the idea by itself. If it makes a commitment not to use the information revealed to it in the course of the negotiations, it will have to prove that the

18. *See* Kitch, *The Nature and Function*, *supra* note 4, at 277-78, 290 (arguing that the patent method decreases transaction costs for the creator of the information who is interested in transacting with other companies that have complementary information or resources).

19. For the authority of each partner, see 35 U.S.C. § 262.

information was indeed in its possession before entering into negotiations.

There is also a concern that if the negotiations do not succeed because of the high consideration requested by the offeror, and the information offered to the company is not known to it, the company will not be able to use the information in the future, even if it is able to arrive at the information on its own at a lower cost, through self-discovery or reverse engineering. These concerns may lead the company to refuse to sign an NDA.[20] When the offeree is in possession of the information before the start of the negotiations, substantive law enables him to continue to use the information. The burden of proof with respect to this allegation, however, may be imposed on the offeree. Shifting the burden of proof is not a negligible detail; the burden of proving that the defendant lawfully acquired the information is not easily met and involves high litigation costs.[21] Under certain circumstances, the burden on the offeree to prove that the information was already in his possession before the negotiations may increase the reluctance of the offeree companies to sign an NDA, especially if there is a risk that their position will not be accepted.

Moreover, companies that engage in negotiations with creators of information take the risk of being sued for stealing a trade secret from an outside entity, which can lead to high litigation costs and harm the company's reputation.[22] Indeed, as was demonstrated in an important study, the concern shown by companies is so great that they not only refuse to sign NDAs but often refuse entirely to enter into negotiations to acquire a trade secret or do so infrequently. When companies are prepared to enter into negotiations despite these concerns, they demand that the owner of the trade secret sign a waiver before he discloses the secret information. Generally, by signing such a form, the

20. Arrow, *supra* note 15, at 614-16; Bone, *supra* note 4, at 280 n.174; Steven N. S. Cheung, *Property Rights in Trade Secrets,* 20 ECON. INQUIRY 40, 44-45 (1982); *see also* Bone, *supra* note 2, at 127; Kitch, *The Nature and Function*, *supra* note 4, at 277-78.

21. *See* Pioneer Hi-Bred Int'l v. Holder Found. Seeds, 35 F.3d 1226, 1240 (8th Cir. 1994); Sokol Crystal Prods. v. DSC Commc'ns Corp., 15 F.3d 1427, 1432 (7th Cir. 1994); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 41 cmt. b (1995); Bone, *supra* note 4, at 279 nn.169, 170.

22. Cheung, *supra* note 20, at 46.

offeror admits that there are no confidential relations between himself and the offeree, and that he can rely for protection of his rights only on rights created pursuant to patent or copyright law.[23] Other companies demand that before the negotiations the offeror consents to provide the information for a very small sum of money.[24] The attitude is different when the offeror already has a patent on the information offered.[25]

There is another risk that concerns offeree companies, even when they agree to sign a confidentiality agreement (e.g., in cases in which there is no concern that the information to be presented to them was previously known to them). The additional risk stems from the fact that the commitment does not detail the information that is to be disclosed in the course of the negotiations.[26] In the absence of such detail, there is a risk that, after a period of time, the offeror may assert that he had revealed additional information to the offeree company in the course of the negotiations (which, in actual fact, never happened), thus preventing the company from making use of it.[27] A further risk is present for the owner of the trade secret, even if the company is prepared to sign a confidentiality agreement

23. *Id.* at 45; Kitch, *The Nature and Function*, *supra* note 4, at 277-78. For an expanded discussion of this topic and examples of typical release forms, see ARTHUR H. SEIDEL & RONALD L. PANITCH, WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT TRADE SECRETS AND EMPLOYMENT AGREEMENTS (1973), as quoted in Cheung, *supra* note 20. The above conclusions were reached based on a study of 105 contracts for the transmission of an idea. Eighty seven of these contracts conditioned the receipt and/or the examination of the idea on its not forcing relations of "confidentiality." Seventy five of the contracts were conditioned on the offeror waiving all rights to the idea other than those acquired by a present or future patent. Fifty seven contracts stipulated that the examination of the idea would not force any commitment of any kind on the accepting company. In practice, every one of the 105 contracts contained one or more of these stipulations. Del I. Hawkins & Gerald G. Udell, *Corporate Caution and Unsolicited New Product Ideas: A Survey of Corporate Waiver Requirements*, 58 J. PAT. OFF. SOC'Y 375, 381-82 (1976). These findings were for the most part consistent with Cheung's findings in a study that included 320 contracts for the transmission of an idea. Cheung, *supra* note 20, at 46 n.20.

24. Kitch, *The Nature and Function*, *supra* note 4, at 277-78.

25. Cheung, *supra* note 20, at 45.

26. Detailing the secret as part of the commitment could result in the offeree reading the commitment, becoming informed of the secret, then refusing to sign.

27. *See IP Audit Trail Services*, *supra* note 14.

regarding the information that is to be disclosed in the course of the negotiations. The owner has no proof that he is in fact the owner of the confidential information disclosed during the negotiations. In the absence of such proof, the company can argue that the information disclosed to it did not belong to the offeror, but rather to another entity.[28]

The risks to the parties that arise during negotiations for the sale of a trade secret result in the failure of efficient transactions at the initial stages. This result is particularly harmful when the owner of the information cannot make efficient use of the information he created unless he contracts with a company operating in that field.[29] Efficiency is achieved when the information is to be used by an entity that appraises it at its highest value. The highest economic value of the information is the highest amount that someone is prepared to pay for it. One is prepared to pay the highest price for the information if he thinks that he can derive the highest benefit from it, measured by the price that consumers are willing to pay for the product based on the information. Therefore, if the information is in the hands of someone willing and able to pay the highest amount for it, it will be possible to arrive at an efficient result.[30] In the absence of a solution that can decrease the risks leading to the failure of efficient transactions in which the owner of the information transfers it to an entity that can derive the maximum benefit from it, the result is market malfunction, caused by, among others, an information failure.[31] Resources flow to profitable opportunities unless obstacles prevent their free flow. One of the obstacles can be the high cost of information.[32] These information costs, which are part of the transaction costs, cause negotiations to fail before they even begin, and potentially efficient transactions do not take place.[33] If there is a resource that remains unused because of the inability of the owner to maximize its value, and who prevents

28. *Id.*

29. *See* Arrow, *supra* note 15, at 615.

30. *See* POSNER, *supra* note 1, at 12-14, 18-19. For a definition of efficiency according to the Kaldor-Hicks theory or maximizing wealth, see *id.* at 17-18.

31. Arrow, *supra* note 15, at 615-16.

32. POSNER, *supra* note 1, at 15.

33. Bone, *supra* note 2, at 127.

others from making profitable use of it by not transferring the information to them, an opportunity cost is created. An opportunity cost is the best price that others can command for that resource.[34] Using collaterals to reduce the risks detailed above would also increase transaction costs.[35]

Additional stumbling blocks to carrying out transactions with respect to trade secrets stem from the absence of public knowledge regarding the identity of the owners of trade secrets. The nature of the information that is the subject of the trade secret is an asset that remains known to the seller even after the transfer of ownership, creates the risk that the former owner of the trade secret and his employees may continue to use the trade secret, including disclosing it to third parties.[36] Similarly, there is a potential for future deceptive transactions in which the previous owner may continue "to sell" the information to additional entities after having already sold the secret (so that at the time of the additional sale, he is no longer the owner).[37] The previous owner can easily defraud the offeree because of the secrecy surrounding the identity of the present owner of the trade secret. This potential for deceit creates many risks for the real owner of the secret. The imposition of responsibility on the third party – the last purchaser – for the use of a trade secret is complex and results in high investigation and litigation costs. Moreover, there is the risk of creating a chain of disclosures that can place the information in the public domain, so that the right to it expires altogether.[38] Even if it is possible to inform

34. For the concept of opportunity costs, see POSNER, *supra* note 1, at 6-9.

35. The costs caused by the need to use collateral increase transaction costs. *See* Bone, *supra* note 4, at 280.

36. 1 R.M. MILGRIM, MILGRIM ON TRADE SECRETS § 2.02(1)(2) pp. 2-43 – 2-44.5 (2013). Regarding the possibility that the transferee can obtain an injunction that would prohibit a former employee of the transferor from using a trade secret that has been sold, see Hecht Foods v. Sherman, 351 N.Y.S.2d 711 (App. Div. 1974). Regarding the duties of the seller and his employees and his agents after the sale not to continue to use the secret or to disclose it to others, see Hooker Chem. & Plastics Corp. v. United States, 591 F.2d 652 (Ct. Cl. 1979); Tode v. Gross, 28 N.E. 469 (N.Y. 1891). Similarly, an inventor who has transferred an invention that is not yet patented will be stopped from requesting a patent with the objective of infringing upon the rights of the transferee. New Era Elec. Range Co. v. Serrell, 169 N.E. 105 (N.Y. 1929).

37. Stewart v. Hook, 45 S.E. 369 (Ga. 1903); MILGRIM, *supra* note 36; Cheung, *supra* note 20, at 44-45.

38. Cheung, *supra* note 20, at 44-45; Bone, *supra* note 4, at 280, n.175.

subsequent purchasers of the rights of previous purchasers, subsequent purchasers are not required to pay damages for the period of use of the trade secret until they knew, or should have known, that prior rights existed.[39] Moreover, if the later purchasers acquired the trade secret in good faith and for monetary consideration, they will indeed be liable to the previous purchasers. The circumstances of the purchase, however, grant discretion to the court to exempt them from compensation in various amounts.[40]

The risk of deceit applies not only to future transactions, but to past ones as well. When it transpires that there were purchasers prior to the present ones, the present purchasers will be prevented from using the secret once they know or should have known about the right of the earlier owners.[41] Even if the purchase of the trade secret was in good faith and for consideration, the present purchasers are still liable vis-à-vis the earlier ones, although, here too, the circumstances of the

39. The law in the US imposes liability on a third party not only in cases in which he knew that he was using a stolen trade secret but also in cases in which he should have known. Regarding the extent of the protection in the US, see UTSA § 1(2)(i), (ii)(B)(I), (III); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 40(b)(3); H.H. PERRITT, TRADE SECRETS: A PRACTITIONER'S GUIDE 111 n.14 (1994); Lamb-Weston, Inc. v. McCain Foods Ltd., 941 F.2d 970, 972-73 (9th Cir. 1991); Wright v. Palmer, 464 P.2d 363, 366 (Ariz. Ct. App. 1970); Deutch, *supra* note 7, at 344, 353, 360. According to English and Australian law, the protection with respect to third parties is based on the laws of fiduciary duty. A third party that has received a secret when he knew or should have known of the breach of trust, will be considered to be liable himself vis-à-vis the owner of the secret. Even in cases in which the third party did not know and there was no reason he should have known of the breach of trust at the time of receipt of the trade secret, he is subject to the *droit de suite* of the owner, if he did not change his situation to his detriment while still acting in good faith. A third party who did not know and was not expected to know at the time of receipt of the trade secret about the breach, and changed his situation to his detriment as a result, is liable to the owner of the information as a matter of discretion, according to the circumstances, including the extent of the losses caused to each party and other justified considerations. Therefore, the absolute fact that the defendant is a purchaser in good faith is not necessarily sufficient to exempt him from liability. *See* Deutch, *supra* note 7, at 351. In this regard, see also Ansell Rubber Co. Pty., Ltd. v. Allied Rubber Industries Pty., Ltd. [1967] V.R. 37; Schering Chem. Ltd. v. Falkman, Ltd. 2 W.L.R. 848 (1981); A. COLEMAN, THE LEGAL PROTECTION OF TRADE SECRETS 49 (1992); ROBERT DEAN, THE LAW OF TRADE SECRETS 258-72 (1990).

40. *See supra* note 12. Regarding English and Australian law, see also *supra* note 39.

41. *See supra* note 39.

purchase grant discretion to the court to exempt the present purchasers from remedies in various amounts.[42]

Fraudulent transactions create litigation costs, and the risk of fraud and uncertainty creates additional transaction costs. For example, potential purchasers may ask the seller for collateral to ensure that the trade secret rights received were not already sold to a previous purchaser, in the event that it may be possible for the seller or his employees to make use of the trade secret after the sale, or in case the seller resells the trade secret to future purchasers after the sale.[43]

The difficulty in conducting trade secret transactions is present also with respect to the granting of a license to use the trade secret. In the absence of public notice regarding the existence of an exclusive license for the use of a trade secret, and regarding the identity of the owner of the exclusive license, the trade secret owner can grant additional licenses that will breach the right to the exclusive license. Given the existing law, if the recipients of the additional licenses receive the secret with the consent of its owner, the owner of the exclusive license has the right to sue only the owner of the secret on grounds of breach of contract.[44]

Another risk to which the trade secret owner is exposed is that the licensee may reveal the secret to third parties. As already noted, this leads to high investigation and litigation

42. *See supra* note 12. Regarding English and Australian law, see also *supra* note 39.

43. Regarding the need to demand collateral in the case of an offer to acquire a trade secret, owing to the concern that the seller is not the owner of the trade secret, see Deutch, *supra* note 7, at 364. Failure to receive collateral transfers the risk to the purchaser. *Id.*

44. UTSA § 1(2) (ii) (B) (II) includes in the definition of "misappropriation" of a trade secret, "disclosure or use of a trade secret of another without express or implied consent by a person who. . . (B) at the time of disclosure or use knew or had reason to know that his knowledge of the trade secret was. . . (II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use. . . ." But the use of a trade secret by the other owners of the licenses is not considered to be contrary to the consent of the owner of the trade secret and is not in contravention of their duty to the owner of the secret, therefore they have not committed the tort of misappropriation of a trade secret. The owner of the additional license uses the secret in accordance with his contract with the owner of the secret, and has no duty not to use the secret with respect to the owner of the exclusive license, of whose existence he is not even aware.

costs intended to impose liability on the latter. In any case the third party will be exempt from liability for the use of the trade secrets up to the point at which he knows or should have known that the secrets were stolen from their owners. A more serious risk is disclosure of the secret by a licensee in order to bring about the expiration of the right.[45] Moreover, in the absence of public notice regarding the identity of the exclusive licensee, the licensee is likely to represent himself as the owner of the secret and to sell the right to third parties who buy it in good faith and for consideration. The purchasers will naturally be liable to the owner of the secret, but the circumstances of the purchase grant discretion to the court to exempt the purchasers from remedies to various degrees.[46] These risks lead the owner of the trade secret to demand collateral from the owner of the license to insure the confidentiality of the information, which in turn increases transaction costs.[47]

IV. Financing Costs: Patents and Trade Secrets as Guarantees for an Investment

The patent system is efficient in sales and licensing transactions and in the creation of partnerships, and it enables the creation of mortgaging transactions. An integral part of the process of the development of information is the receipt of outside funding from investors who believe in the economic value of the information being developed.[48] To receive financing, the creator of the information must disclose the developed information to investors, with the level of detail depending on their demands. If the investors are persuaded by the economic potential of the idea, they will be willing to invest on the

45. Perritt, *supra* note 39, at 110-11 n.114; Cheung *supra* note 20, at 44-45.

46. *See supra* note 12. Regarding English and Australian law, see also *supra* note 39.

47. Cheung, *supra* note 20, at 44-45; Bone, *supra* note 4, at 280 n.175. As part of the study he conducted of 150 contracts for licenses for the use of information, Cheung indeed found that the demand for collateral characterizes contracts for the granting of a license to a trade secret. *Id.*

48. Kitch, *The Nature and Function*, *supra* note 4, at 277-78; Raymond T. Nimmer & Patricia A. Krauthaus, *Secured Financing and Information Property Rights,* 2 HIGH TECH. L. J. 195, 197 (1987).

condition that they receive the appropriate collateral. If the collateral is an asset that is not connected to the developed information, such as real estate, there is no difficulty in securing the financing. But if the developers of the information have no assets other than the rights to that information, the only way to provide collateral to investors is to mortgage the rights to the information. The amorphous character of the rights to the information can create many difficulties when offering it as an asset for purposes of collateral, because of the inherent risks described below, thus justifying the exercise of a great deal of caution in accepting such collateral. A mechanism is needed, therefore, to lower the risks of using the rights to the information as collateral and to keep the transaction costs down, thereby avoiding an increase in the interest rate charged for the loan.[49]

Both the lender and the borrower have the incentive to create collateral out of the rights to information. After decreasing the risk level, the receipt of collateral in the form of rights to the information can be of great value to the lender.[50] The ability to offer the right to the information as collateral is even more important to the borrower. Naturally, the creator of the information also has the option to sell an unspecified part of the ownership rights of the information against receipt of financing. This is the most common option at present, but it is not a desirable alternative for the borrower. In most cases, after the sale of an unspecified portion of the ownership rights for the purposes of financing, the creator of the information remains the owner of a small, unspecified portion of the idea that she created, usually as the owner of a relatively small percentage of the overall shares in the company that is to develop the idea. This result is unnecessary. If the creator of the information believes in the potential of the idea she created, she will prefer to receive a loan, put up the information as collateral, and return the amount borrowed, instead of selling an non-specific substantial portion of the right of ownership, the future value of which is likely to be exponentially higher than the amount she will have received for it in order to secure the financing.

49. Nimmer & Krauthaus, *supra* note 48, at 195.

50. Robert S. Bramson, *Intellectual Property as Collateral – Patents, Trade Secrets, Trademarks and Copyrights,* 36 BUS. LAW 1567, 1598 (1981).

When examining which of the two mechanisms for the protection of an invention – patent or trade secret – is more appropriate for purposes of commercial financing, there is no doubt that patent law is preferable. It is straightforward to mortgage patent by registering the mortgage in the patent registry.[51] The possibility of registering a mortgage on a patent solves many of the problems involved in the mortgaging of information. The creator of the information has no difficulty presenting the patent-protected information to the financier for the purpose of evaluating the information as an asset appropriate to serve as collateral. The obligation of the financier not to use the information is completely unnecessary. The information protected by a patent is already disclosed to the public in the patent registry, and the owner of the patent has the exclusive right to use the invention. To the extent that the financier reaches the conclusion that the patent is appropriate to serve as collateral, he can accept it as such. The mortgaged asset is the registered patent, and therefore the financier has no difficulty proving the scope of the mortgaged information. If the owner of the patent has many patents and is interested in mortgaging only a particular one, there is no difficulty in creating a mortgage only for that patent, leaving the remaining patents unencumbered. The mortgage continues to be registered as a property right even if the ownership rights to the patent are transferred to a new owner.

The patent system also assists in protecting the value of the collateral, which is determined by several multi-factored parameters: the existence of the mortgaged asset, the borrower's proof of ownership of the asset, and the absence of a breach of third parties' rights. When the collateral is a patent, the financier can find proof in the patent registry that the invention has been registered as a patent and that the borrower is the registered owner, and he (the lender) can rely on this

51. If there it is desired that the mortgage on the patent be valid with respect to third parties, it must be registered both in the patent registry and in the registry where mortgages are registered. U.C.C. art. 9. *See* David Einhorn, *U.S.A. Report Q190: Contracts Regarding Intellectual Property Rights (Assignments and Licenses) and Third Parties*, at 7-8, *available at* https://www.aippi.org/download/commitees/190/GR190usa.pdf (last visited May 19, 2015).

registration.[52] A cautious financier, however, should not make do with the patent registration and the registration of the borrower as the owner of the patent. Rather, he should check whether the invention was qualified to be registered as a patent and whether the borrower was indeed entitled to be registered as the owner of the patent. Otherwise, there is a risk that the patent will be nullified. It is also necessary to examine whether the invention breaches any third party preferred rights, because it is possible that the patent infringes on a previous patent.[53] The second parameter is the ability of the owner of the mortgaged asset to protect his property: if the mortgaging of a patent is at issue, the ability of the patent owner to protect its value is particularly high because the registered patent creates an exclusive right to the use of the patented invention. The third, and the final parameter, is ability of the owner of the guarantee to realize the collateral.

As noted above, a substantive part of any development

52. The patent registry is a registry of rights, in other words, before the registration of the patent an examination is carried out by the registrar of patents concerning the validity of the patent and the identity of its owners. The registry encourages the registration of transfers of ownership through 35 U.S.C. § 261 [hereinafter section 261], which provides that the transfer of a patent is void vis-à-vis any purchaser or mortgagee who acted in good faith and for consideration, unless the transfer was registered in the patent registry within three months from the date of the transfer, or before the date of the last acquisition or mortgage. *See* Einhorn, *supra* note 51, at 2. Therefore, it is possible to check easily, quickly, and at minimal expense that a patent exists for the invention in the patent registry, and to check the identity of the currently registered owner of the patent. Bramson, *supra* note 50, at 1574-75.

53. With respect to the existing risk of voiding a patent, see *supra* note 5 and accompanying text. *See also* Bramson, *supra* note 50, at 1575-1577, n.38. The existence of a patent in the name of the borrower does not preclude the possibility that a previous patent exists, which was breached by the borrower's patent. This occurs in situations in which the rule known as "blocking patent" is applicable. According to this rule, a person who made a significant improvement in a patented invention can receive a patent on the improvement (although the latter must still receive a license from the owner of the previous patent to use the improvement). The result is that neither the owner of the original patent nor the one who improved upon it can use the improvement unless they arrive at an agreement. But the "reverse doctrine of equivalents," which is used only infrequently, releases the one improving upon the patent from liability for breach of patent if the improvement contains radical progress. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1007-13 (1997). *See also* Bone, *supra* note 2, at 104, n.19. For practical suggestions regarding preliminary examinations for the prevention of such concerns, see Bramson, *supra* note 50.

process involves securing outside funding from investors who believe in the potential value of the information being developed. To receive financing, the creator of the information must persuade the potential investors of the quality of the developed information, revealing as much detail as required by the investor. Some investors are satisfied with the presentation of a more general idea. But there are those who insist on examining the detailed information before deciding whether to invest in developing the information. They also want to make sure that there is a formula, as promised, behind the general definition, and that the confidential information meets the criteria of a trade secret. The disclosure of a secret to investors creates the same problem that arises when disclosing a secret in the initial stages of negotiations for its transfer. The owner of the trade secret who wishes to present the secret to a professional financier also faces the problem that the financier refuses to sign a confidentiality agreement before the secret is disclosed to him. Professional financiers, especially those who deal with the financing of high-tech companies, are regularly exposed to financing requests from entities possessing confidential information, at times competing companies that deal in the development of information in the same field. The advance signing of multiple confidentiality agreements exposes the financiers to substantial litigation and limits their ability to invest in broad market segments. At the same time, the owner of the secret may hesitate to disclose the secret lest the financier mistakenly think that he can take the secret and disclose it to another company in which he is interested in investing.[54]

The exposure of the secret is not the only problem when accepting a trade secret as collateral for a loan. In the absence of proof of what the mortgaged trade secret is, and should the loan go unpaid, the professional financier may be left with the borrowing company, while the employees and founders will have disappeared with the trade secrets. Moreover, the company's founders and employees may argue that the trade secrets in their possession were developed after they left the company, and

54. *See* Lyne Sharpe Paine, *Trade Secrets and the Justification of Intellectual Property: A Commentary on Hettinger,* 20 PHIL. & PUB. AFF. 247, 256 (1991).

that, therefore, the collateral is not applicable to them.[55] In practice, this concern can be resolved if the owner of the trade secret agreed to deposit the secret with the professional financier. The owner, however, is likely to refuse because the financier might not take the necessary security measures and his right will therefore expire. Moreover, even if the trade secret owner were to be willing to leave a copy of the original trade secret in the possession of the financier, this would not constitute a solution for cases in which the financiers want the collateral to apply to the trade secret that is subject to ongoing development. In these cases, it is not reasonable to expect the owner of the trade secret to deposit with the investors, on an on-going basis, the latest development of the trade secret.

Another problem exists if the owner has more than one trade secret. In this case, it is difficult to distinguish between the owner's various trade secrets if he is interested in mortgaging only one of them. If the mortgage agreement between the owner of the secrets and the financier includes only general definitions, it will be difficult later to distinguish between the various secrets that may exist in a similar field. Moreover, to enable the mortgaging of trade secrets, it is also necessary to create a system that permits the registration of these mortgages, so that it is possible to warn third parties and give the financier the status of a secured creditor. The mortgage registration systems in their present form are not appropriate for mortgaging trade secrets that cannot, for example, be listed in the registry of trade secret mortgages, which is open for public viewing.

Because of the many difficulties involved in the mortgaging of trade secrets in accordance with existing law, there are few instances in which companies mortgage trade secrets, despite the advantages of doing so, as described above.[56] Therefore,

55. *See IP Audit Trail Services*, *supra* note 14; *IP Collateral and Investment Protection Service*, ESCROWTECH INT'L INC., www.escrowtech.com/ip_protection.php (last visited Jan 30, 2015).

56. See, for example, a relatively rare case that dealt with mortgaging a trade secret: State Bank of Annawan v. Rendispos Corp., 173 U.S.P.Q. 136 (S.D. Ill. 1971). The State Bank of Annawan received several mortgages on patents and trade secrets of the Pace Corporation as security for a loan. Because of several business moves by Rendispos Corporation, using the protected information of Pace Corporation, the latter were edged out of the

accommodations must be made between commercial financing laws and trade secret laws to appropriately address these problems and reduce the cost of financing.[57]

V. Employment Costs: Making Employees Privy to an Invention Protected by a Patent or to Information Protected as a Trade Secret

If the owner of confidential information wishes to use it for the purpose of developing products, he has no alternative but to share that information with his employees. If the confidential information is not legally protected, these employees can steal it from the owner and transfer it to his competitors. Legal protection of the confidential information is likely to reduce this risk. In this regard, there is a substantive difference between patent protection and trade secret protection. The owner of a factory with a patent registered in his name that gives him a monopoly on the protected information is not concerned about revealing the protected information, which in any case is disclosed to the public in the patent registry, to employees. At the same time, the trade secret owner must trust his employees not to transfer the trade secret to his competitors. Having them sign a commitment not to use or disclose the trade secret is not always effective. The absence of public disclosure of the identity of those subject to the right to a trade secret can cause several difficulties. For example, when an employee is interested in moving to a new place of employment, the new employer may not be aware of the fact that the person, whom she is interested in hiring, is in the possession of trade secrets belonging to his previous employer. Current trade secrets law does not enable the owner of the trade secret to seek damages from the competitor (the new employer) for making use of the owner's trade secrets (that the new employer received from the new employee) until she became aware, or should have become aware

market and declared insolvent. The patents and trade secrets of Pace were transferred to the bank, which filed an action against Rendispos Corporation for breach of patent and unauthorized appropriation of trade secrets. The bank prevailed in the action and received funds that enabled repayment of the loan.

57. *See* Nimmer & Krauthaus, *supra* note 48, at 195-200, 204, 224, & 226.

of the fact that these were stolen trade secrets.[58] Moreover, in the absence of public notice of the former employee being subject to the right of the trade secret owner, the former employee can easily sell the trade secret to a buyer in good faith and for consideration, while representing himself as the owner of the secret. In such a case, the buyer will be liable to the owner of the trade secret, but the circumstances of the purchase grant discretion to the court to exempt him from remedies in various amounts.[59] Such risks can cause concerns for the owner of a trade secret about revealing them to employees. To avoid such risk, she may prefer to choose the inefficient alternative of employing people with whom she has personal or family ties and on whom she can rely, but who are not necessarily the best people for the job. The concern about employee involvement can also cause the trade secret owner to organize his business in an inefficient manner, e.g., dividing assignments among a large number of employees so that each of them knows less, or reducing the research and development division to a small and inefficient number of employees.[60] The fear of involving additional entities can cause the owner of the secret to sacrifice efficiency by making do without a part of his work force. The demand for collateral from employees to ensure their fulfillment of the confidentiality commitment increases the costs of employment.

The risk in employing workers affects not only the current employer, who is concerned that these entities may leak his trade secrets. It also affects the willingness of other companies to purchase the business of the previous employer. For example, company A, which has a large number of confidentiality agreements with employees regarding trade secrets, now proposes to merge with company B through a sale, so that

58. *See supra* note 39.

59. *See supra* note 12.

60. These phenomena were mentioned in cases in which the law does not recognize the right to a trade secret or when such a right is not enforced. *See* Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 485-86 (1974); Bone, *supra* note 4, at 272-73 n.143; Friedman, Landes & Posner, *supra* note 4, at 67; Sharp Paine, *supra* note 54, at 253-56. But these phenomena also occur in cases in which trade secret laws are enforced, but they are not efficient enough and many risks remain for the owner of the trade secret, in the absence of a public record of the identity of those subject to his rights, as stated above.

company A ceases to exist. Company B is concerned that former employees of company A, who moved to a new company, can claim that because company A no longer exists, there is no issue of possessing trade secrets of their former employer. Company A, however, had assigned all employee confidentiality agreements to company B. In these cases, new employers, who would like to hire former employees of company A, find it difficult to ascertain whether their potential employees have a confidentiality obligation toward other companies. They may consider the use that they can make of the trade secrets, until such time that they become aware of the stolen rights, as use in good faith. Company B will then be entitled to damages only from the point when the new employers became aware or should have become aware that these were stolen secrets.[61] Moreover, if the new employers purchase the trade secrets in good faith and for consideration, they are liable to company B, but the circumstances of the purchase grant discretion to the court to exempt the new employers from remedies in various amounts.[62] This places all the trade secrets of company A at risk, reducing its value and reducing the willingness of company B to acquire it. Creating appropriate assurances to guarantee the confidentiality agreements of employees of company A results in higher transaction costs.

These problems require solutions that would reduce litigation costs when employees transfer to other companies, i.e., solutions that shorten legal proceedings and enable the free movement of employees. Similarly, solutions are needed to reduce the risks and existing uncertainty in performing rights transactions. Employers' confidence in employing workers can be increased by reducing the risk of misappropriation of secrets, so that the owner of the right to a trade secret can efficiently maximize its value. The number of existing risks in carrying out trade secret transactions, compared with similar patent transactions, is likely to reduce greatly the number of transactions in rights to trade secrets by way of sale, licensing, mortgaging, and creation of partnerships. These assumptions

61. *See supra* note 39.

62. *See supra* note 12. Regarding English and Australian law, see also *supra* note 39.

were borne out by studies that examined their accuracy.[63] Based on an appraisal of the efficiency of the market of trade secret transactions compared with the efficiency of the patent system, it may be presumed that this market is not as developed as it could be.[64] In other words, despite the fact that the number of rights to information protected by trade secret law is apparently greater than the number of rights to information protected by patents, the number of patent transactions greatly exceeds the number of trade secret transactions. In my opinion, this situation does not stem from a lack of desire to make trade secret transactions, but rather from the absence of sufficient legal certainty in carrying out transactions in this right. The proof of this presumption lies in the fact that when efforts are made to create arrangements that reduce the risk of conducting transactions in rights to trade secrets, as shown in the next part, many companies express interest in such services.

63. The intent is transactions in a trade secret as an asset in its own right and not as part of a general sale of companies or businesses. In a study that examined approximately 150 contracts for licenses for ideas, it transpired that the ratio between the licenses for trade secrets and the licenses for patents is one to ten. This finding, however, is subject to a reservation. Unlike the case of patents, it is not possible to count the number of trade secrets in existence or the overall number of licenses granted with respect to them. Nevertheless, this finding is consistent with the estimation of several legal commentators. *See* Cheung, *supra* note 20, at 44-45. Although Cheung views this study as providing relatively weak evidence owing to the reservation noted above, the conclusion is supported, in his opinion, by the impression of other legal commentators cited by him: ARTHUR H. SEIDEL, WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT PATENT LAW AND PRACTICE (1956); SEIDEL & PANITCH, *supra* note 23 . Note that there is a lack of data regarding the licensing of patents (and, *a fortiori*, regarding licensing of trade secrets) and this topic was even suggested for an empirical study. *See* Mark .A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 34 (2001). Indeed, in the course of the "Carnegie Mellon Survey," the income from the licensing of patents was examined as a motivation for receiving a patent, and it was revealed that this was one of the least emphasized reasons, as opposed to others. Therefore, it was concluded that only a small portion of the existing and future population of patent holders is of the opinion that they could conduct transactions in this right. Later it transpired, however, that the motivation for conducting negotiations, which was seen to be a significant motivation, also included income from licensing, and therefore these results are not unequivocal and vary with the type of industry. *See* Cohen et al., *supra*, note 3, at 17-24, Fig. 7-8 & Table 8-9.

64. *See supra* note 3 and accompanying text.

VI. The Escrow Companies and the Indonesian Law

It is a well-established fact that the law lags behind technological development and does not address the many difficulties that arise as a result of the fast pace of change. In the trade secrets context, the lacuna resulting from the absence of legal solutions has led to the establishment of private companies that provide services to deal with the certain aspects of these problems. These companies offer, among others, to allow customers to deposit their trade secrets with them in trust (hereinafter "escrow companies").[65] Some allow only physical deposits, but most of the companies allow deposits through encrypted communications. The deposits are date-stamped. The escrow companies provide services to many entities, including Fortune 500 companies, capital risk funds, financial institutions, law firms, educational institutions, and governmental agencies.[66] The existence of these companies attests not only to the need for such services, but also to the fact that companies availing themselves of these services do not hesitate to send their secret information through encrypted communications to the escrow companies. They are not concerned about the fact that their secret information will be held in coded and secure form in one place together with trade secrets of many other companies, something that would seem to offer an incentive to hackers of encryption systems and networks. Experience shows that concerns in this area are not

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65. *See, e.g.*, ESCROWTECH, www.escrowtech.com, (last visited Jan. 29, 2015) (founded in 1992); ESCROW EUROPE, www.escroweurope.com (last visited Jan. 29, 2015) (founded in 1989). An institution in Ecuador operates as a data bank for traditional knowledge. Communities of native citizens can deposit the traditional knowledge preserved by them in a secret file (each community has exclusive access to its file). If the information deposited is considered a trade secret, the government assists the community in negotiating with various entities through a material transfer agreement. The profit from the agreements is divided between the government and the community. Profits of the community are used to finance special projects for the community. *See* STEPHEN A. HANSEN & JUSTIN W. VANFLEET, TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY 29 (2003).

66. *See*, *e.g.*, *EscrowTech – The Right Choice!*, ESCROWTECH INT'L, INC., www.escrowtech.com/about_escrowTech.php (last visited Jan. 29, 2015); *see also Electronic Deposit Submissions*, ESCROWTECH INT'L, INC., www.escrowtech.com/online_deposits.php; *IP Audit Trail Services*, *supra* note 14.

justified. The escrow companies address some of the problems we have described, and with their help, it is possible to save some of the litigation and transaction costs that we pointed out above. Below is a list of problems that can be overcome by using escrow services.[67]

A. *The deposit of information to be offered in negotiations in order to prove that the offeror was the owner of the trade secret before the negotiations.* Such a deposit can also protect the offeree company because the commitment not to use the information disclosed in the course of the negotiations pertains only to the information deposited by the offeror before the beginning of negotiations. Similarly, the routine deposit of information by the offeree company can prove that the information was in its possession before the negotiations. This proof is important given the existing exception that provides that the commitment not to use information disclosed during negotiations does not apply to information known to the offeree before the beginning of negotiations.

B. *Deposit of secret information for the purpose of proving that the information was in the possession of the company when the former employee worked there.* Such a deposit would avoid claims by former employees that the information was created after they had left the company and that the information was not known to the company when they worked there. The escrow companies allow businesses to deposit their secret information without having to distinguish the amount of information known to each individual employee. When a company does not create individualized deposits, there is no solution to the litigation problem of a company falsely arguing that the employee knew trade secrets to which he was not even exposed. Similarly, there is no solution to the unsubstantiated claim by an employee that even if the information was known to the company, there is no proof that the employee was exposed to it. These problems can be solved if the company creates individual deposits for each employee. When such deposits are made in real time, in encrypted communication, it can be accomplished at a relatively low cost, as explained below. Such a deposit can currently be

67. *IP Audit Trail Services*, *supra* note 14; *IP Collateral and Investment Protection Service*, *supra* note 55.

accomplished through the services of escrow companies. Nevertheless, the law must create legal incentives to encourage companies to update the registration and to discourage over-registration.

C. *The deposit of secret information for the purpose of mortgaging it to a lender*. The secret information cannot be expunged from the deposit, and therefore the lender can rely on the secret information as collateral. Dating the deposit of the information precludes an argument by company owners, or by their employees, that the secret information in their possession was created only after they had left the company and therefore the mortgage does not apply to them. Relating the mortgage to secret information deposited in a particular box with the escrow company can provide a solution to the problem of separating and distinguishing between the various trade secrets of the owner of the secret at issue, if he is interested in mortgaging only one trade secret.

As far as we know, the services offered by the escrow company do not address the public registration of the identity of the owners of trade secret rights. The only official mechanism of which we are aware that deals with the registration of the identity of the purchasers and receivers of licenses to trade secret rights is the law enacted in Indonesia in 2000, which regulates the trade secret laws in that country. This law created a unique system according to which the transfer or licensing of a trade secret must be in writing and documented in the Office of the Directorate General of Intellectual Property in the Indonesian Ministry of Justice. After the document is deposited, a notice of the transfer or licensing is published in special trade secret gazettes.[68] The transfer or licensing of a trade secret that is not documented as described above has no validity with respect to third parties.[69]

The services offered by the escrow companies and the

68. Law on Trade Secret, No. 30, Art. 5 (5), 8(3) (2000) (Indon.).

69. Law on Trade Secret, No. 30, Art. 5-10 (2000) (Indon.). It seems that it is required to deposit only the transfer or licensing agreement, whereas the trade secret itself, which is to be held in confidence, cannot be deposited. As discussed below, this method has many shortcomings, which would not be resolved even if it were necessary to deposit the secret itself. These shortcomings can be resolved by the registry for trade secrets proposed in this study.

Indonesian legislative mechanism offer solutions for only some of the problems that we have described. For example, they do not provide a solution for cases in which a "new employer" did not know that the potential new employee is subject to a duty of confidentiality with respect to his former employer or his proxies. Similarly, these arrangements do not solve the problem that arises when a former employee proposes to sell the trade secret of his former employer to a third party, stating that it is his trade secret. Therefore, companies that negotiate with a person representing himself as the owner of a trade secret cannot be certain that the secret is his, even if he previously deposited it with an escrow company. The possibility of mortgaging a trade secret through an escrow company is appropriate for static trade secrets, in which there is no ongoing development, such as a given formula. In most cases, trade secrets are dynamic and the lender is interested in the mortgage applying to the developing trade secret. For this purpose, an incentive is needed for the owner of the secret to update the information deposited for the purpose of the mortgage.

The duty included in Indonesian law to document every transfer or license of trade secret rights in the official state office and in the gazette of trade secrets for the purpose of validity with respect to third parties provides only a partial solution. For example, if C knows that A sold a trade secret to B in the past (from perusal of the gazette), and now A is offering to sell a trade secret to C, claiming that it is a different trade secret, C cannot know whether A is deceiving him, trying to sell him a trade secret that he has already sold to B (C has no right to see the trade secret that was sold to B). A similar problem occurs when C knows that in the past A gave B an exclusive license to use a trade secret, and now A is offering C a license to use the trade secret, claiming that it is a different one. C cannot know that A may be trying to defraud him by proposing a license for the same trade secret for which B holds an exclusive license. Another problem occurs if C knows that in the past B received a license for a trade secret from A, and now B proposes that C purchase the trade secret, stating that this is a different trade secret. C cannot know whether B is deceiving him, attempting to sell him a trade secret to which he merely has an exclusive license. The Indonesian law is also unable to address cases in which former employees offer for sale the secrets of their former employer.

The problem with escrow companies is that they function, among others, as companies that accept the deposit of trade secrets in trust, and not as a public registry, the objective of which is to disclose certain data to the public. The limitation of their services enables them to provide a solution only to the first level of problems, and they do not provide an overall solution to the complete array of problems described above. The difficulty with the Indonesian law is that trade secrets involved in transactions are not deposited with an objective entity that can compare the trade secrets of past transactions with those of new transactions proposed by parties to the previous transactions. The absence of a deposit procedure also precludes locating former employees who are offering for sale, as their own, the trade secret of the former employer. The inability to compare trade secrets allows too much room for fraud.

VII. The Proposed Registry for Trade Secrets

In the previous sections, I showed that when it comes to transaction costs, the option of patenting is preferable to trade secrecy. The advantage of patents is manifest also with respect to litigation costs, unless the defendant challenges the validity of the patent, or if the defendant circumvented the patent by "designing around" it. The effectiveness of the proposed registry for trade secrets should be judged, therefore, on its ability to decrease transaction and litigation costs, as well as the financing and employment cost, created by trade secrets law in such a way that its benefits exceed the costs of establishing the registry, of its operation, and the additional public costs listed below.

When there are deliberations in a given legal system about how rights to a certain asset should be regulated and about the means of transferring those rights, it is necessary to consider two important factors: the means of acquiring the initial ownership of the asset, and the means for transferring ownership of the asset and for creating secondary rights with respect to it.[70] Generally, there are three methods of acquiring

70. Robert Nozick is of the opinion that property laws must include only three rules: a.) A rule detailing what is permissible seizure that confers upon

rights to assets and of transferring of these rights. According to the first method, acquisition of the rights is created by possession, and transfer of the rights is completed with the transfer of the possession. According to the second method, acquisition of the rights is created by registration with a registry that regulates the rights of the asset, and the transfer of the rights is accomplished strictly by transferring these rights in the registry. There are substantive disadvantages to both these methods. In the first method there are high costs incurred because of the need to protect the possession of the asset as a way of serving public notice of ownership.[71] Furthermore, possession is weaker than registration in its effectiveness as a public sign of ownership. Possession does not clarify the substance of the possessor's right,[72] and it is difficult to split the right into secondary rights when the public notice is based exclusively on possession. With the second method, a difficulty arises with respect to assets that have not yet been registered. The exclusivity granted by the registry relates only to registered assets, and only for those can the ownership right or secondary rights (such as tenancy, mortgage) be realized or transferred to others. In other words, it is not possible to realize ownership rights or secondary rights of an asset that is not registered.[73]

There is a third method, however, that integrates the two other methods. The first right of ownership is based strictly on possession, and once that has been proven, the right can be

the one seizing the first right to ownership of a resource with no previous owners; b.) A rule detailing what constitutes valid, willful transfer of a certain resource from its lawful owner to its new owner; c.) A rule detailing how the existing ownership structure needs to be corrected when it transpires that one of the preceding rules has been violated. *See* ROBERT NOZICK, ANARCHY, STATE AND UTOPIA 150-53, 160 (1974).

71. *See* POSNER, *supra* note 1, at 101-04. As an example of assets in which possession is the source of the foundation of property rights, Professor Posner cites wild animals, treasures and other examples. *Id.*; *see also* Carol M. Rose, *Possession as the Origin of Property,* 52 U. CHI. L. REV. 73 (1985).

72. As opposed to a registry that accurately records the substance of the registered right such as ownership, tenancy, mortgage, etc. One who possesses an asset may be the owner, tenant, borrower, bailee, owner of a right to a lien, retailer in consignment transactions, or thief. The public nature of the possession does not attest with certainty to the existence of the possessor's right, nor does it attest to the content of this right. Possession attests to the possibility that the possessor has some right to the possessed asset.

73. Posner, *supra* note 1, at 101-02.

registered. The transfer of rights and the splitting of the right into secondary rights is accomplished exclusively within the framework of the registry. This solves several problems: (a) creating an ownership right over an asset that has not yet been registered; (b) reducing the cost of maintaining the public nature of the right (the cost of the public notice provided through the registry is necessarily lower than the costs of protecting a possession); and (c) transferring and splitting the rights, which can be accomplished with greater efficiency through the registry. In other words, the registry must be declarative regarding the creation of the first ownership right, and constitutive with respect to the performance of transactions regarding the right and the splitting of the right into secondary rights.[74]

Another key question focuses on the nature of the potential asset that is to be regulated by the trade secret registry. Is a trade secret an appropriate asset for regulation by a registry? Should the creation of a right of first ownership through possession or a substitute for possession, and transactions with respect to it be carried out only through the registry? Professor Miguel Deutch proposed regarding the obligation to take security measures in trade secret law, among others, a requirement for meeting public notice demands. The public notice inherent in the means of security stems from the fact that, when a person uses security measures he demonstrates control over the information. Control is the essence of possession, and possession is one of the main sources of the characteristic of public notice. Taking security measures serves notice of the existence of rights. A person who is confronted with measures of security, such as a safe or the fence of a factory, generally knows that control is exercised over the information protected by the security measures, and that the owner claims the rights to such information.[75] Note that this is not a question of making

74. *See* Posner, *supra* note 1, at 101-05. For the importance of the registry as a means of splitting property rights efficiently, so that concurrent secondary rights and future rights with respect to the asset can be given, see Douglas Baird & Thomas Jackson, *Information, Uncertainty and the Transfer of Property,* 13 J. LEGAL STUD. 299, 303-04 (1984); Richard A. Epstein, *Notice and Freedom of Contract in the Law of Servitudes*, 55 S. CAL. L. REV. 1353, 1354-56 (1982).

75. *See* Deutch, *supra,* note 7, at 329-32; Don Wiesner & Anita Cava, *Stealing Trade Secrets Ethically,* 47 MD. L. REV. 1076, 1114-15 (1988).

the information itself public, which would end the right to a trade secret, but rather making public the identity of the one who controls the information. Therefore, with trade secrets, the means of providing public notice for the purpose of creating initial ownership rights is accomplished through the requirement of taking security measures, which is, as stated, a substitute for possession. But can a trade secret be regulated through a registry after its ownership has been established by means of security measures? Indeed, the existence of the registry does not void the requirement to take security measures.[76] As such, the registry does not play a role as a factor of public notice that replaces the requirement of retaining possession (control). The proposed registry for trade secrets can play the role of registries by improving the efficiency of transactions in the right to the trade secret and in splitting the right into secondary rights.

I have found that the initial ownership right of a trade secret can be established by means of security measures, as a substitute for possession demonstrated by public notice. The question is whether the trade secret can be appropriately regulated through a registry after the law has already recognized the ownership of the owner who has taken security measures. To answer this question, it may be stated that an asset must have two main characteristics in order to be regulated through the registry.[77] First the transfer of rights to the asset must occur infrequently. If the rights to an asset are transferred too frequently (as in the case of diamonds), it is not appropriate to regulate it through the registry because the registration would have to be updated constantly. The trade secret market is already slow because of its high transaction costs, therefore the creation of a registry for conducting rights transactions does not slow down the pace of their performance, but rather improves their efficiency and increases the pace at which they occur. Second the asset must be of a relatively high value because of the high cost of using the registry method. Payment of registration fees that are high relative to the low

Regarding the requirement to take security measures, see *supra* note 7.

76. Because it has additional reasons beyond being the factor of public notice. *See, e.g.*, Deutch, *supra* note 7, at 332-33.

77. *See* Baird & Jackson, *supra* note 74, at 304, 306.

value of the asset is not efficient. The trade secrets of companies are generally considered to be business assets of great value.[78] The costs involved in maintaining a registry are covered by the fees paid by companies using the registry. These costs are justified if the registry improves the efficiency of the trade secret transactions market and at the same time reduces litigation costs. The proof is that private bodies, like the escrow companies, which perform the first-level functions of the proposed registry, operate as businesses and are financed by the clients who use their services.

A. *The Registry Structure*

Registration in the proposed registry for trade secrets would be carried out by sending encrypted information through the Internet[79] or over a direct line (point-to-point). The deposited information would be saved encrypted even after its deposit with the registry, so that the content of the registered trade secrets remains secret from the public.[80] The registration of trade secrets would be renewed in real time. At any given time, the information must be signed with an approved electronic signature and deposited with the registrar of trade secrets. The signature delineates the scope of the information, prevents making changes to it, and ratifies the identity of the provider of

78. *See* Bone, *supra* note 4, at 243; Cheung, *supra* note 20, at 40; Deutch, *supra* note 7, at 362; Epstein & Levi, *supra* note 2, at 887; Friedman, Landes & Posner, *supra* note 4, at 61; Hill, *supra* note 2, at 2; Pamela Samuelson, *Information as Property: Do Ruckelshaus and Carpenter Signal a Changing Decision in Intellectual Property Law?*, 38 CATH. U. L. REV. 365, 367 (1989); *see also* Rockwell Graphic Sys. Inc. v. DEV Indus., Inc., 925 F.2d 174, 180 (7th Cir. 1991).

79. Sending encrypted information through the Internet does not cause publication of the information, and it therefore does not affect the suitability of the information as a trade secret. *See* GRAHAM J. H. SMITH, INTERNET LAW AND REGULATIONS 55 (3d ed. 2002).

80. The information is encoded by symmetrical encryption when the key to the code is held by the depositor and the key for decoding the encryption by the registrar of trade secrets (this in case the depositor is close enough to the place of the registry in order to exchange keys), or by asymmetrical coding, when the depositor codes the information with the public key of the registry of trade secrets and the registrar decodes the information using his private decoder.

the information[81] and the date and time when the information was deposited or updated. The secret information is updated in a particular file and catalogued in the registry, so that each update replaces the earlier one. The registrar of trade secrets and his employees can peruse the registered trade secrets as part of exercising various judicial powers, as described below. The registrar of trade secrets would have the coding keys for the purpose of carrying out these functions. The registrar would have the authority of hiring experts in various fields to assist him in exercising his judicial powers. The registrar, his employees, and the experts who assist him in his work are bound by a duty of confidentiality, similar to that of the registrar of patents and his employees.

One of the key questions in establishing a registry is whether it operates as a constitutive registry or simply as a declarative one. In this regard, it is necessary to distinguish between the creation of the initial right of ownership and carrying out of transactions involving the right. In the case of a constitutive registry, it is not possible to acquire the initial right of ownership except through the registration.[82] A declarative registry, however, makes it possible to acquire initial ownership rights even in the absence of registration. With respect to transactions of assets, if the registry is constitutive, only registration can create the property rights or confer their validity to third parties.[83] But in the case of declarative registries, registration does not create the property right or confer validity with respect to third parties, but merely declares the existence of the transactions. In these registries, the registration does not determine the identity of the owners at any given moment.

81. The identification is by means of additional coding in which the depositor codes the information with his private key and the registrar decodes the information with the depositor's public key. Success in decoding proves that the information is that of the depositor and that it had not been altered after it was sent. Another person trying to decode the information with the depositor's public key will not be able to access the information because it was coded with symmetrical or asymmetrical coding, as stated. *See supra* note 80.

82. For example, it is possible to acquire the ownership right of a patent only by registration with the patent registry.

83. With respect to patent transactions, see *supra* note 52 and accompanying text.

Constitutive registries have clear advantages when it comes to transactions of rights. For example, the constitutive registration encourages owners of the rights to register their rights. Registration with constitutive registries confers much greater certainty regarding the state of the rights of the assets at any given moment. This method, which ensures that maximum rights to the asset are reflected in the registry, strengthens the efficiency and trustworthiness of the registry. Transactions that have not been registered undermine these objectives. The reliability of the registry and its public nature are important for actions conducted by government authorities. They are also important for the benefit of citizens, so that at any given moment they can ascertain the state of the rights of the asset (with certain exceptions) that they are interested in acquiring or receiving as collateral for a loan they intend to grant. Reliance on the registry requires that the asset transactions be registered with it. Otherwise, it is impossible for government authorities and citizens to rely on the registrations. Therefore, giving the registry the power of a constitutive registry creates rights that are much more effective in achieving the objectives of the registry, i.e., the creation of a public tool that accurately reflects the state of the asset rights regulated by the registry, and enables users to rely on it. Admittedly, there are declarative registries that are reliable, but empowering a registry as a constitutive registry facilitates reliance at a higher level. Moreover, one of the objectives of creating a constitutive registry is to prevent a former owner from deceitfully "selling" an asset.

Despite these advantages, a constitutive registry has disadvantages as well. A mandatory determination of the date of transfer of ownership deviates from the principle of freedom to contract and does not allow the parties to set another date. Another disadvantage is a slowing down of market transactions. By its nature, a constitutive registry slows the speed of transactions for assets subject to registration. Transfer of ownership of the asset requires a change of registration, and cannot be achieved by agreement or transfer of possession, which are relatively quick procedures. The slowdown of the transaction market is a disadvantage for assets in an otherwise fast-moving transaction market, as in the case of the diamond industry, but not particularly significant for assets for which the transaction market is already slow, regardless of the constitutive nature of the registry that regulates rights.

The most important advantage of trade secrecy over patents protection is creative flexibility. A severe disadvantage of the patent system is the high administrative cost incurred before the patent is issued. Moreover, the registration process is relatively lengthy and inappropriate for information the economic value of which lasts only a relatively short period of time. Preserving flexibility in creating the right to trade secrecy requires that the registry for trade secrets perform as a declarative registry in the matter of the creation of the right. In other words, the operation of the registry should not change the process of creating the right as it exists at present. Meeting the preliminary conditions for creating the right grants the creator of the information ownership of the trade secret without any registration. The public nature of the right, at this stage, is achieved through the requirement to take security measures as a substitute for possession.

To increase the trustworthiness of the registry, however, and to enhance the legal certainty when carrying out transactions in the rights to trade secrets, the registry should operate as a constitutive registry only with regard to transactions in this right. The registry should also make possible the efficient division of the right into secondary rights. These objectives are the primary justifications for the existence of registries.[84] Establishment of a registry will reduce concerns about engaging in negotiations for rights to trade secrets, and the risk of fraudulent transactions will decline considerably. These procedures will also reduce transaction costs. Granting constitutive powers to the registry in the matter of transactions for a right will advance this objective. These objectives justify the cost of the burden required to use registries. As noted, the imposition of a duty for carrying out transactions in a certain manner infringes on the freedom of contracts, and may slow down the pace of transactions. But the concern for slowing down the pace of transactions seems unjustified with regard to the right to trade secrets. The transaction market in this field is not

84. See, in this regard, *supra* note 74 and accompanying text.

as developed as it could be, not for lack of a desire to transact in such assets but because of the amorphous nature of the right and the lack of legal certainty in purchasing it. It seems, therefore, that the proposed registry will not slow down the pace of transactions in this right, but rather increase it through the creation of much greater certainty, as shown below. A registry that acts as a declarative registry in creating an initial ownership right through possession and its substitutes, and as a constitutive registry in carrying out transactions in that right and creating secondary rights, is the most efficient registry from among the three choices presented above. The registry for trade secrets that I propose operates in accordance with this option, i.e., as a declarative registry in the creation of initial ownership rights and as constitutive one with regard to transactions in this right and in the creation of secondary rights.

The advantage of flexibility operates not only when it comes to the creation of initial ownership rights, but also with regard to ownership rights to the secret information that continues to be developed over time. A trade secret that is developed on an on-going basis includes all its developments, without the need for a formal process. To preserve the advantage of flexibility in such a case, it is not sufficient to shape the proposed registry as declarative when it concerns the creation of the right and as constitutive when it comes to transactions in the right. After the creation of the right, registration should take place with a high frequency in order to keep the registration updated according to the developments that have occurred in the trade secret. Therefore, the proposed registry does not operate as a registry of rights but strictly as a registry of transactions.

The essential difference between a registry of rights and a registry of transactions is that in the former there is a scrupulous examination, before the initial registration, of the suitability of the asset for registration and of the identity of its owners, whereas in the latter no such examination is conducted.[85] This choice is mandated by circumstances. As a result of the scrupulous examination process before the initial registration, the trade secrets law loses its advantage of

85. Based on this test, it may be stated that the patent registry is a registry of rights. By contrast, the registries of security interests pursuant to U.C.C. art. 9. are only transaction registries.

flexibility and becomes similar in its essential features to the system of patent laws. Therefore, trade secrets will be registered automatically, without prior examination of whether the information is qualified to be a trade secret, and without ascertaining that the person doing the registration is the owner of the trade secret. The registration itself does not constitute proof that it is a trade secret. On the contrary, even in the registries of rights it is possible to challenge the registration, stating that the asset does not qualify for registration or that the registered owner is not its true owner.[86] The ability to challenge exists, *a fortiori*, with regard to a transaction registry as a registry of trade secrets, in which no preliminary examination is conducted before the registration. The owner of the registered trade secret is vulnerable to the possibility of being challenged with the argument that the asset is not qualified to be a trade secret or that he is not the owner of the trade secret. This examination occurs only after the fact, in a hearing before the registrar of trade secrets or in court.

Establishing the registry as declarative with regard to the creation of the right, and as constitutive regarding transactions in the right, and moreover, as a registry that operates only as a transaction registry, preserves flexibility at the stage of the creation of the right and inspires greater confidence in conducting transactions in rights to trade secrets. The registries generate confidence in the transactions of an asset arranged by them by providing a guarantee to those who rely on the registration and by eliminating the ability to deprive the owner of his right without his consent.[87] In the following parts, I discuss the special rules to partially achieve these objectives.

The proposed registry serves two main types of registering entities. The *first* includes companies or individuals who register as owners of a trade secret. This type of registration is intended to serve such actions as the sale of the trade secret, the granting of a license for a trade secret, and the mortgaging of a trade secret. According to trade secrets law, if two strangers independently discover secret information, each of them individually is considered the owner of the secret,[88] and may

86. Regarding the registration of patents, see *supra* note 5.
87. *See supra* note 74 and accompanying text.
88. *See supra* note 10 and accompanying text.

register the trade secret under her name. Therefore, there is no need for a mechanism, similar to that of a patents registry, that examines who was first to register the trade secret.[89] By contrast, if the owner of a trade secret wishes to register another trade secret, already having registered one trade secret, the trade secret registrar, in order to prevent fraud, must ensure that the latter registration is identical to the first one, as described below.

The efficiency of the registry depends on it being constantly updated. It is therefore of utmost importance that the transfer of the right from a seller to a buyer be reflected in the registry. Transactions that are not registered in the registry undermine its purpose. Treating the trade secret registry as a constitutive registry with regard to the registration of transactions would provide incentives for the registration of transactions of trade secrets. This, in turn, would increase the credibility and improve the reliability of the registry. A transaction in a registered trade secret that does not culminate in registration would be void against any buyer, mortgagee, or licensee who registered in good faith and for consideration, unless the first transaction would be registered in the registry within three months from the date on which it was executed or before the date of the last purchase, mortgaging, or licensing.[90]

Because the proposed registry operates as a constitutive registry for the purpose of conducting transactions in rights of trade secrets, these transactions can be carried out only if the trade secrets are registered in the registry. If a trade secret has not yet been registered, the owner of the trade secret would be required to register the secret under her name before she can carry out transactions with respect to the secret. Similarly to the first registration of trade secrets, transactions in a registered trade secret would be possible only in electronic form, and therefore it would be necessary to identify the contracting parties.[91] The possibility of carrying out transactions through

89. Because the right to a patent is an exclusive one, it requires an arrangement with respect to the priority of registration.

90. Similar to the existing law concerning the transfer of a patent that was not registered. *See supra* note 52.

91. The owner of the secret and the other party to the transaction (buyer, licensee, lender who wishes to obtain a mortgage on the secret, etc.) identify

electronic form does not stem from a requirement to carry out the transactions quickly. Unlike the update of a registered trade secret that develops on an ongoing basis and therefore requires updating in real time, transactions in trade secrets do not require such speed. The possibility, however, is necessary in order to enable the registry to operate as an international registry. Furthermore, the trade secret registry advances the additional objective of a more efficient use of the asset by splitting of the right into secondary rights.[92]

The *second* category of potential registering entities includes companies and individuals who are also registered as the owners of a trade secret. However this category is different from the first in that together with the registration of ownership, the names of individuals who have undertaken a contractual obligation to maintain the secrecy of the registered information is also be registered (hereinafter, the subordinates). The names of the owners of the rights and of the subordinates would be open to the general public. The registry indexes the names of the owners of the various rights and of the subordinates. Anyone may peruse the registry to check whether a person is subject to a duty of confidentiality to someone else. The names of the subordinates would remain registered even after ownership of the secret has been transferred to another entity.

To the best of my knowledge, there is no trade secret registry in any legal system in the form proposed here. This is not surprising, because the main requirement for recognizing information as a trade secret is the confidentiality of the information, whereas a main objective for the establishment of the registries is to make the registered information available to the public.[93] As noted, I propose a registry that is in part secret

themselves according to the normal procedure of identification of the provider of information. *See supra* note 81. For the trend of development of land registries that allow online transactions see Haim Sandberg, *Real Estate E-Conveyancing: Vision and Risks* 19 INFO. & COMM'S TECH. LAW 101 (2010).

92. *See supra* note 84.

93. Professor Miguel Deutch and Robert Dean noted that there is no possibility of establishing a system of registration for trade secrets. Deutch, *supra* note 7, at 361-63; DEAN, *supra* note 39, at 84. There were even those who called the expression "public registration of trade secrets" an "oxymoron." *See* RALPH H. FOLSOM, MICHAEL W. GORDON & JOHN A SPANOGLE, INTERNATIONAL BUSINESS TRANSACTIONS: A PROBLEM ORIENTED COURSEBOOK 889 (4th ed. 1999). But they referred to a registry where the assets registered, i.e., the

and in part public. The information or know-how covered by the trade secret would be kept in the secret part of the registry, whereas the name of the owners and subordinates would be in the public part. The role of the registry is to identify the owners of the trade secret rights, or those who have undertaken to maintain the confidentiality of the information, and to arrange the transactions that are carried out in the rights to the trade secrets, but not to disclose the secrets themselves.

Registration of information as a trade secret with the proposed registry does not necessarily create the trade secret. Nor does registration serve as proof that the registered information is indeed a trade secret. The question whether the registered information is a trade secret would only be determined at a court hearing, based on the preliminary requirements for the creation of a trade secret. The ability to register a trade secret does not change these characteristics. The registry does not create the right and the registration does not confer a monopoly on the information, nor does it change the nature of the right and the scope of the protection it grants.

trade secrets, would be open for public perusal, as in the case of the patent registry. Such a registry is indeed impossible, because publication of the secrets would expropriate the rights applicable to them. Professor Bone proposed creating a registry of disclosed information in an information bank that would constitute a substitute for the trade secret law method. *See* Bone, *supra* note 2, at 125-28. Bone proposes a method similar to the patent method, not a trade secret law method, and therefore it is not a registry for trade secrets. The method suffers from some of the difficulties of patent law, and it is therefore not a proper substitute for the method of trade secret law and cannot take the place of the trade secret law. The registry proposed here is intended to address some of the existing disadvantages of the trade secret law and not to replace it with an entirely different system. Anderson suggested creating a registry for trade secrets for secret inventions, to serve two purposes: (a) prove that the owner of the secret deemed the information valuable and intended to keep it secret, and (b) if a patent is awarded to another person for the same invention, the registrant can continue using his invention based on the law Anderson proposed. J. Jonas Anderson, *Secret Inventions*, 26 BERKELEY TECH. L.J. 917, 973-77 (2011). I believe that the escrow companies can accomplish these objectives today. Another proposal concerns the registration of trade secrets, with minimal disclosure, for other purposes. *See* Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs,* 94 COLUM. L. REV. 2308, 2412-30 (1994); Jerome Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms,* 94 COLUM. L. REV. 2432, 2545-58 (1994). These proposals are different from the system that I present in this article, which is aimed at solving entirely different problems.

Therefore, the proposed registry does not change the existing balance in trade secret law between the public and the private interest, and does not undermine the patent registry. The role of the proposed registry is to reduce litigation costs in cases of trade secret misappropriation by shortening the judicial process, and thus increase employee mobility (because the judicial decision is rendered before the new employment offer expires). Moreover, the registry increases certainty and confidence in transactions in trade secrets and reduces transaction costs, leading directly to the growth of information mobility. The increase in information mobility in an honest way, which helps economic growth,[94] also serves the rationale for a right to trade secret based on considerations of business ethics and fair competition.[95]

B. *The Registry as a Tool for Public Notice*

One of the central principles of property law is that of public notice. When one is interested in imposing liability or obligation on a third party who has no direct legal connection to the owner of the right, it is necessary to provide tools for public notice that can serve to warn the third party of the existence of rights on which it may be infringing. The public source enables the third

94. Bone, *supra* note 4, at 266-67 n.115; Hyde, *supra* note 4; AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, 71 ECON. GEOGRAPHY 199, 206 (1994). For a more reserved approach, see also Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

95. *See* Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 481-82 (1974); Burten v. Milton Bradley Co., 763 F.2d 461, 467 (1st Cir. 1985); E.I. du Pont de Nemours & Co. v. Christopher, 431 F.2d 1012, 1015-17 (5th Cir. 1970), *cert. denied*, 400 U.S. 1024 (1971); R. B. STEVENSON, JR., CORPORATIONS AND INFORMATION: SECRECY, ACCESS AND DISCLOSURE 19 (1980); Deutch, *supra* note 7, at 322, 358; Hill, *supra* note 2, at 2; Ramon Klitzke, *Trade Secrets: Important Quasi-Property Rights,* 41 BUS. LAW. 555, 557 (1986); Christopher Rebel J. Pace, *The Case for a Federal Trade Secrets Act,* 8 HARV. J. L. & TECH. 427, 435 n.23 (1995); Peterson, *supra* note 2, at 451 n.563; Sharp Paine, *supra* note 54, at 250, 254-59; Wiesner & Cava, *supra* note 75; Steven Wilf, *Trade Secrets, Property and Social Relations*, 34 CONN. L. REV. 787 (2002); *see also* UTSA § 1 cmt.; HANOCH DAGAN, UNJUST ENRICHMENT: A STUDY OF PRIVATE LAW AND PUBLIC VALUES 101-02, 107 (1997) (emphasizing that the rationale behind the right to trade secrecy is "propriety of means.").

party to become informed about the existence of the right. This makes possible the imposition of liability and obligation on a third party acting in good faith, if there is justification for doing so. The four main public sources that the law recognizes are registry, possession, notice, and government publications.[96] As noted, physical measures of security can be used as a public source for the identity of the owner of the rights in trade secrets, as a substitute for possession.[97] Another tool that can serve as a source for public notice is a notice of secrecy.[98] These two sources of public notice are intended for cases in which the secret was appropriated by improper means, ignoring the physical measures of security and the notice of confidentiality.[99]

The existence of a public source at the time the right was created appears to be sufficient, even if the asset was transferred to a third party who was not exposed to the public source. For example, if a person breaks into a safe that was used as a security measure and as a public source, and steals the trade secrets from it, then transfers them to a third party, the third party is not exposed to the public source. This is the situation with regard to the possession of movable property. For example, if a person steals a mobile phone and transfers it to a third party, the owner can retrieve it from the third party even if the latter was not exposed to the source of public notice – the possession. Because of various policy considerations, the power invested in the right to trade secret is different from that invested in property rights (*in rem*): when the thief transfers a trade secret to the third party, the latter is liable only if he knew, or should

96. Another relative and weakened source of public notice stems from the characteristic of the secret itself. A person in a certain professional field who comes across information of which he was not previously aware, can assume that this is a trade secret even if he does not know who the owner of the rights to the information is. A similar principle exists with respect to copyrights. The existence of the work itself constitutes public notice as to its existence, even if it does not disclose the identity of its owner, and even if it is not clear whether the period of copyright protection has expired. Deutch, *supra* note 7, at 327, 363-64.

97. *See supra* note 75 and accompanying text.

98. The reference is to the writing of the word "secret" on a document, disc, at the beginning of a file, etc. The notice is also used as a tool of public notice in copyright law by means of the "notice of copyright," *e.g.*, indicating the name of the author and the year in which the work was created, with the addition of the copyright symbol, "©."

99. *See* UTSA § 1(2)(ii)(A).

have known, at the time he received or used the information, that this was a stolen trade secret.[100]

Frequently the two sources of public notice, security measures and notice of confidentiality, are irrelevant. Most secret information is not kept behind fences but it is rather stored in the minds of employees who go home and who occasionally change their place of employment. With regard to this type of information, there is no significance to physical security measures, either as a means of protecting the secret or as a source of public notice of the right. In such cases, the most common means of security is a contractual agreement (i.e., a commitment to preserve confidentiality).[101] Unlike the fence of a factory, which warns a third party, contractual agreements are not made public and therefore cannot serve as a source of public notice. Therefore, the proposed registry of trade secrets also functions as a third source of public notice.

In the proposed structure, each company can register, in a separate registry cell, every employee who is bound by confidentiality concerning the trade secrets to which he has been exposed. The company is registered as the owner, and the employee as subject to a duty of confidentiality to the owner of the deposited trade secret. Updating the trade secrets to which the employee has been exposed is carried out in real time through encrypted communications. For example, software that was written and updated by an employee is sent to his box in the trade secret registry at the end of each workday through encrypted communication, each update replacing the previous one. When secret information is updated less frequently, the trade secrets can be registered once a week, or on some other cyclical basis, as decided by the company.[102] For the purpose of

100. *See supra* note 39. See also Professor Deutch's opinion according to which this means of public notice (security measures) is sufficient to impose liability even on a third party acting in good faith, in comparison to holding chattel, if this power was indeed worthy in light of the policy considerations. Deutch, *supra* note 7, at 329-30. For a different view, see DEAN, *supra* note 39, at 83-84.

101. In this regard, see Rockwell Graphic Sys. Inc. v. DEV Indus., Inc., 925 F.2d 174, 180 (7th Cir. 1991); Valco Cincinnati, Inc. v. N&D Machining Serv. Inc., 492 N.E.2d 814, 819 (Ohio 1986).

102. Regarding the great importance of documenting trade secrets and dating the information being developed, including the identity of the persons exposed to trade secrets, and dating when they were exposed to the secret

periodic deposits in the registry, companies must establish a system for sending trade secrets to the registry. As I have pointed out, some firms have already established such systems in order to work with the escrow companies. Many companies have created systems for sending large amounts of accumulated information, including secret information, to external backup sites.[103] A similar mechanism can serve also to send secret information to the trade secret registry.

Based on the experience of escrow companies and backup sites, I conclude that companies are not concerned about sending their secret information by encrypted communication or about storing their secret information at the same site where many other trade secrets are stored. Moreover, companies have learned that asset management occasionally requires reliance on other institutions that use security networks. For example, almost all reasonable people and companies deposit one of their most important assets – their monetary savings – in bank accounts, despite the risk that the bank's computer may be broken into and account registries distorted, causing them enormous damage. Reasonable people consider the risk vs. the benefit and prefer to deposit their money in a bank because, among other considerations, they have arrived at the conclusion that elsewhere their money will be at an even greater risk. There were no reports that depositors closed their accounts even when bank computers were hacked and secret information stolen. The concern over the misappropriation of trade secrets from the company itself exceeds the risk of depositing these secrets in the proposed registry. Moreover, depositing trade secrets in the registry is intended, among others, to mitigate the damage caused when the misappropriation of a trade secret occurs by reducing the litigation costs incurred in such cases.

information, see 1 M. F. JAGER, TRADE SECRETS LAW § 5:19 (2008).

103. This phenomenon became common after the twin towers disaster, in the wake of which many companies were obliterated because, in the absence of off-site backups, all the information in their possession was destroyed. Concerns about fire, terrorist attacks, war, computer viruses, and other disasters served as the impetus for many companies to send their information to backup sites outside the company. Given the great demand, at present many companies provide backup services through encoded communication, so that at the end of each workday all the information in the possession of the company, including its secret information, is sent to the site of the backup company.

Publicizing the identity of the individuals subject to the right enables the employer, when interviewing new employees, to query through the Internet the trade secret registry to make sure that the new employee is not bound by confidentiality toward a former employer. This possibility raises several questions: (a) Do we expect the new employer to check the registry as part of the interview process for hiring new employees? (b) An affirmative answer to the first question requires a decision regarding the rule to be applied if the employer fails to check the registry. In my opinion, the answer to the first question is derived from the answer to the second question. As noted, the objective of the registration of those subject to the right to a trade secret is to create a source of public notice for the most common means of security: the obligation of contractual confidentiality. This source of public notice is intended to serve in cases when it is alleged that a third party used the trade secret when he knew, or should have known, that the secret was made available to him by someone who had used it in violation of a contractual or fiduciary duty imposed upon him vis-à-vis the owner of the secret.[104] The term "should have known" includes reasonable checks even if there was no suspicion of infringement. As part of these checks, it is possible to require an examination of public registries. In other words, a new employer is considered a tortfeasor, having committed the tort of misappropriation of a trade secret, even if he neither knew nor suspected that his new employee disclosed to him trade secrets of his previous employer, because it was possible for the new employer to use the registry to discover the new employee's duty of confidentiality to his former employer, but he failed to conduct such an examination. It is therefore appropriate to examine the question whether, in every employment interview, the employer has a duty to check the registry.

One possibility is to require an examination of the registry only when hiring employees of certain occupations, when there is a high risk that they may possess trade secrets belonging to their previous employers. For example, the burden applies in the hiring of a software engineer but not of a janitor.

104. *See* UTSA § 1(2)(ii)(B)(III).

Furthermore, the burden applies to senior employees about whom it may be assumed that they possess trade secrets, but not to junior employees. The hiring process generally tends to be lengthy and involves several interviews and tests, especially in the case of high-tech professionals and senior executives. Therefore, the burden of checking the registry does not affect the speed of recruiting new employees. Another possibility is to impose a general obligation to conduct an examination, to avoid litigation costs if there is a question of whether the nature of the position or the seniority of the employee mandated an examination of the registry.

The proposed trade secret registry completes the set of requirements for public notice of the right to trade secrets. The physical measures of security and the notice of confidentiality constitute a source of public notice for those who appropriate the secret through improper means. In any event, those who use the secret in violation of a contractual or fiduciary duty do not need a source of public notice because they are aware of the existence of the right. The trade secret registry constitutes a source of public notice for persons who suspect that they have received the secret from someone who has breached a contractual obligation to maintain confidentiality. The source of public notice created by the trade secret registry can assist in preventing fraudulent transactions, in which a former employee tries to sell his former employer's secret to the former employer's competitors. The three sources together form a web of public notice that enables the owner of a trade secret to warn the public of any infringements. This reduces the employment costs, because it reduces concerns about hiring new employees and about the disclosing trade secrets to them.

C. *The Registry as a Tool for Resolving Disputes and Reducing the Evidentiary Gap Between the Parties*

In this part, I discuss the ability of the proposed registry to assist in the second stage, where the new employer does not want to assume the risk of committing the tort of trade secret misappropriation. To this end, he examines the registry, becoming aware of his new employee's obligation of confidentiality to the trade secret right of his former employer.

For example, if a software developer registered the secret code that the former employee developed for him, when the employee moves to a new place of employment, the new employer can learn, through a query to the registry, that as the developer of the program, the employee was subject to a duty of confidentiality to his former employer. If the new employer decides to use the trade secrets regardless, not only does he assume the risk of paying damages to the former employer for the prohibited use, but he is also subject to injunctions that will prevent him from using the secret in the future despite his investments and his reliance on the secret. An employer who does not want to risk an action for damages, an injunction, and injury to his reputation must ask the previous employer whether the former employee's new work infringes upon his trade secrets. Because in most cases the answer is expected to be in the affirmative, the new employer or the former employee must request the registrar of trade secrets to hold an expedited judicial proceeding to answer the following questions: (a) Is the registered information indeed a trade secret of the former employer?[105] (b) Is the former employee prevented from working for a competitor, and if so, for how long?

The former employee can raise several claims in his defense: (a) the secret information, toward which he has a duty of confidentiality according to the registration in the registry, does not meet the definition of a trade secret (if this claim is accepted, the former employee can request the registrar of trade secrets to expunge the secret information in question); (b) the registered owner of the registered trade secret is not the true owner; (c) the general professional skills exception applies in this case;[106] (d) the trade secret is not related to the work at the new place of employment.

The law establishing the registry must grant the registrar of trade secrets several judicial powers for the purpose of making determinations in these cases. Concentration of judicial powers in this field of expertise in the hands of a judicial entity specializing in this area makes possible the development of

105. Sharp Paine noted that frequently disagreements arise whether given information meets the definition of a trade secret as well as about the identity of the owner of the secret. Sharp Paine, *supra* note 54, at 260.

106. *See supra* note 11.

unique judicial expertise, similar to that of a registrar of patents. These judicial powers do not remove the jurisdiction of the courts to adjudicate claims of trade secret misappropriation that are not related to the *ex ante* restriction of occupation. Claims regarding the limitation of occupation require, by their nature, quick resolution. Therefore, in cases in which the claim for restriction of occupation fails, the offer of new employment is still relevant.

The speed of the judicial process is determined by several factors. One such factor limits the employer to claims for restriction of occupation only with regard to trade secrets that have been registered before the employee's departure from his previous place of employment. This limitation provides companies with the incentive to register separately the trade secrets that each employee knows. By means of the registry, it is possible to know the date on which a trade secret was deposited, as well as the scope of the information deposited by the owner of the trade secret regarding the employee subject to the duty of confidentiality. The certification of the registrar of trade secrets regarding the scope of the information deposited as of a given date constitutes *prima facie* evidence, or alternatively, absolute evidence regarding the scope of the information at that time. The limitation of claims for restriction of occupation concerning a former employee to only those trade secrets that the former employer registered in the name of the employee before his leaving is intended to prevent situations in which companies claim that the employee knows trade secrets to which in practice he was not exposed, only in order to prevent the employee from moving to a competitor. A substantial number of claims against former employees are filed before the beginning of their work at the new place of employment, based on the claim that the employee is expected to breach his obligation of confidentiality. At times, even if the former employer does not succeed in his claim of restriction of occupation, by virtue of the duration of the litigation he achieves his objective, which is to block the employee from moving to a competitor.[107] Naturally, this limitation does not prevent the former employer from suing

107. *See supra* note 13 and accompanying text. Regarding problems that arise in the absence of a formal dimension of the scope of protected information, see Deutch, *supra* note 7, at 365.

the former employee or any other entity on the grounds of trade secret misappropriation that occurred in practice, even if the trade secrets were not registered in the registry. For example, if it transpires that the former employee is indeed using trade secrets, the former employer can sue both the former employee and the new employer for trade secret misappropriation and on other grounds as well, and in addition to damages can obtain injunctions to prevent the continued use of the trade secrets (including restriction of occupation), but cannot obtain an *ex ante* order of restriction of occupation.[108] Therefore, the requirement of registration in order to be able to sue for *ex ante* restriction of occupation does not negate the *ex post* defense of trade secrets that were not registered.

The defense of these secrets is possible only if trade secret misappropriation actually occurred. Obtaining an order for *ex ante* restriction of occupation is possible only with respect to trade secrets registered before the employee has left the place of previous employment. If the previous employer believes that the trade secrets in his possession are so valuable that restricting the occupation of the former employee and denying him his livelihood are justified, only because of concern that in the future she may make use of these trade secrets, the employer should take the trouble to register the trade secrets by means of online communication, even if this requires accommodating registration in real time (a process that already exists in many companies for the purpose of off-site backups or deposits with escrow companies, as noted above). This arrangement prevents extensive restrictions imposed on the mobility of employees by means of exaggerated claims that turn out to be baseless, but that achieve their goal of blocking the employee from transferring to a new employer because of the time that it takes to litigate such claims in court. Making it more difficult to file claims for restriction of occupation is also consistent with the tendency of the courts to limit the restriction of occupation of former employees,[109] and with studies that point to the fact that

108. Proceedings in claims of trade secret misappropriation that happened in practice can be adjudicated before the registrar of trade secrets or before the court.

109. Regarding the tendency of the courts to limit the restriction of occupation, see Sharp Paine, *supra* note 54, at 260.

the limitation of the restriction of occupation and the resulting increase in employee mobility, increase the mobility of information and assists in economic development.[110]

As noted, one of the roles of the registry is streamlining the judicial process. To promote this goal, two alternatives may be examined to forestall arguments that are likely to be raised by the former employee: (a) establish that the former employee cannot claim that he was not exposed to a trade secret registered in his name before leaving his former job; and (b) establish the presumption that the former employee was indeed exposed to a trade secret registered in his name before leaving. The existence of the presumption shifts the burden of proof to the employee, who must prove that he was not exposed to the secret registered in his name.[111] Each alternative has an advantage and a disadvantage. An irrefutable presumption saves litigation costs, but does not permit the employee to prove that he was not exposed to the secret. A refutable presumption enables the employee to prove that he was not exposed to the secret, but this nearly eliminates the narrowing of the evidentiary gap and reinstates the attendant litigation costs.

One of the concerns with the proposed arrangement is that the company might register trade secrets under the name of employees who are not exposed to these secrets only in order to lengthen the litigation if these employee leave, with the objective of delaying the employees' move to competitors. In such a case, the employees will also be prevented from claiming that they were not exposed to the trade secret or that they will bear the burden of proof to refute the presumption (in accordance with the arrangement chosen). To address this concern, it is proposed that in *ex ante* claims for restriction of occupation, the former employee (the defendant) be able to receive the information registered in his name in the registry. This information would be exposed only at the judicial proceeding, subject to an order prohibiting its publication.[112] On the face of it, the company may

110. *See supra* note 94.

111. *See* JAGER, *supra* note 102 at § 5:19. Jager determines that documentation in real time that a certain person was exposed to the secret information constitutes trustworthy evidence that such person had indeed access to the information.

112. Regarding the constitutional problem regarding laws enabling the

be tempted, during the period of employment, to register under the employee's name trade secrets of which he was not aware, merely in order to improve its position in future litigation. But it may be assumed that the company is not interested in doing so because such secrets would have to be exposed in the court proceedings. Although an order would prohibit publication, the company would be assuming an unnecessary risk by exposing secrets unknown to the employee merely to strengthen its claim, especially if the information is to be disclosed to the employee in the course of the dispute with the company. This should deter the company from registering in the name of employees information to which they were not exposed. The proposed arrangement takes into account considerations of freedom of occupation of the defendant and prevents baseless claims against former employees. The arrangement also protects the trade secrets of the company, which would be exposed only in the course of the judicial process and subject to the order prohibiting their publication.

The proposed registry significantly reduces the evidentiary gap between the parties regarding the most important issue: the secrets to which the former employee was exposed. The registry does so through a mechanism that establishes the facts with absolute certainty, or *prima facie,* depending on the arrangement chosen. Such a mechanism can render unnecessary hearing the question whether the employee indeed knew the secrets. The issues remaining to be determined by the trade secrets registrar or the court are: Is the registered information indeed the former employer's trade secret? If it is, can it prevent the employee's move to a competitor, and if so, for what period of time?

Reduction in the duration of the litigation necessarily reduces the litigation costs, which is one of the goals of the proposed trade secret registry. I noted above that escrow companies provide a service to companies that deposit secret

granting of a prohibition of publication with respect to trade secrets that are disclosed in a judicial proceeding, in terms of freedom of expression, see State *ex rel*. Sports Mgmt. News, Inc. v. Nachtigal, 921 P.2d 1304 (Or. 1996). For criticism of this decision, see Nicole M. Rhoades, *The Constitutional Shaping of Oregon's Trade Secret Law: State* ex rel. *Sports Management News v. Nachtigal,* 35 WILLAMETTE L. REV. 629 (1999).

information in order to prove that the information was in their possession when the former employee worked there. Such a deposit can prevent arguments by the former employee that the information was created after he left the company and that the information was not known to the company when he worked there. The escrow companies make it possible for companies to deposit their secret information without specifying separately the scope of the secret information known to each employee. When the company does not create an individual deposit, there is no solution for two situations: one in which the company falsely claims that the employee knew the secrets to which in reality he was not exposed; two, a former employee falsely claims that he was not exposed to the secrets which were known to the company. The problem can be solved if the company creates an individual deposit for each employee, which is currently feasible at a reasonable cost as part of the service provided by the escrow companies. The law, however, would have to create legal incentives to encourage the companies to update the registration, and a legal deterrence to discourage over-registration. The proposed trade secret registry can offer the same services as the escrow companies, with the additional advantages of the mechanism that provides an incentive for companies to engage in individual, updated, and accurate registration (prevention of over-registration). Thus, the proposed registry narrows the evidentiary gap between the parties. Moreover, the services of the escrow companies do not provide a solution for cases in which a new employer does not know that the potential employee is bound by a duty of confidentiality toward his former employer or his proxies. The proposed trade secret registry enables the deposit of trade secrets, similarly to the escrow companies, and also constitutes an open registry for the identity of the owners of the secrets and of those bound to them by a duty of confidentiality. As noted above, functioning as an open registry for those identities makes possible the creation of a source of public information for contractual obligations to preserve confidentiality.

D. *Registration of the Transfer of a Trade Secret*

The most serious problem faced by an owner who is interested in transferring[113] or licensing a trade secret, is the Arrow disclosure paradox, which affects negotiations about secret information. According to the paradox, the owner of a trade secret will not agree to reveal the secret in negotiations unless the potential buyer or licensee commits not to disclose or use the secret information in the event that no agreement is reached (an NDA). But, the potential buyer or licensee will refuse to sign such a commitment, out of concern that he has already developed or can develop the information by self-discovery or reverse engineering, at a lower cost than the requested consideration. This fact cannot be ascertained before the disclosure of the secret in the course of negotiations. The paradox results in the failure of efficient transactions from the outset.

I already noted that private escrow companies offer a solution to the paradox by enabling a company (or individual) to deposit the information to be offered in the negotiations to prove before the negotiations that the seller is the owner of the information. Such a deposit can also protect the offeree company because the commitment not to use the information to be disclosed in the negotiations applies only if the information was deposited by the offeror before the negotiations began and was not deposited by the offeree company as part of a routine deposit. Such evidence is important given the existing exception in commitments not to use information disclosed in negotiations, which provides that the commitment does not apply to information known to the offeree before the beginning of negotiations. The arrangement of the escrow companies, however, resolves only some of the problems presented. For example, it does not resolve the problem of a former employee offering a third party to acquire from him his former employer's

113. An argument can be made that given that a sale is the acquisition of an asset, i.e., the owner transfers the asset to the buyer in such a manner that the asset is removed from its previous owner, it is not possible to sell a trade secret because the asset, i.e., the secret information, remains part of the knowledge of the seller. Milgrim is of the opinion, however, that despite this problem, case law, which recognizes the transfer of a trade secret, attests to the fact that the elasticity of common law meets the challenge of such an amorphous transfer. MILGRIM, *supra* note 36, vol. 1, § 2.02[1], at 2-43. See the long list of case law cited there. If a transfer is accompanied by an explicit or implicit commitment not to use the trade secret that was sold, the transaction is similar to a sale.

trade secret by claiming that he owns it. Therefore, companies that conduct negotiations with a person representing himself as the owner of a trade secret cannot be certain that the trade secret is his, even if he deposited it beforehand with an escrow company. A registry that combines the deposit of trade secrets that remain secret, registration of the names of the owners of rights and of those bound by the same rights, available for public perusal, and the creation of rules to be used to adjudicate competing rights, resolves this problem, as well as others described below.

As part of the proposed arrangement, if an inventor wishes to transfer secret information to a company he must register the information in the registry before the start of negotiations. If the negotiations are unsuccessful and it transpires that the company began using the secret information, and that it had not registered similar information before the negotiations, the inventor has an evidentiary presumption that the company received the secret from him. This is not an irrefutable presumption because self-discovery according to the law grants the company the right to its own trade secret. But in the absence of registration on its part, and the existence of registration by the inventor before the negotiations, it can be assumed that the latter disclosed the information in the unsuccessful negotiations and the company received the information and used it illegally. This presumption can be refuted if the company proves that the information was in its possession before to the negotiations. In such a case, the company would be entitled to the same right as the one with whom it entered into negotiations.[114] Encouraging the registration of information that was developed or discovered also helps narrow the evidentiary gap and lower the transaction costs. Moreover, the owner of the secret can disclose the

114. This arrangement is also consistent with the existing law, according to which in certain cases the obligation to preserve the secrecy of information disclosed in negotiations can apply to the offeree, even in the absence of such a commitment on its part. For example, this obligation applies if the offeree was warned in advance that the owner of the secret expects it to be kept secret, and the offeree failed to refuse to receive it. It is true that if the information was in the possession of the offeree before the negotiations, he is entitled to continue to use it based on substantive law, but the burden of proof of this claim is on him. For an analysis of various cases and the law applicable to them. *See supra* notes 20-21.

information as part of the negotiations, with greater, if not complete, assurance, even without a prior contractual duty to maintain confidentiality.

If a voluntary sale is at issue, it is possible to include in the transfer agreement a prohibition preventing the former owner of the secret from using the trade secret herself, reselling it to another, or disclosing it to the public. Even if there is no explicit contractual duty, some are of the opinion that this is an implicit duty. In the absence of this restriction, the seller can easily cause a decrease in the value of the secret that she has already transferred.[115]

According to the law to be applied to the trade secret registry, the transfer of ownership of an unregistered trade secret is void vis-à-vis any buyer, licensee or holder of a mortgage who acted in good faith and for consideration, unless the transfer was registered in the registry within three months of the date of transfer or before the date of purchase, licensing or mortgaging.[116] Another possible way of resolving the conflict between the transfer of an unregistered ownership and a later mortgage or license that was registered in good faith and for consideration is for the buyer to receive the ownership of the trade secret, but subject to the mortgage or license that was registered.

When the owner intends to transfer his trade secret, he must also register as the owner of the trade secret with the registry, and after the completion of the sales contract, the buyer is registered as the "current owner," and the seller's registration changes from "current owner" to "previous owner." The transfer of registration transfers the ownership right of the secret to the buyer. Because the registry of transactions conducts no

115. In this regard, see also MICHAEL J. TREBILCOCK, THE COMMON LAW OF RESTRAINT OF TRADE: A LEGAL AND ECONOMIC ANALYSIS 11-12, 35 (1986). Trebilcock notes how courts historically rationalized restriction of occupation as the result of the sale of a business more easily than restriction of occupation in employee-employer relations. *See also* PERRITT, *supra* note 39, at 295-99; Bone, *supra* note 4, at 252 n.56. In the sale of a business, the bargaining power is more equal and the profit from the sale enables the seller to engage in some other gainful employment. Bus. Records Corp. v. Lueth, 981 F.2d 957 (7th Cir. 1992); Alexander & Alexander, Inc. v. Danahy, 488 N.E.2d 22, 28 (Mass. App. Ct. 1986).

116. This is similar to the law that applies to the unregistered transfer of ownership of patent. *See supra* note 52.

examination before registration regarding the suitability of the asset to be registered or the identity of the real owner, the buyer is always exposed to the allegation that the seller was not the real owner of the trade secret or that the information was not a trade secret. At present, this fact does not prevent the registry from recognizing the seller's ownership as long as the contrary has not been proven.

If the owner has several registered trade secrets, the trade secrets registrar must ascertain that the buyer is registered as the owner of the registered trade secret that he acquired according to the agreement. Recognizing the transfer of a trade secret, or any other transaction involving a secret, only if it is carried out through the registry would it bolster the confidence in the transactions of trade secrets. The seller's duty to be registered as the owner of the secret in the registry in the first place, and retaining his name as the "former owner" even after the registration is entered in the name of the buyer, will bring about the disclosure of fraudulent transactions in which the former owner tries to resell the secret – one of the most deterring risks in trade secret transactions.[117] According to the procedures of the proposed registry, a former owner of a trade secret who tries to resell the secret would have to register again as the owner of the trade secret. For every initial registration, the registrar of trade secrets would check whether the potential registree has not already transferred the trade secret to a third party in the past. If it transpires that the potential registree has already transferred the trade secret in the past, the trade secret registrar must confirm that the trade secret that the seller wants to register is not the secret that was transferred by him in the past. If the trade secret registrar discovers that the information is similar, she should not permit the former owner to register again as the owner of the secret, and prevent the fraudulent transfer before it is completed.[118] Constitutive registration of transactions concerning the right to the secret, and preserving the identity of past owners in the registry, assists

117. MILGRIM, *supra* note 36, at 2-43. *See also supra* note 37 and accompanying text.

118. The trade secret registrar generally does not permit a person to register his secret a second time (or to register a secret that he already sold to someone else) even independently of any attempt to sell the secret.

in achieving this goal.

An attempt to transfer the secret to somebody else by being employed by the transferee and represent oneself as the owner of the secret is doomed to fail. As noted, as part of the sale transaction, the seller has the duty not to disclose the secret after the sale. At the time of hiring, the new employer must examine the registry to verify that the new employee has not sold trade secrets in the past. Such an examination would reveal that the employee has already sold the trade secret. In such a case, the new employer would act in the same way as the employer who discovers that the potential new employee is subject to a duty of confidentiality toward his former employer, as described in Section C, *supra*. If the new employer does not examine the registry, he is considered to be someone who should have known that he is receiving a stolen trade secret and is therefore committing a tort of trade secret misappropriation.

The duty to register as the owner of the secret is also intended to prevent another type of fraud. For example, a former employee could offer to sell a trade secret of his former employer to a competitor without disclosing the source of the secret. Because the employee needs to be registered as the owner of the trade secret, the trade secret registrar must check whether the potential registree is subject to a duty of confidentiality toward a third party. If the trade secret registrar discovers the former employee's registration, he must check whether the secret, which the former employee seeks to register as an owner, is different from the secret already registered to the former employee. If it transpires that it is a similar secret, the trade secret registrar should not permit the registration of the employee as the owner, thereby preventing the transaction before it is carried out. At the same time, the good faith of the competitor is also refuted.

In Part VI, I examined the Indonesian law, which is the only official arrangement, to the best of my knowledge, that deals with the registration of the identity of transferees and licensees, and of their rights to trade secrets. This law creates a unique arrangement, according to which the transfer or licensing of a trade secret must be in writing, and must be registered with the Office of the Directorate General of Intellectual Property in the Indonesian Ministry of Justice. After the deposit, a notice announcing the transfer or licensing is published in the special trade secrets gazette. The transfer or licensing of a trade secret that was not registered with the intellectual property office has no validity vis-à-vis third parties. But as noted, this arrangement offers only a partial solution. If, by perusal of the gazette, C knows that in the past A sold a trade secret to B, and now A offers C to buy the trade secret, claiming that this is a different trade secret, C cannot know that A is deceiving him and that he is trying to sell a secret that he has already sold to B (clearly, C has no right to see the secret that was sold to B). The problem with the Indonesian law is that trade secrets for which transactions were carried out that were not deposited with an objective entity can compare between trade secrets involved in past transactions and those offered in new transactions by parties to the earlier transactions. The trade secret registry proposed here requires the deposit of trade secrets for which transactions are carried out, and not only the transfer or licensing agreements, as required in Indonesia. According to the present proposal, the trade secrets registrar has the judicial power to act as the objective entity that would examine whether fraudulent transactions are being conducted.

Reduction of the risks in carrying out trade secret transactions and an increase in certainty of lower transaction costs are objectives of the proposed trade secret registry. But such examinations do not resolve situations in which the former owner, who has already sold her secret, or an employee who undertook a commitment to keep the information confidential, approaches someone else who registers in their place in order to sell the secret. This loophole is not a negligible one, and it appears to jeopardize the many advantages of the registry. The response to this loophole must be considered in view of the current situation. In light of existing law, it is easy to carry out fraudulent transactions at present, without need to include additional entities. Inclusion of another entity places the fraudulent activity at a high risk. Moreover, the need for another person to register with the registry and to disclose his identity, so that if the plot is discovered after the fact he bears liability for the damage, can deter him from participating in it.[119]

119. Regulation of the asset through the registry makes it more difficult to take the asset from its owner without his consent. Baird & Jackson, *supra*

In any case, if nevertheless a person fraudulently registers as the owner and sells the secret to a purchaser, when it later becomes clear that the person who registered as the owner of the trade secret was not its real owner, the one who purchased from her in good faith and for consideration will be liable vis-à-vis the true owner, but the circumstances of the purchase will grant discretion to the court to exempt the buyer in good faith and for consideration from remedies in various amounts.[120] This arrangement, however, does not appear to solve the problem when the potential buyer cooperates with the former seller or former employee who proposes to sell him the trade secret surreptitiously. In my opinion, many companies are not interested in knowingly taking part in the misappropriation of a trade secret. If the scheme is revealed, they will be liable for damages to the owner of the trade secret and their reputation is seriously damaged. As noted, companies fear confrontations with owners of trade secrets who offer their secret for sale in negotiations to such an extent that they do not even engage in such negotiations or require the owner of the secret to sign a waiver of his rights, except for his rights pursuant to copyright or patent laws, or they consent to purchase the secret at a very low price, which does not make economic sense for the owner of the secret.[121] It appears, therefore, that in most cases the companies to whom such a scheme is offered would refuse to cooperate with those who misrepresent themselves as owners of a trade secret and offer to sell it surreptitiously.

E. *Registration of a License for a Trade Secret*

A licensing transaction is an accepted transaction in trade secret law.[122] The owner of the secret can grant an exclusive or

note 74, at 300, 305, 310.

120. *See supra* note 12. Regarding the English and the Australian laws, see also *supra* note 39.

121. *See supra* notes 23-25 and accompanying text.

122. A known example of a license for a trade secret is the case involving the decision in Warner-Lambert Pharm. Co. v. John J. Reynolds, Inc., 178 F. Supp. 655 (S.D.N.Y. 1959), *aff'd,* 280 F.2d 197 (2d Cir. 1960). In this case, a license was granted in 1880 for a trade secret, the formula for a disinfectant liquid called "Listerine," and the agreement was that the licensee and his heirs would pay royalties to the licensor and his heirs. *Id.* at 658. Royalties were

a non-exclusive license for the use of the trade secret.[123] The question arises whether it is appropriate to grant standing to sue a third party only to someone who holds an exclusive license or also to a non-exclusive license holder. In accordance with US law, an exclusive licensee can sue for infringement of the trade secret for which he holds the license, but afterwards he must include the licensor in the action.[124] In Germany, the owner of the trade secret and the exclusive licensee can sue for breach without joining one another, but neither of them has the obligation to sue, unless it is required by the licensing agreement. In Belgium, the right to sue for breach is exclusively that of the licensor, and he has a duty to initiate such proceedings.[125] Thus, we should make the right to sue a third party that of the owner of the trade secret and of the exclusive licensee who is registered as such.

In accordance with the policies of the registry, every license for a trade secret, whether it is exclusive or not, must be registered in order for the licensee's right to be valid with respect to third parties and for him to have the right to sue a third party. A license for a trade secret that has not been registered would be void vis-à-vis a buyer or mortgagee who registered in good faith and for consideration, unless the license was registered with the registry within three months from the date of its being

paid for decades, until in 1956, the court was asked to order the cessation of the royalty payments for the formula, which had already been published in a journal in 1931. *Id.* at 667. The court determined that although the secret had been disclosed, the royalties must continue to be paid because there was no provision in the contract for the cessation of royalty payments. *Id.* at 668. There were even those who asserted that based on this decision, trade secret law is preferable to patent law. A license for a patent would have expired at the end of the patent period. R.M. Halligan, *Trade Secret Licensing: The 'Listerine' Formula Case* (1998), http://tradesecretshomepage.com/license.html. It seems, however, that it would have been appropriate to interpret the contract as ending when the trade secret expired.

123. When granting an exclusive license in which the licenser and the licensee are actual or potential competitors, in the US it is necessary to take into consideration the Justice Department Guidelines on License Restriction, *available at* www.justice.gov/atr/public/guidelines/0558.htm, one of the aims of which is to prevent restriction of trade. *See*, PERRITT, *supra* note 39, at 160-65.

124. *See supra* note 8 and accompanying text.

125. *Id.*

granted or before the date of the acquisition or mortgage.[126] This rule can be expanded so that a license that was not registered would also not be valid against a later license that was registered in good faith and for consideration.[127]

In the context of the registry, the name of the licensee is registered next to the name of the owner of the secret. In cases in which the owner of the secret has several registered trade secrets, the trade secrets registrar must ensure that the licensee is registered only with respect to the registered trade secret for which the licensing agreement was reached. To protect the owner of the secret, it is possible to require the licensee to register his employees who are bound to maintain confidentiality with respect to the trade secrets to which they are privy as a result of the license, in a manner similar to the arrangement discussed in Section B, *supra*.[128]

In the previous parts, I discussed the existing risks for the

126. This is similar to the law applying to the unregistered transfer of ownership of a patent. *See supra* note 52. Admittedly, pursuant to the patent law, the rule of purchase in good faith and for consideration does not apply to a licensee who did not register, but only to a transfer of ownership that was not registered. As a result, a later purchaser in good faith is subject to the earlier license to the patent that was not registered. This distinction stems from the wording of section 261, not from any substantive rationale. *See In re* Cybernetic Servs., Inc., 252 F.3d 1039, 1052 (9th Cir. 2001); Moraine Prods. v. ICI Am. Inc., 538 F.2d 134, 143 (7th Cir. 1976); Sanofi v. Med-Tech Veterinarian Prods., Inc., 565 F. Supp. 931, 939 (D.N.J. 1983); David J. Dykeman & Daniel W. Kopko, *Recording Patent License Agreements in the USPTO,* INTELL. PROP. TODAY 18-19 (Aug. 2004); Einhorn, *supra* note 51, at 2. Moreover, the existing distinction in patent law grants the licensee who did not register a stronger right than to a buyer who did not register. Because there is no substantive rationale for this circumstance, in the proposed trade secrets registry the rule of purchase in good faith and for consideration also applies to the licensee who did not register.

127. Admittedly, it has been noted with respect to a license for a patent that if there are clashing licenses, the first license would have priority over the second license even if the second licensee was not aware of the first license. Dykeman & Kopko, *supra* note 126. But I am of the opinion that because this distinction stemmed from the wording of section 261, and because there is no rationale for it, in the case of the proposed trade secrets registry priority should be given to the later licensee who registered in good faith and for consideration over the earlier licensee who did not register.

128. Regarding the importance of the arrangements in the licensing agreement, which require the licensee to ensure that his employees undertake to maintain secrecy, see DONALD S. CHISUM & MICHAEL A. JACOBS, UNDERSTANDING INTELLECTUAL PROPERTY LAW 3-56 (Matthew Bender ed., 1992).

owner of the secret and for the licensee in the transaction. An exclusive licensee assumes the risk that the owner of the secret will continue to grant licenses, in violation of his commitment.[129] The proposed trade secret registry can solve this problem. The owner of the secret cannot register an additional license for a trade secret for which an exclusive license has already been registered, nor can he be registered again as the owner of that trade secret to be able to grant an additional license, as stated in Section A, *supra*. If the second licensee is not registered, he takes the risk that the license will not be valid vis-à-vis third parties, as stated above. A further risk exists for the owner of the secret, if the licensee represents himself before a third party as the owner of the trade secret, trying to sell the secret to a third party.[130] As with every transaction in a trade secret, the licensee must first register as the owner of the trade secret. The registrar of trade secrets examines whether the potential registrant is registered as the licensee of a registered trade secret. To reveal the registration of the licensee, the trade secrets registrar must examine whether the trade secret for which the licensee wishes to register as the owner of the trade secret is different from the registered trade secret for which he already received a license. If it turns out that the secret information is similar, the trade secrets registrar would not permit the licensee to be registered as the owner and thereby prevents a deceptive transaction before it comes to fruition. An attempt to transfer the secret to somebody else by being employed by the transferee and represent oneself as the owner of the secret is doomed to fail. As part of the licensing transaction, there is usually an obligation on the part of the licensee not to disclose the secret. At the time of hiring, the new employer would have to check the registry to determine whether the new employee is registered as a licensee of a trade secret. Such an examination would reveal that the employee is indeed registered as a licensee. In this case, the new employer can act in a similar manner as in the case in which it transpires that the potential new employee is bound by confidentiality toward his former employer. As stated in Section C, *supra*, if the new employer does not examine the registry, he will be considered to

129. *See supra* note 44 and accompanying text.

130. *See supra* note 46 and accompanying text.

be someone who should have known that he is receiving a stolen trade secret, and therefore, he is committing the tort of trade secret misappropriation. If the license is registered, the licensee would not be able to sell the trade secret through the registry, as noted above. In the case of more sophisticated fraud, in which the licensee transfers the secret to someone else to be registered in his stead, when it later transpires that the one who is registered as the owner of the trade secret was not the true owner, the purchaser in good faith and for consideration would be liable to the true owner, but the circumstances of the purchase grant discretion to the court to exempt the purchaser in good faith and for consideration from remedies in various amounts.[131] A similar rule can also be created for cases in which a person is registered as the owner of the trade secret, despite the fact that he is not the true owner and he grants another person a license to the secret. In this case, the licensee in good faith and for consideration is liable to the true owner, but the circumstances of receipt of the license grant discretion to the court to exempt the licensee in good faith and for consideration from remedies in various amounts.[132]

131. *See supra* note 12. With respect to English and Australian laws, see also *supra* note 39.

132. With respect to receiving a license to a patent, in *Heidelberg Harris, Inc. v. Loebach*, 145 F. 3d 1454 (Fed. Cir. 1998), the court applied the rule of the buyer in good faith and for consideration to a licensee of a patent who received an exclusive license without knowing that the licensor acquired his interest in the patent fraudulently. But in *Rhone-Paulenc Agro, S.A. v. DeKalb Genetics Corp.*, 284 F.3d 1323 (Fed. Cir. 2002), the court took the position that because of the special circumstances of the *Heidelberg* case, as well as the fact that the parties were not in disagreement on the subject, *Heidelberg* is not binding regarding the question whether the rule of a buyer in good faith and for consideration applies to patent licenses. *Id.* at 1334. In *Rhone-Paulenc Agro,* the court examined the *Heidelberg* case and stressed that the protection of the purchaser in good faith applies only to a transfer, whereas a non-exclusive license is not a transfer. *Id.* at 1330-31. But under special circumstances, an exclusive licensee who has all the substantive rights of the owner of the patent can be considered tantamount to a buyer. *Id.* at 1334. In the case at hand, the rights did not include all the substantive rights, and therefore the protection for a buyer in good faith and for consideration did not apply. *Id.* The significance of the decision is that only an exclusive licensee, who has all the substantive rights, can benefit from the protection for a buyer in good faith and for consideration. Other approaches support the viewpoint that the rule of the buyer in good faith and for consideration does not apply to a license for a patent. Even with respect to subjects that are not related to patent licenses, the case law has determined that the rule of the buyer in good

As noted, the Indonesian law requires the registration of licensing agreements with respect to trade secrets with the Office of the Directorate General of Intellectual Property in the Indonesian Ministry of Justice. After the deposit, a notice is published regarding the transfer or the license in a special gazette of trade secrets. The transfer or licensing of a trade secret that is not documented with the Intellectual Property Office is not valid with respect to third parties. But as noted, this arrangement provides only a partial solution. Even if C knows that A gave an exclusive license to B to use the trade secret, and now A is offering C to acquire a license to use the trade secret, claiming that it is a different trade secret, C cannot know that A is deceiving him and is trying to give him a license for the same trade secret to which B has already received an exclusive license. Another problem occurs if C knows that B received a license for a trade secret from A in the past, and now B proposes that C purchase the trade secret, claiming that this is a different trade secret. C cannot know that B is deceitful and that he is trying to sell him a trade secret to which B holds only a license for use. The difficulty with the Indonesian law is that the trade secrets involved in transactions were not deposited with an objective entity that could compare the trade secrets involved in transactions in the past with the trade secrets offered in new transactions by those who had been parties to the earlier transactions. The trade secret registry that we propose requires the deposit of the trade secrets that have been licensed, and grants objective judicial authority to the trade secrets registrar to make sure that another license has not been given for a trade secret for which an exclusive license has already been granted, and that the licensee did not sell the trade secret to another entity.

faith and for consideration applies only to someone who acquired legal rights. *See* Dykeman & Kopko, *supra* note 126. But I am of the opinion that within the framework of the proposed trade secrets registry, the licensee of a trade secret should be protected in case of erroneous registration of the owner of the secret, so that he is liable to the real owner, but the circumstances of receiving the license should grant discretion to the court to exempt the licensee who acted in good faith and for consideration from remedies in various amounts.

F. *Registration of Collateral for a Trade Secret*

The main asset of startup companies is their secret information. At times, they have so much faith in the potential of their initiative that they would prefer to take a loan for initial financing and mortgage their trade secret, rather than sell percentages of ownership, as they are forced to do at present.[133] The information era requires coordination between intellectual property laws in general, and specifically between trade secrets law and commercial financing law. This coordination is essential during the stage of product development, when, in the absence of a reasonable level of investment and financial support, the ability to develop new information is lost. The mortgaging of information is especially vital for companies whose main asset is the secret information they own. It may be assumed that an increase in the number of companies of this nature will increase the need for the mortgaging of trade secrets. It is therefore desirable to address the question of whether it is possible and appropriate to mortgage a trade secret, and if yes, what is the proper manner of doing it. To make the mortgaging of information assets attractive, it is necessary to create a clear law that reduces the risk a financier takes upon himself when granting a loan in exchange for the mortgage of an intangible asset, such that the cost of the mortgage is reduced.[134]

The mortgaging of a trade secret raises several difficulties in the various stages of the transaction. (a) As noted, professional financiers generally refuse to sign an advance commitment to preserve confidentiality. This phenomenon is similar to the Arrow disclosure paradox that manifests itself during negotiations about the secret information. (b) In the absence of proof of what the mortgaged trade secret is, the professional financier is concerned that if the loan is not repaid he will not be able to prove what constituted the content of the mortgaged trade secret. (c) An additional risk is that the founders and employees of the company may state that the trade

133. *See supra* notes 48-49 and accompanying text.

134. *See* Nimmer & Krauthaus, *supra* note 48, at 195-200, 226. On the importance of the ability to encumber trade secrets, see also Lars S. Smith, *Trade Secrets in Commercial Transactions and Bankruptcy*, 40 IDEA: THE J. L. & TECH. 549 (2000).

secrets in their possession were developed only after they had left the company, and therefore the collateral is not applicable to them. (d) In most cases, a financier who has decided to invest in a startup company (after having been persuaded of the potential of the secret information in her possession, and of its suitability to serve as collateral) will be interested in having the collateral include the future development of the secret information as well, because its value will be greater than the initial secret information presently in the company's possession, at the initial stages of development. Hence, the need arises for an efficient system, with sensible rules that can follow the development of the secret information over time, so that the mortgage applies to the development of the new information as well, without creating a complicated mechanism that would increase the transaction costs. (e) An additional problem concerns the ability to separate and distinguish between the owner's various trade secrets if he wishes to mortgage only one of them. If the mortgage agreement between the owner of the secret and the financier includes only general definitions, it will be difficult to distinguish later between the various secrets that exist in similar business areas. A clear separation between the assets that are mortgaged and those that are not mortgaged is also important in the case of bankruptcy. (f) The value of the collateral is determined according to several parameters: (i) the existence of the mortgaged asset, proof of the mortgagor's ownership of the mortgaged asset, and the absence of a breach of the rights of third parties; (ii) the ability of the owner of the asset to protect his property; (iii) the ability of the owner of the collateral to exercise of the mortgage. The proof of these parameters is not simple. For example, the owner of the collateral must ensure that it is possible to sell the trade secret at the time it is realized without impairing its confidentiality, and that it is possible to promise to the potential purchaser that the debtor will not use the secret information or transfer it to another party after the sale. (g) It must be practically possible to ensure the rights of the owner of the collateral vis-à-vis third parties. To make possible the mortgaging of trade secrets, it is also necessary to create a system that would allow the registration of the mortgages so that third parties can be warned, and thus to grant the financier the standing of a secured creditor. The standard registration systems of mortgages are not appropriate for the mortgaging of trade secrets that cannot, for example, be listed in a registry open to the public. Because of the many difficulties in the mortgaging of a trade secret, there are few instances in which companies mortgage them despite the advantages inherent in doing so, as noted above.[135]

In the U.S., the importance of the enabling mortgaging of a trade secret has been recognized for some time, and therefore the literature has attempted to address some of these problems. Trade secrets may be mortgaged pursuant to Article 9 of the Uniform Commercial Code (U.C.C). To mortgage a trade secret, it is necessary, among others, to sign an agreement and to register a financing statement. Neither of these requires providing details of the trade secret; it is sufficient to define it as "general intangibles" or "trade secrets."[136] Two possibilities have been proposed for maintaining confidentiality during negotiations for the sale of the trade secret by the financier in the event of realization of the collateral. One is requiring the potential buyer to sign a confidentiality agreement, the other is the blind acquisition of the secret.[137] Regarding the ability to sell the secret at the time of realization, the literature insists that the former owner of the secret and the financier are bound

135. *See supra* notes 54-57 and accompanying text. Regarding questions and issues raised here, see also Nimmer & Krauthaus, *supra* note 48, at 200-201, 204, 224-26; *IP Audit Trail Services*, *supra* note 14; *IP Collateral and Investment Protection Service, supra* note 55. Clearly, it is not possible to create a pawned mortgage in a trade secret, which requires that the asset leave the possession of the debtor. Nimmer & Krauthaus, *supra* note 48, at 209; PERRITT, *supra* note 39, at 303.

136. *See In re* Dillard Ford, Inc., 940 F.2d 1507, 1512 (11th Cir. 1991); *In re* Boogie Enters., 866 F.2d. 1172 (9th Cir. 1989); United States v. Antenna Sys. Inc., 251 F. Supp. 1013, 1016 (D.N.H. 1966); PERRITT, *supra* note 39, at 302-309; Bramson, *supra* note 50, at 1578, 1589; Nimmer & Krauthaus, *supra* note 48, at 209; *see also In re* James Cable Partners, 141 B.R. 772, 774 (Bankr. M.D. Ga. 1992) (quoting an agreement relating to a trade secret as being covered as a type of general intangible entity); *In re* John Oliver Co., 91 B.R. 643, 644 (Bankr. D.N.H. 1988) (quoting an agreement that explicitly referred to a trade secret).

137. It is stated, for example, that a buyer wishing to purchase the formula of Coca Cola is interested in doing so not because he saw the formula and was convinced of its potential but because he is aware of the marketing appeal of the drink based on the formula, and therefore it may be assumed that the buyer will agree to purchase the formula even without seeing it before the purchase. For this example and another one concerning a list of clients, see PERRITT, *supra* note 39, at 310-11.

by an explicit or implicit contractual duty not to use the secret or to disclose it, although there are fewer enforcement and deterrent measures with respect to the former owner of the secret than with respect to the financier.[138]

Because the literature has made note of the vital need to include in the framework of the mortgaging of information assets the information developed after the creation of the mortgage, some suggested classifying the new developments as proceeds, making them subject to the rules provided in the U.C.C., which regulate the applicability of collateral rights to proceeds. This rule follows the proceeds received from the original product and provides that a collateral right in the original product is also valid as against the products that will be derived from it in the future, but at the present it does not include new research and development. The opinion has been expressed in the literature that this rule can be expanded to include new developments in the field of intellectual property.[139] It may be possible to solve this issue by considering the mortgaging of the new developments as a mortgage of a future asset.[140] But the solutions proposed in the literature present several difficulties. The definition of the trade secret in the mortgage agreement and in the registration framework as "general intangibles" or as a "trade secret" and nothing more, ignores the fact that often the financier is interested in the existence of the content of the secret beyond its simple definition, in order to prevent a situation in which, beyond the general definition there is no formula as promised. Moreover, the financier will want the possibility of proving specifically what the secret is, if at the time of realization of the mortgage, there is an argument about the content of the trade secret that was mortgaged. Similarly, a general definition of "trade secret" will make the mortgaging of a specific trade secret from among all of

138. The former owner of the secret, who is disappointed with the failure of his business, is more likely to breach his obligation. *Id.* at 311-14.

139. Nimmer & Krauthaus, *supra* note 48, at 224, 226 (citing *In re* Transp. Design & Tech., Inc., 48 B.R. 635, 641 (Bankr. S.D. Cal. 1985)). A rule requiring a commercial entity to re-register rights to new information, which was developed with existing technology and which is subject to an existing security agreement, will cause unnecessary costs without bringing any obvious benefits. *Id.* at 227.

140. *See* U.C.C. §§ 9-203, 9-204(a), 9-502(d) (1977).

the borrower's trade secrets problematic.

The proposed trade secret registry can assist with the difficulties discussed above. As part of the negotiations for receiving a loan, the owner of the secret can disclose the secret to the financier with greater confidence if he has registered the secret with the proposed registry before the negotiations, similar to registering the secret before negotiations for its sale, as discussed in Section D, *supra*. In this manner, the negotiations can go forward even if the financier refuses to sign a confidentiality agreement in advance. After the consent to finance is given, it is possible to prepare a mortgage agreement that includes the lender's commitment to maintain confidentiality. An additional problem arises because of the lender's desire to have proof of the content of the trade secret in order to forestall argument at the time of realization of the mortgage. Because the owner of the secret often does not trust the lender's ability to maintain the confidentiality of the information and to take appropriate security measures, and the lender, on his part, is not willing to transact the mortgage without proof of the nature of the mortgaged trade secret, a difficulty arises that the registry can help solve.

The parties can register the trade secret in the registry in such a way that the borrower is registered as the owner and the lender as the owner of the mortgaged information. The registered trade secret cannot be erased by its owner. This type of mortgage is appropriate for trade secrets that, by nature, are not supposed to change and develop, such as chemical formulas, but it is not appropriate for a trade secret that is continually developing. Most trade secrets, however, are not frozen and continue to be developed. As noted, the lender is usually prepared to accept the trade secret as collateral, on condition that the security applies to the continued developments. This subject has raised a great deal of difficulty in the literature. Indeed, it requires a system of sensible rules that can follow the developing asset and apply the collateral to it. It needs to enable the financier to prove, at the time of realization, what the updated trade secret is, and to make it possible to distinguish between various trade secrets of the owner of the secret when he mortgages only some of them.

The proposed trade secret registry provides a solution to these problems. In the previous part, I noted that the employer has several incentives to register his trade secrets with the registry so that his employees become registered as subject to the trade secrets exposed to them or developed by them in the course of their work. Employers who do not carry out this registration and do not update the registration of the developing trade secrets will not be able to request an *ex ante* order restraining occupation, and will take the risk that their employees will be able to sell their trade secrets to third parties (as discussed below). The mortgage of the company's trade secrets registered with the registry for the purpose of identifying those who are subject to them makes possible dynamic mortgaging of the trade secrets developed over time and cyclically updated. But because at issue is a trade secret for which the company is supposed to update registration on a daily basis, there is concern that instead of updating the registration as development continues, the company will empty the mortgage of all significance by erasing it when the moment of truth comes.

To address this problem, the following arrangements are proposed. If a company mortgages its trade secrets, which are updated daily in the registry with respect to its employees, the updates do not replace any previous updates but are appended to the previous updates, which are saved with a date stamp, indicating the date on which they were recorded. The owner of the mortgage can inspect the updated secret information at all times. This arrangement ensures that even if the company finds that at some point it may not be able to make payments on the loan, and therefore stops updating the registry, the financier can exercise the mortgage based on the near-latest version of the trade secret. The financier's right to view the registration allows him to ascertain that updates are being carried out while the mortgage is in effect. A failure to update the registry will enable the financier to exercise the mortgage based on the most recent update registered. Because the financier agreed to give the loan on the basis of the original version of the secret, he will not incur great damage by the failure to adhere to the planned updating, and will redeem the mortgage based on the original trade secret or on the latest update that was registered.

The right to see the mortgaged trade secret which is registered, together with the sanction of realization of the mortgage in the absence of periodic updating, enables the creation of a dynamic mortgage in cases in which the original registration was not intended only to serve public notice of the fact that the employees are subject to it, but also in usual cases in which the owner of a trade secret wants to mortgage his secret. The sanction of realization of the mortgage in the absence of updates provides incentives to the owner of the secret to update the registry. When the update is not tied to the relationship of the owner of the secret with his employees, there is a risk that the owner of the secret would update the registry inaccurately in a way that the financier might not be able to discover. But because the previous versions are saved, the financier can exercise the mortgage according to the initial version, based on which he agreed to provide the loan. Saving the registration in this manner is more expensive but has another practical advantage. If information is backed up in such a way that each update does not erase the previous update, and all the updates are saved with the timestamp of registration, information that has changed can be recreated if there is a need to review the information created in the past or that has changed in the course of development.

To make the mortgage valid vis-à-vis third parties acting in good faith, double registration is necessary. One registration is made in the mortgage registry pursuant to Article 9 of the U.C.C., where it is registered that the owner mortgaged a trade secret to the benefit of the financier, deposited in box *X* in the trade secret registry. The second registration is in the trade secret registry, where the owner is registered as the owner of the trade secret in box *X*, and the financier is registered as the owner of the mortgage.[141] It may be desirable, however, to adopt the model of exclusive registration of the mortgage in the trade secret registry. In accordance with the law applicable to the trade secret registry, mortgaging of a trade secret at a time when it is not registered will be void for any purchaser, mortgagee, or licensee who registered in good faith and for consideration, unless the mortgage was registered in the registry within three months from the date of its creation or before the date of the

141. Double registration is also needed with respect to mortgaging a patent. *See generally* Einhorn, *supra* note 51.

purchase, mortgage, or license.[142] Additionally, a mortgage of a trade secret that was registered takes preference over a previous buyer, an owner of mortgage, and a licensee who did not register their rights.[143]

In previous parts, I noted that private escrow companies already enable the deposit of trade secrets for the purpose of mortgaging them to investors. As part of this service, the secret information cannot be erased, and therefore the lender can rely on the secret information as a pledge, without concern that the trade secret will disappear. Dating of the deposit of information prevents an allegation on the part of the owners of the company or its employees that the secret information in their possession was created after they had left the company and that thus the mortgage does not apply to them. Tying the mortgage to the secret information deposited in a specific box in the escrow company can address the problem of the separation and distinction between the trade secrets of the owner of the secret, if he wishes to mortgage only one trade secret. The periodic deposit of developing trade secrets with the escrow company as security for a loan creates a dynamic mortgage that applies to the developing secret.

But this service has two main problems. To receive priority relative to other creditors, the security must be registered in the mortgage registry, and there must be an incentive for the borrowing companies to update the secret deposited as collateral for the loan. The proposed trade secret registry, as a statutory body, also serves as a source of referrals for registries of mortgages or as the exclusive registry in which the mortgage is registered. It also creates incentives for the owner of the secret

142. This is similar to the law applicable to the unregistered transfer of ownership of a patent. *See supra* note 52. Indeed, with respect to patents, section 261 is not applicable to a mortgage that was not registered but rather to transfers of ownership that were not registered, *see supra* note 126, and it is also inapplicable to the licensee, *see supra* note 127. But as stated, this stems from the wording of section 261, and there is no reason not to apply the rule to this case as well.

143. It is true that with respect to patents, section 261 applies to anyone who receives a mortgage in good faith and for consideration as against a previous transfer of ownership that was not registered, and not to a mortgage and license that were not registered. But, as stated, this stems from the wording of section 261, and there is no rationale for not applying the rule in these cases as well.

to update the registration, as noted above.

In cases in which the owner of the secret has several registered trade secrets, the trade secrets registrar makes sure that the mortgage is registered on the registered trade secret for which the mortgage agreement was created. Thus, the register enables a buyer, licensee, or secured creditor to ensure that they receive rights with respect to a trade secret to which no previous rights have been registered, and to know what the trade secret is that is the subject of their rights. This solution, however, is not satisfactory for regular creditors of the owner of the secret, because they will not be able to know whether the main trade secrets of the owner of the secret are pledged, or only trade secrets that are secondary in importance.[144] This appears to infringe on the rights of regular creditors, but these creditors do not generally rely on the registration of a particular asset as a source for collecting their debts because the rights to such asset are likely to change in the future.

The proposed registry can also assist in determining the value of the collateral that was established, as noted above, based on several parameters: (a) The existence of the mortgaged asset, proof of the mortgagor's ownership of the mortgaged asset, and the absence of a breach of the rights of third parties. The registry allows the disclosure of the secret to a financier in order for him to be assured of its existence, to verify that it is suitable for a trade secret, and to estimate its value. The registry increases certainty regarding the ownership of the mortgagor with respect to the trade secret and decreases the risk of violation of rights of third parties, even if it does not absolutely prevent such violations. (b) The ability of the owner of the secret

144. *See* Nimmer & Krauthaus, *supra*, note 48, at 226. Apparently, it would have been possible to consider requiring that a general description of the secret would be provided in the mortgage notice so that the creditor could distinguish between the various mortgaged secrets. This option does not appear to be desirable at first glance. (a) The fact that someone is engaged in a particular activity can be information he may not wish to disclose to the public. (b) As there is no external entity to check the accuracy of the description at the time of registration (because this is a registry of transactions and not a registry of rights), it could be a source for fraud. (c) The initial description of a trade secret is not always relevant for the continued development of the secret, and we wish to make registration easy and not require the registrant to update the description each time the secret is updated. (d) A general description can be vague and cause lack of clarity.

to protect his property. In the previous parts I described how the proposed trade secret registry assists in preventing trade secret misappropriation by former employees, former sellers, and licensees.[145] (c) The ability of the owner of the security to realize the pledge: the proposed registry would also assist in the sale of the trade secret at the time of realization, pursuant to the rules of sale, as noted above.

In view of the above, the proposed arrangement makes the use of a trade secret as collateral for a loan more efficient, and thus reduces the financing costs and the interest offered to the borrower.

G. *The Liability of the Registry to the Owner of the Secret*

As stated in Section B, *supra*, the concern that companies and individuals may be apprehensive about depositing trade secrets with the proposed registry is not justified in the present reality in which companies deposit secrets with escrow companies and backup sites. Nevertheless, to increase confidence in the use of the registry and to reduce the risk by spreading the damage in the event that the registry is broken into with the intent of stealing the deposited trade secrets, the registry can provide the option of an insurance against breaking into the registry, the misappropriation of trade secrets, forgery, fraud, etc. It is also possible to establish an insurance fund to compensate for damages likely to be incurred as a result of the use of the registry, such as compensation for damage caused by the trade secret registry. Such a fund could be financed by the registration fees. Similar systems are in use in various types of lands registries.[146] Operators of the registry would bear liability in such events, among others, for breach of contract and torts of negligence. The liability of an outside party in the event of breaking the encryption may be based, among others, on the torts of trade secret misappropriation and of unjust enrichment.

145. In the previous parts, I discussed the contribution of the registry to improving the control of the owner of the secret over his property, which is necessary for appraisal of the property and its ability to serve as a security. *See* Nimmer & Krauthaus, *supra* note 48, at 195-200, 226.

146. E. DOWSON & V.L. SHEPPARD, LAND REGISTRATION 79, 124 (1952).

H. *An International Trade Secrets Registry*

The efficiency of the proposed registry would increase if it operated as an international registry. The global village of today stems, among other things, from the technological and cultural developments that have increased the mobility of information and of employees. The mobility of these resources has made possible the flourishing of international companies that employ workers in many countries. Another recent phenomenon is the increase in the number of international transactions in information in general and in secret information in particular. This increase reflects the transformation of the commercial market, especially the global market of ideas and opinions. These phenomena are important components of the globalization process.[147]

The advantages of the registry as a tool that publicizes the identity of the owners of rights to trade secrets and those subordinate to them, and as a tool that limits the litigation costs and reduces the cost of transactions in rights to trade secrets, are even more vital for international companies and for transactions that have international elements. Currently, many countries provide protection for rights to trade secrets.[148] But the laws of trade secrets and those addressing related transactions are not the same in the various countries that protect these rights. These differences create an artificial barrier that hampers international companies dealing in secret information and international transactions in secret information. International commercial activity requires international legal arrangements that reduce the uncertainty resulting from the lack of uniformity in national laws. Given the efficiency of international arrangements, it makes sense to create a unified international registry. For the registry to

147. Regarding globalization in a context of legal theory, see William Twining, *Globalisation and Legal Theory: Some Local Implications*, 49 CURRENT LEGAL PROBS. 1 (1996).

148. Bramson, *supra* note 50, at 1574. For a broad survey of trade secrets law in many countries, see COHEN & GUTTERMAN, *supra* note 8, at 413-16 and 2000 Supplement, at 59-80; 1 WORLD WIDE TRADE SECRETS LAW (Terrence F. MacLaren ed., West Group, Dec., 2002). For a survey of the differences in the laws in the states of the United States, see TRADE SECRETS: A STATE-BY-STATE SURVEY (Brian M. Malsberger et al., eds., 1997).

operate in the international arena, it is necessary to resolve the question of choice of law, so that the registry can operate based on uniform procedural and substantive laws. An additional problem has to deal with the protection of intellectual property, which by nature enjoys territorial protection. One of the objectives of conventions in the field of intellectual property is to make it easier to gain as broad a territorial protection as possible. A detailing of the various types of conventions in this field is beyond the scope of the present paper. There is no doubt, however, that the aspiration is to create a unified, international, global registry for each type of registered intellectual property, both from the procedural point of view (establishing a single international registry that would provide protection in every country that joins the arrangement and would replace the national registries), and from the point of view of substantive law, by enacting a uniform law in these countries.[149]

Establishing an international trade secret registry will encounter fewer difficulties than establishing an international registry in other areas of intellectual property, such as patents, designs, trademarks and geographic indications. In these areas of intellectual property, a preliminary examination is required before registration to determine whether the requirements for registration are met and to ascertain the identity of the owner of the intellectual property. The conventions dealing with international arrangements must create a mechanism for communicating with the national offices for registration or serving as a substitute for them. This problem does not arise for the registry for trade secrets. In the case of the proposed registry, there is no need to conduct a preliminary examination of the information being registered. Moreover, the conventions concerning other types of intellectual property must overcome their territorial nature. This problem does not arise in the case of the protection of trade secrets because the protection is not territorial. A person is not entitled to use a trade secret without

149. For a prediction about the likelihood of such a registry being established in the field of patents, see Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20xx, A.D.*, 38 IDEA: THE J. L. & TECH. 529, 547 (1998); *see also* Amir H. Khoury, *The End of the National Patent Office*, 52 IDEA: THE J. L. & TECH. 197 (2012).

the consent of its owner, not even in another country.[150]

For the trade secret registry to operate as an international registry the issue of the uniformity of the law in the various countries must be addressed. In order to create uniformity in the law it will be possible to create an international convention for the operation of the trade secret registry could achieve the required uniformity and establish the rules according to which the registry should operate as a sole international registry, taking into account the substantive trade secrets law.[151] The convention would issue a uniform law, including a binding version, which each party state would have to enact as its national law, so that the laws of the convention would replace the national trade secrets laws.[152]

VIII. Conclusion

In the introduction, I noted that most of the researchers who have discussed the efficiency of the two main systems of protection of inventions, patents and trade secrets, have arrived

150. For the problems created at the interface between the registry and the territorial jurisdiction regarding real property and chattels, see also Baird & Jackson, *supra* note 74, at 310-11. The authors also address registries for patents, copyright, and trademarks, but not their international aspects.

151. Where there is no uniformity in the law regarding the various transactions, many difficulties can arise. For example, Bramson recommends that someone accepting a security that is a trade secret should check whether there are foreign rights involved, and if such rights exist, to examine the law in the foreign countries conferring such rights and the rules according to which it is necessary to act in order to complete a security interest with respect to such rights. *See* Bramson, *supra* note 50, at 1573.

152. This is the method that was used in the Convention on Contracts for the International Sale of Goods, April 11, 1980, 1489 U.N.T.S. 3. The law that was enacted following the convention has already been adopted by many countries; therefore it achieves the objective of creating a uniform international law with respect to the determination of the rights and obligations of sellers and buyers in international sales transactions. Another example of a convention that established international registries of rights with respect to assets, including the substantive laws that apply to such rights, is the Convention on International Interests in Mobile Equipment, Nov. 16, 2001, 2307 U.N.T.S. 285, which established international registries for the rights and transactions related to aircraft, trains, and space equipment. But no international registries for trains and space equipment have been established yet because the relevant protocols have not yet been ratified by the required number of states.

at the conclusion that these are complementary systems, i.e., in some cases the inventor should choose the patent system and in other cases the trade secrets method. In most cases, the choice depends on the nature of the invention and the circumstances of the case.[153] In the first four parts I showed that patents are preferable to trade secrets in four main aspects: patents lower litigation costs, transaction costs, financing costs, and employment costs. As part of the analysis of the proposed trade secret registry, I demonstrated how it would reduce litigation costs in cases of trade secret misappropriation by a former employee. I also showed how the proposed registry reduces the costs of transactions involving trade secrets (sale, licensing, and collaterals). The registry would dramatically improve the marketability of trade secrets and reduce the risk associated with market transactions. According to Professor Robert Merges, "in the presence of high transaction costs, industry participants have an incentive to invest in institutions that lower the costs of IPR exchange."[154] The proposed trade secret registry achieves this objective.

Financing costs would also be lower as the registry would make it possible to use the trade secret as collateral for a loan. The proposed registry would also make the misappropriation of trade secrets by former employees more difficult, and in this way it can reduce employment costs and prevent the unlawful mobility of information. These advantages are consistent with one of the most important rationales for the existence of a right to trade secrets: promoting business ethics and fair competition.[155]

153. *See supra* note 4 and the accompanying text.

154. Robert P. Merges, *Of Property Rules, Coase, and Intellectual Property,* 94 COLUM. L. REV. 2655, 2655 (1994).

155. *See supra* note 95 and accompanying text.