Crossing the Justice Gap between Substantive Justice and Procedural Justice: An Example of Patent Disputes Resolution in Taiwan's High-Tech Industries

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Abstract

With the trend towards knowledge based economies and globalization, knowledge innovation is updating and changing every minute. As a result, technology related to intellectual property rights, management and legal protection mechanisms have become the core of business competition. However, because legal systems are unable to catch up with the speed of industry, intellectual property rights are being improperly used as tools of competitive business strategy. This further creates a constant imbalance in the legal system. Today, Own Brand Manufacture (OBM) has always relied on the strength of its huge amount of capital and patenting techniques to force other competitors (Original Equipment Manufacturer，*OEM and* Original Design Manufacturer，*ODM*) out of the market, it is using warning letters, injunction orders, and lawsuit as one of its business strategies. Actually, the methods mentioned above may not only violate the core idea of patent system but may be against the competition of the free market. In order to explore the point of long-term equilibrium under the coordinate axis of the substantive justice and the procedural justice curve, and this paper is using demand and supply and time series as an analytical framework to predict the relationships between binding power and legal effectives in the element of time variable, according to the warning letter, injunction order, arbitration and lawsuit.

Keywords：knowledge Based Economies, Globalization, Demand and Supply Theory, Time Series, Substantive Justice, Procedural Justice

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I. Introduction

Actually, the goal of the patent system is to promote innovation. It gives the inventor an incentive for innovation by offering profit derived from the monopoly system of patents. In addition to the patentable innovations, when the invention or creation meets three criteria: Novelty, Inventive Step (Non-Obviousness) and Industrial Applicability (Usefulness), the national authority will give the inventor the exclusive patent monopolized right for a time-limited period (Usually 20 years). In view of this, the mechanism designs for the patent system involve the trade-off relationship of economics. On one hand the patent right reveals the innovation of the invention to increase and expand public interests; on the other hand, the public interests are diminished/limited due to the exclusive patent monopolized right the national authority gave to the inventor, so the goal of design for the patent system keeps the legal interest at balance between the public and private interests. Unfortunately, in the practice of patent dispute resolution, due to the time limit and short product shelf life, some technique company frequently used to send a warning letter, to request an injunction order, to file a lawsuit, in order to achieve unfair competition for commercial purposes and force the competitors out of the market.

For example, due to the law stressing the maintenance of "procedure justice" must carry out the levels of trial courts. As for the patent dispute cases often involves in professional technology, but the rule of law and litigation put much emphasis on the protection of procedural justice, which may be time-consuming and thus may lead to the fact of late justice. In addition, OBMs and they always threaten the OEMs, ODMs, and EMSs in Taiwan by sending the warning letters, demanding unfair and unreasonable licensing fee (Royalties) or imposing license restriction clauses on the manufacturers mentioned above. And sometimes they also may ask for the issue of injunction relief of the courts as the business strategies used in the global competitive market and ultimately becoming the leading role in the manufacturing industry. The methods mentioned above may not only violate the core idea of patent system but may be against the competition of the free market.

Without doubt, legal justice is dependent on the practice of procedural and substantive justice. However, in the process, there are some contradictions which seem to go against the common sense and universal values of the public, like the cases mentioned above where the enterprises are pursuing an unfair competitive advantage. If we put too much emphasis on the procedural justice, we may not be able to avoid the cases mentioned. On the contrary, putting way too much emphasis on substantive justice can lead to bad results in some cases, leading to the conviction of some who are not guilty of any crime. Hence, the solution to the patent disputes should be based on the balance of procedural and substantive justice. Common law applies the equity law to legal regulations and judicial judgments. And the courts never make any judgments that violate the common sense and universal values of the public.

Indeed, the element of time variables is very importance in patent dispute resolution, and therefore how to balance the competition relationship between substantive justice and procedural justice in time variable; it becomes the main issues of this paper. Therefore, in order to explore the point of long-term equilibrium under the coordinate axis of the substantive justice and the procedural justice curve, and this paper is using demand and supply and time series as an analytical framework to predict the relationships between binding power and legal effectives in the element of time variable, according to the warning letter, injunction order, arbitration and lawsuit.

II. Research Methodology

The purpose of method of jurisprudence is to make judicial reasoning scientific and become a basic universal principle. Oliver Wendell Holmes, a justice of American Federal Court, had said, "The life of the law has not been logic, it has been experience." He pointed out that law should not be limited to purely formal logical deduction.[1] Therefore, when the authorities enforce laws, they had better consider the original idea of legislations and objective meaning of laws. Accordingly, Empirical Legal Studies (ELS), based on Economic Analysis of Law, became one of methods of jurisprudence.[2] With regarding to the research methodology of patent dispute resolution, this paper took care of business strategy, the benefit of hi-tech industry, the economic analysis of law except legal justice, and litigation in trial courts. Without doubt, this study possessed the nature of the diversity of social studies and the dynamics of time and environment, and this paper combines cobweb model and time series as an analytical framework except legal case to be a comparative analysis, and this paper took time series model as a variable to discuss the relationship among past, present, and future. Then, this paper predicted the price relationship when this variable laid on the quadrant constructed by warning letter, injunction order, arbitration, and lawsuit, and combining the quadrant with the curves of legal rationality and economic rationality to find the possible long-term equilibrium. To sum up, in order to cross the justice gap between substantive justice and procedural justice. Under the framework of dynamic equilibrium, this paper discussed the axes in accordance with cobweb model. Those axes included the quadrant constructed by warning letter, injunction order, arbitration, and lawsuit, and how did the curves of legal rationality and economic rationality maintain dynamic equilibrium in the model round and round. Last, this paper is using questionnaire and statistics to prove the positivism and hypothesis.

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[1] *See* Oliver Wendell Holmes (1997), *The Path of The Law*, Harvard Law Review, Vol.110(5), pp.991-1009.

[2] *See* Zhi-Chung Lin, Zhao-Zu Chen and Chueh-An Yen (2011), *Let Jurisprudence See the Experience of the World: Introduction of Database of Empirical Study of Law in Taiwan*, The Humanities and Social Sciences Newsletter, Vol.12(2), pp.14-32. (in Mandarin)

III. Royal Dutch Philips Electronics Ltd. v. Gigastorage Corporation of Taiwan

A. The Legal Case Background

Dutch Philips, and Sony, Taiyo Yuden, and Ricoh of Japan worked together to research and develop the recordable compact discs (CD-R) and rewritable compact discs (CD-RWs) to form the patent pool, while Gigastorage of Taiwan is the manufacturer of recordable compact discs (CD-R) and rewritable compact discs (CD-RWs). In 1999, Philips signed the Compact Disc Recordable (CD-R) patent license agreement with Gigastorage of Taiwan which set the royalty at 3% of net selling price or 10JP￥ (whichever is higher). However, due to the sharp drop of the market price of CD sales, Gigastorage asked Philips many times to cut the patent license royalty and was turned down by Philips, forcing Gigastorage to terminate the patent license agreement on April 2004 with Philips, and asking Philips to compulsory license the invention patent on five items: No. 77100278, 76100412, 77108160, 77103928, 78109833.[3]

B. The Legal Proceedings in Taiwan

With regard to the case that Gigastorage Corp. requested the Intellectual Property Office, Ministry of Economic Affairs (MOEA) for Philips' compulsory license of five invention patents, regarding which the application of Gigastorage Corp. was approved on July 26, 2004,[4] and the Petitions and Appeals Committee, MOEA later retained the same decision. Philips refused to comply and appealed to Taipei Supreme Administrative Court to cancel the original decision which had been handled by such court accordingly and reached the verdict on March 13, 2008 to recall the decision of the Petitions and Appeals Committee and the Intellectual Property Office, MOEA.[5] Although Philips and Gigastorage Corp. reached a settlement on October 2007, the ongoing investigation and judicial proceedings did not come to an end.

C. The Legal Proceedings in USA

Dutch Philips not only filed a lawsuit against Gigastorage Corp. in Taiwan, but also appealed to the International Trade Commission (ITC) in the USA; the ITC reached its verdict on March 11, 2004 and declared that Philips' actions constituted

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[3] *See* Kung-Chung Liu (2017), *Annotated Leading Patent Cases in Major Asian Jurisdictions*, City University of Hong Kong Press, pp.160-161. United States International Trade Commission, Textiles and Apparel: Effects of Special Rules for Haiti on Trade Markets and Industries. Washington, D.C. USITC Publication 4016, 2008.06, pp.62-88.

[4] Written Examination Decision Chu-Fa-Tz.No.09318600520 by Intellectual Property Office MOEA on July 26, 2004

[5] Decision of Taipei Supreme Administrative Court (95) Su-Tz-No.2783.

Patent Misuse based on its package license regarding CD-Rand CD-RW products on essential patents and non-essential patents under tying arrangement.[6]

D. The Investigation Report from the European Commission (EC)

In view of the approval from the Intellectual Property Office, MOEA on July 26, 2004 for the application of compulsory license by Gigastorage Corp. regarding which the Petitions and Appeals Committee, MOEA has also retained the original decision, Philips appealed to the European Commission EC based on Trade Barriers Regulation (TBR) on January 15, 2007, claiming that the decision of the Intellectual Property Office, MOEA Taiwan violated the regulation of (1)(a) of article 28 for the protection of patent owner and article 31 for regulations on compulsory license under the World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights, TRIPS.

The European Commission, EC made public the investigation result on January 30, 2008 with the statement hereunder:[7]

1. The patent law and its compulsory license decision of Taiwan violate the regulation on TRIPs and seriously intervened with the free market mechanism.

2. Taiwan should take concrete action to revise the Patent Law within two months and revoke Philips's case of Compulsory License; otherwise, the EC will appeal to the WTO for dispute solution proceedings.

3. The EC supports implementing the Compulsory License under certain circumstances, especially for the universal access of medicine; however, it is unacceptable for the misuse of the compulsory license mechanism.

4. According to the agreement of TRIPs, unless under specific conditions, the patent owner is entitled to refuse licensing. Nevertheless the law of Taiwan allowed implementation of compulsory license even though the patent owner refused the licensing, regarding which the interpretation of procedures of compulsory license was mistaken.

5. On judging whether it meets "reasonable commercial terms", one shall analyze the market situation, not solely consider the claim of the case. The compulsory license decision in this case has only analyzed and considered the cost of the

[6] Gigastorage Corp. News, *Data available at:* http://www.gigastorage.com.tw/aboutus/newsView.asp?NewsID=200805007&page=1.373 (Visit Date: 2014.10.31)

[7] European Commission launches investigation into granting of compulsory licenses for CDRs by Taiwan, *Data available at:* http://trade.ec.europa.eu/doclib/cfm/doclib_section.cfm?sec=205&link_types=&dis=20&sta=21&en= 40&page=2&langId=EN. (Visit date: 2014.10.31). Data available at: http://trade.ec.europa.eu/doclib/docs/2007 /march/tradoc_133480.pdf. (Visit Date: 2016.02.20)

licensee, while ignoring the payable cost of the patent owner which obviously was wrong in interpreting the content of Article 31 (b) of TRIPs.

6. In Article 31 (f) of TRIPs, it states: the products made under compulsory license shall be the supply of the domestic market, but the Taiwanese officers neglected such agreement in this case.

7. Although the compulsory license case was terminated on June 1, 2007, it was non-retrospect to become effective, which is a dangerous precedent to other licensees; the EC suggests cancelation of the validity of the compulsory license in this case and revising the legal term "reasonable commercial terms" of the Patent Law.

IV. The Legal Issues：Substantive Justice v.s. Procedural Justice

A. The Legitimacy on Judgment for Solving Patent Disputes -Equity Law

Equity law is used as a medium to remedy the change between the law and the social environment.[8] To speak from the standpoint of statute law, equality law not only explains and supplements the law, but also helps support ideas of fairness and justice.[9] Thus it is possible to solve some problems based solely on the principles of equality law.[10] Furthermore, in physical civil law, the judge may cite equality laws as judge-made[11] like the case of the court of chancery in England, in which the judge reached judgment based on customary law at the end of 15th century, which later on developed into the Doctrine of Unclean Hands and Doctrine of Laches, and Estoppel such cases related to equality law.[12] In addition, in the Code of Civil Procedure, the judge may order the defendant to make compensation and rehabilitation, or issue an Injunction Order or forbid the disposal of property or a similar multi legal remedy. In view of the constant stream of changes in high-tech technology day after day, the existing law will never be able to fully synchronize with the high-tech development and advance with the times. As a result, the federal courts usually take the "Equity Law" as standard when facing patent dispute cases, using "judge-made law" to meet the problem, the implementation of a patent, the competition and combination between patents, anti-trust legal principles, or to connect equity law principles with modern technology enterprises. Accordingly, sending a Cease and Desist Letter, application Injunction, petition for arbitration, and filing for lawsuits are ways to seek solutions to patent disputes. Regarding the dynamic equilibrium of the patent

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8 Hsian-Yuen Ho (1992), *The Principle of Good Faith and Equity Law*, Taipei: San Min Bookstore Co, Ltd, pp.2-6. (in Mandarin)

9 Ibid

10 Wolfgang. Friedmann (1967), *Legal Theory*, 5Th Ed, New York: Columbia University Press, p.533.

11 Mao-Zong Huang (1987), *Legal Method and Modern Civil Law*, NTU Legal Science Collection, Taipei: National Taiwan University, p.375-383. (in Mandarin) Ian, Mcleod (2010), *Legal Theory*, 5th Edition, Basingstoke: Palgrave Macmillan Limited, p.160.

12 Hsian-Yuen Ho (1992), supra note 8, at 157-164.

legal system, whether they will comply with the requirement of the equity law is an issue worth further exploration.

B. The Improper Use of Warning Letters is against the Anti-Trust Law

When a patentee discovers a patent has been infringed, before bringing the case to the court, a warning letter will usually be sent to the other party. In addition to pointing out which patent items have been infringed, the other party will be asked to stop making, using, and selling such items. If the situation carries on, a lawsuit will be filed and compensation or damages will be sought. The legal effect of the warning letter is deemed a notification, which is important in the proceedings since, upon receipt of such a letter, the patentee assumes the other party has learned about the patent infringement, so on judgment of any damages or compensation, it is difficult for the accused party to prove they are unaware of the matter or at fault. If the defendant does not receive said cease and warning letter before the filing of the lawsuit, then the starting point of the damages or compensation will become effective from the date of receipt of the complaint. If the defendant has received the letter, then the compensation will begin from the date the letter was received. Therefore, the defendant must be careful on receipt of the warning letter. It should not be thrown away or disregarded. If the court decides this case is "willful violation" then the defendant is likely to pay a fine for compensation up to triple penalties. It is also possible that the court considers the defendant to have tacitly agreed, based on the inner conviction system, so a short and precise response from the defendant is necessary.

However, to make the warning letter a notification with legal meaning, it must comply with certain conditions. According to the regulations of US Patent law[13]: A written notification from the patent holder charging a person with infringement shall specify the patented process alleged to have been used and the reasons for a good faith belief that such a process was used. A written notification from the patent holder charging a person with infringement shall specify the patented process alleged to have been used and the reasons for a good faith belief that such a process was used. After sending the letter, the patentee shall contact the opposite party actively without the conditions stated on equity law as: laches or inequitable estoppel, otherwise, even though the court considered there was patent infringement evidence, they will not make a judgment to ask the defendant for damage compensation. In a manner likewise, the patentee sent a cease and desist letter to the competing customer to cause the improper interference in business has obviously gone over the necessary procedure of patent rights protection, and this not only commits the business

[13] 35 U.S.C. 287(b)(5)(B): A written notification from the patent holder charging a person with infringement shall specify the patented process alleged to have been used and the reasons for a good faith belief that such process was used. The patent holder shall include in the notification such information as is reasonably necessary to explain fairly the patent holder's belief, except that the patent holder is not required to disclose any trade secret information.

behavior condemnation, but also affects the market trading order, which apparently is in violation of Article 24 of the Fair Trade Law R.O.C. (Taiwan).[14]

C. The Improper Use of an Injunction Order is in Violation of the Equity Law

In patent dispute cases, since they are time consuming, it is unlikely to offer the patentee an instant and efficient relief mechanism. As a result, when other competitors come into the market, to efficiently prevent such competitors from coming into the market, the patentee will usually take the "Exclusion of Infringement" to file at the court for provisional seizure and sequestration, and ask the court to issue an Injunction Order to prevent the competitor from making, using and selling such items temporarily. This is a judicial relief mechanism and market competition strategy approach. However, the shelf-life of high-tech products is usually very short, and any profit in such products lies in the rapid time to market. Thus, once the court has issued an Injunction Order to stop a competitor from making, using and selling a disputed item, the competitor may suffer from losing business opportunities due to the short shelf-life of their product or forced to withdraw from the market due to natural selection. According to whether the design and operation of the Injunction Order is good or bad, this will affect the patentee's legal interest as well as the fairness of the third party to compete in the market. Thus, when the court issues the Injunction Order, it is especially important to consider carefully the principle of equity between the patentee's legal interest and the public interest of fair trade.

To the common law system of the Anglo-American Law, the judgment of the common law system or equity law system on the substance the lawsuit usually lays on the relief requested by the plaintiff. If the plaintiff appeals to the court for damage compensation or reinstatement from the defendant, then it is a common law relief, however, if the plaintiff asks the court to issue an Injunction Relief, then it is an equity law relief, so the issuance of the Injunction Relief originates from equity law policy. According to the regulations of the Federal Rules of Civil Procedure (FRCP), the Federal Court may issue one of three injunction orders: 1.A Temporary Restraining Orders (TRO), 2.A Preliminary Injunction Order, 3.A Permanent Injunction Order. Of the three, a Preliminary Injunction has the most significant impact on the rights of the patent dispute party, because it will both increase the litigation costs of the competitor and irreparable damage will occur. Therefore, Article 65(a) of the Federal Rules of Civil Procedure stipulates that whether or not to issue a Preliminary Injunction depends on five factors: 1. Notice, 2. Hearing, 3. Security, 4. Reason, 5. Scope on Injunction. First, the court must notify the opposite party when issuing a Preliminary Injunction, because if it fails to serve the appropriate notice, any subsequent legal affairs may be deemed invalid. Next, the court shall call a hearing for substantive examination when issuing a Preliminary

[14] Article 24 of the Fair Trade Law, *R.O.C.* (*Taiwan):* No enterprise shall, for the purpose of competition, make or disseminate any false statement that is capable of damaging the business reputation of another.

Injunction. Then, the court shall ask the petitioner to provide a certain amount of security to compensate for any losses of the party concerned for improper restriction when issuing a Preliminary Injunction. In addition, the court shall have a good reason when issuing a Preliminary Injunction to explain the approval conditions and the restricted scope reasonably. The regulation of procedures of the Federal Rules of Civil Procedure of the US has authorized the court to reach a judgment according to the case. In 1983, the United States Court of Appeal for the Federal Circuit (CAFC) for the case of Smith International, Inc. vs. Hughes Tool Co., clearly pointed out four standards when issuing a Preliminary Injunction, which are: 1. The plaintiff must prove it is possible to win the case; 2. The plaintiff must prove that if the Injunction is not approved, the plaintiff will suffer an irreparable loss; 3. The court has considered and compared the advantage and disadvantage, the gain and loss of the plaintiff and the defendant, and that the equity law relief is proper and reasonable; 4. The court approved Preliminary Injunction will not jeopardize the public interest.

D. The Improper Use of Long Proceedings is in Violation of the Substantive Justice

Along with the coming of the knowledge-based economy and the globalization of industrial competition, the technology enterprise operation environment is changing every minute. A major concern of the operational strategies of high-tech enterprises is how to obtain intellectual property rights and to protect, expand, and apply the same. In considering economic rationality, the major concern of business managers is how to maximize the technical effects and make the technique commercialized, and put such techniques into patent product within the short shelf-life of a product. Only by doing so can an enterprise gain an advantage in the market and take a leading place therein, and also upgrade its global competitive ability. However, in reality, due to the law stressing the maintenance of "procedure justice", patent dispute solutions for the high-tech enterprises must carry out the multi-level of the court procedure. However, patent dispute cases often involve highly technical issues in a complex legal field, and such a long procedure for seeking legal relief is time consuming, so any delays in the timing could mean that the patentee loses business opportunities due to the short shelf-life of their product, such that even if the case is successful, all patentee got was a debt certificate with a regret of "delayed justice". Under the constant change of all kinds of factors and social conditions, the question of how to regulate procedural justice and substantive justice and realize legal distributive justice is concerned both with people's trust in fairness and justice and also profoundly influences any upgrades to the global market competition of high-tech enterprises. It is true that the fairness and justice of the pursuit of law depends on the realization of procedural justice and substantive justice. The two complement each other, like two wings of a bird and four wheels of a vehicle to. However, in search of fairness and justice, it is inevitable that the results of legal inferred logic often deviate from subjective common sense and any prevailing values, even as mentioned above, several high-tech personnel, upon legal economic analysis,

and because of their wealth and financial status, and core technology, and use them as weapon with which to attack competitors by means of long and tiresome lawsuits. All kinds of abuse of rights and the misuse of legal prosecutions go against the goals of design and the core values of the patent rights system, and they also violate the principle of fair competition in the market.

V. The Formula of Demand-Supply and Time Series, the Balance between Procedural Justice and Substantive Justice

In the process of rationalization in contemporary society, Legal Rationality provides every participant involved in economic activity with a highly predicable and precise set of rules of the game. With this regulation, action-takers may calculate their own operational space and expect legal efficiency, and responsibility which they shall bear. Therefore, Legal Rationality must follow "procedural justice." Nevertheless, the core value of the fairness and justice emphasized in the law cannot overlook the price that society has paid for it. According to the analytical viewpoints from the economics of law, the law shall also change along with the spatial and temporal changes of the social environment. But the change in law not only occurs in the core values of fairness and justice, but also must find a balance with the interests of modern society. In consideration of the price, cost and efficiency emphasized on the maximization of rationality, it is better to create greater social wealth with less social cost to realize substantive justice. As a result, the integrity of the legal system is not only constructed under the request and claim of substantive rights, but also by means of rights to trial-level relief programs to ensure obtaining physical rights and damage compensation quickly and efficiently, so as to realize social fairness and justice.

In the case of *Mathews v. Eldridge*, U.S. Supreme Court in 1976[15], the judgment of the Court first revealed the cost-effective analysis, and internalized the idea of efficiency and cost of economic rationality into the due process of law[16]. In view of this situation, when handling the patent dispute cases, business managers must consider not only how to properly ensure patent effectiveness, but also how to maximize the patent effects. Hence, while handling patent dispute cases, business managers are most concerned about the benefits and cost, in assessing the economic incentives derived from patent dispute cases. Accordingly, while choosing solutions for patent dispute cases, business managers usually make decisions based on rationality in trying to efficiently control time and cost under the principle of maximized effects of the business market to prevent delay and the loss of a business

[15] *See* Kris Shepard (2007), *Rationing justice: poverty lawyers and poor people in the deep South*, Baton Rouge: Louisiana State University Press, p.277.

[16] *See* David Boaz, Edward H. Crane (1985), *Beyond the status quo: policy proposals for America*, Washington, D.C.: Cato Institute, c1985, p.286. *See* Stephen G. Breyer (2002), *Administrative Law and Regulatory Policy: Problems, Text, and Cases*, Fifth Edition, New York: Aspen Law & Business, p.844.

opportunity caused by the rigid proceedings of the patent resolution system, and to solve the patent dispute as soon as possible and keep the business risk under control. For these reasons, the business managers will apply the interchangeability of the Legal rationality and Economic rationality in the process of achieving the justice, which will cause a gap between the procedure justice and substantive justice due to legal effectiveness and legal benefits derived from patent dispute solution options. From the perspective of procedure justice, legal effectiveness (certainty and execution) will be intensified when the parties concerned choose to apply for the long and tiresome proceedings. Although the procedure justice curve constructed from patent legal system will be increased along with time. Conversely, in seeking substantive justice, the legal benefits will cause the loss of business opportunity due to the party concerned choosing the long and tiresome proceedings, and later regretting the delayed justice. Consequently the substantive curve constructed from the system will decline along with the passage of time.

According to the above, applying the time series variable model to cobweb theory of economics to predict the possible changing trend of such variables is more suitable for the parties concerned. Business managers choose arbitration procedure rather than legal action procedure because of its advantages, such as its international, professional, confidential, economic, speedy and business harmonious character. For the same reason, judgment of arbitration, in comparison with sending a warning letter, also has more international, professional, confidential, efficient and business harmony. Thus the confrontation of the procedure justice and substantive justice constructed in the system apparently comply more with the rational equilibrium in the dynamic environment of the parties concerned, which not only leads to a win-win for both parties, but also will maintain the harmony among different enterprises. On the contrary, the solutions of patent dispute cases, including sending a warning letter, applying for an injunction, filing a lawsuit, and so on are not the best choices to solve the problems; instead, they are measures for market competition strategy. For what was outlined above, the purpose of applying a time series model as a measurement method of this research is the main way to explore the relationship of the time series variables now and then, predict the possible trend of such variables and take them as a reference for future decision making. The basic theory of the time series method consists of the cobweb theory hypothesis in economics.[17] It is the idea of long term equilibrium in the economic theory. If the equilibrium of the market really exists, it means there is "meaningful" equilibrium price and trading volume in the market. Elsewise, if the long term value of the price is infinite, then the time series variables $t \infty$ meaning the market is not stable because the long term equilibrium price of the market will become ∞. That is to say, such market does not

[17] *See* Yi-Nung Yang (2009), *Time Series Analysis in Economics and Finance*, Taipei: Yeh Yeh Book Gallery, pp.4-6. (in Mandarin)

have meaningful long term equilibrium prices. Consequently, under this premise, what the system displays is the essential question as to whether there is stability.

For what was outlined above, the purpose of applying a time series model as a measurement method of this research is the main way to explore the relationship of the time series variables now and then, predict the possible trend of such variables and take them as a reference for future decision making. The basic theory of the time series method consists of the cobweb theory hypothesis in economics.[18] It is the idea of long term equilibrium in the economic theory. If the equilibrium of the market really exists, it means there is "meaningful" equilibrium price and trading volume in the market. Elsewise, if the long term value of the price is infinite, then the time series variables t ∞ meaning the market is not stable because the long term equilibrium price of the market will become ∞. That is to say, such market does not have meaningful long term equilibrium prices. Consequently, under this premise, what the system displays is the essential question as to whether there is stability.

Subsequently, applying the time series variable model and cobweb theory of economics to predict the possible change trend of such variables and take it as a reference for future decision making is the purpose of this research. Therefore, in order to find the best choice and strategy for legal patent dispute solutions, this research uses the cobweb theory as the time series model to take the binding power and legal effectiveness as the coordinate axis to explore how business managers present the constant changes of overproduction or shortage on the coordinate axis, under legal rationality and economic rationality, and between procedure justice and substantive justice behind different legal dispute solution mechanisms. When the change, on procedure justice and sustentative justice curve tends to equilibrium, it will reflect the equilibrium of the gap between the two conditions; thus, the system is able to maintain a dynamic equilibrium point time after time. (Fig.1) The cobweb theory hypothesis is as follows:[19]

Substantive Justice Function: $Q_t^S = \alpha_0 - \alpha_1 P_t$ (4)

Procedure Justice Function: $Q_t^P = \beta_0 - \beta_1 P_t^*$ (5)

Justice Balance Condition: $Q_t^S = Q_t^P$ (6)

[18] Ibid.

[19] *See* Chin-Lung Lin, Yu-Ting Chen, Sheng-Hsien Lee, Yuan-Kai Chiang (2014), *Business Strategies in Intellectual Property Rights: An Example of Patent Disputes Solutions in Taiwan High-Tech Industry*, Journal of Intellectual Property Rights, Vol. 19 (6), p.413-422.

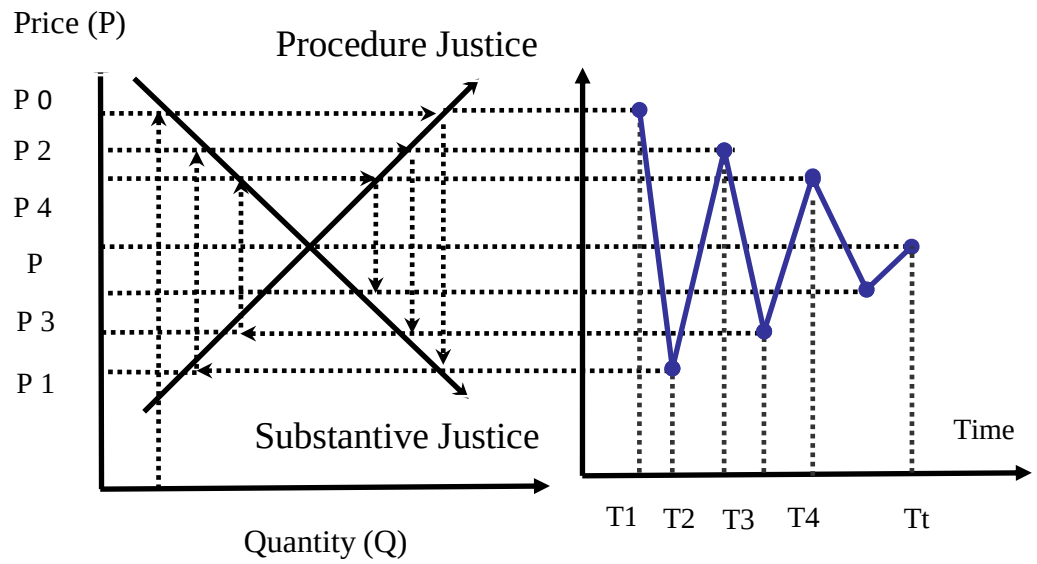

Figure 1: The trend under Time Series - Procedural justice and substantive justice

Source: Author's Concepts based on Politics System Theory, Cobweb Model, and Time Series

Based on the above analysis, the changes of substantial justice (demand curve) in cobweb theory show an inverse relationship; therefore, business managers usually prefer the low costs to solve the patent dispute according to the speculation of economic rationality. On the contrary, the changes of procedural justice (supply curve) in cobweb theory show a positive relationship; therefore, the legal system prefers more costs to solve the patent dispute according to the legal rationality with due process of law. From the viewpoint of legal rationality, the parties may apply the case to the IP court or IP office in order to solve the patent disputes effectively, but there will be more cases in patent litigation with different judges from IP court or IP office. Last but not least, the opinion derived from the result of this research, is to use binding power and legal effectiveness as the coordinate axis, of which the equilibrium point of two curves, procedure justice and substantive justice, is arbitration. In other words, the legal system may effectively adapt to the rapid changes of the environment under the premise of respecting the rule of law, in contrast to sending a warning letter, issuing an injunction order, litigation, etc., for patent legal dispute solutions. Business managers mostly choose the arbitration procedure, which not only is more similar to the characteristics of high-tech enterprises, but also may regulate the difference between procedure and substantive justice; furthermore, it allows the system to maintain the dynamic equilibrium point over and over again. In addition, choosing arbitration procedure as the patent dispute solutions is more likely to connect with transnational law, for example, the World

Intellectual Property Organization (TRIPS) belongs to the World Trade Organization (WTO).

VI. Positivism and Hypothesis

According to the above, the time series variable model can be applied to the cobweb theory of economics to predict the possible changing trends of such variables. Business managers choose the arbitration procedure rather than the legal action procedure because of its advantages, such as: international, professional, confidential, economic, speed and harmonious business character. For the same reason, judgment of arbitration, in comparison with sending a warning letter, also has more international, professional, confidential, efficient and harmonious business. Thus the confrontation of procedure justice and substantive justice constructed in the system apparently complies more with the rational equilibrium in the dynamic surrounding of the party concerned; it not only allows the two parties a win-win result, but also will maintain the harmony among different enterprises. On the contrary, the solutions to patent dispute cases including sending warning letter, applying for an injunction, filing a lawsuit, and so on are not the best choices to solve the problems; instead, they are measures for market competition strategy.

Based on what mentioned above, this research has provides the following hypothesis:

H (Hypothesis):

In using binding power and legal effectiveness as the coordinate axis, the equilibrium point of procedure justice and substantive justice two curves is arbitration.[20]

A. Questionnaire and Statistics: Participants and Design[21]

The purpose of this research is mainly focused on people who are specialized in this field, such as Judge, Professor of Law, R&D engineer, Senior Legal Officer, Attorney, Chief Executive Officer, Patent Agent, Government Official, and so on. By collecting feedback from these specialists, we discuss the binding power and legal effectiveness in evaluating the solutions of patent disputes. The content of this survey is based on procedural justice and substance justice, and can be weighted from score 1 ~ 5 (5 is the highest score while 1 is the lowest score). Furthermore, the questions of the survey context in the questionnaire include solutions towards patent disputes with procedural justice and solutions towards patent disputes with procedural justice. In addition, the participants who filled in the questionnaire for this research were judges, lawyers, professors of law departments, chief executive

[20] Ibid.
[21] Ibid.

officers (CEO) of high-tech enterprises, legal supervisors, R&D engineers, patent agents, etc. There were 200 questionnaires handed out and 184 copies returned of which 147 were valid. When characterized on academic background, there were 57 bachelors, 79 masters and 11 PhD degree holders; occupation-wise there were 7 law officers, 11 lawyers, 38 public servants, 7 law professors, 14 CEOs, 6 legal supervisors, 8 patent agents and 56 R&D personnel. In order to delve deeper into the influence of occupation on equilibrium, the occupations were divided into different categories, such as ones related to law, accounting for 69 people and ones unrelated to law accounting for 78 people. However, the return of results will be analyzed in the hypothesis testing.

B. Questionnaire and Statistics: Procedure[22]

The questionnaire in this research applied personal interview; the subjects are mostly the high-tech enterprise chief executive officers (CEOs) and law-related personnel to fill out the questionnaires; the following steps were taken before the questionnaires were collected:

1. Make sure the person being interviewed has a certain degree of background knowledge on the related field.
2. Get the consent of the interviewee and explain the purpose and motive of this research before asking the questions.
3. The time for data collection was October 2012 to February 2013.

C. Questionnaire and Statistics: Measures[23]

According to the second data collection,[24] the Hypothesis figures for the Questionnaire are as follows: if the parties use a warning letter to resolve the patent dispute, the process of the warning letter will take 7 days, and the cost is 3.5 US dollars. Subsequently, if the parties are using the injunction order to resolve the patent dispute, the process of the injunction order will take 75 days, and the cost is

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[22] Ibid.

[23] Ibid.

[24] The second data resources:

(1).Taiwan Intellectual Property Court, The Procedure of Civil Cases Concerning Intellectual Property for Preliminary Injunction Cases, *Data available at* : http://ipc.judicial.gov.tw/ipr_internet/index.php?option=com_content&view=article&id=62:2011-01-24-03-23-53&catid=52:2011-01-04-01-50-21&Itemid=373.

(2).WIPO Arbitration and Mediation Center, The WIPO Center develops tailor-made dispute resolution procedures for specific types of recurrent IP dispute. *Data available at:*http://www.wipo.int/wipo_magazine/en/201/01/article_0008.html.

(3).WIPO Arbitration and Mediation Center, Schedule of Fees and Costs Arbitration /Expedited Arbitration. Data available at http://www.wipo.int/amc/en/arbitration/fees/index.html.

(4).WIPO Arbitration and Mediation Center, The average length and costs of patent litigation in various jurisdictions. *Data available at :* http://www.libnet.sh.cn:82/gate/big5/www.wipo.int/wipo_magazine/en/2010/0 1/article_0008.html.

34.48 US dollars. Furthermore, if the parties use arbitration to resolve the patent dispute, the process of the arbitration will take 90 days, and the cost is 22000 US dollars. In addition, if the parties use litigation to resolve the patent dispute, the process of the litigation will take 480 days, and the usual cost is 909226 US dollars. Therefore, this research has put the weights of the procedure justice and substantive justice from 1 to 5. We assumed the persons who answered the questions are reasonable enough to fill out the questionnaire. The currency used on this research is US dollars, for other currency, the exchange rate is 1 USD = 29 NTD or 1 Euro = 42 NTD (New Taiwan Dollar). Foe the results after exchange see Table 1: Time and Cost for Different Patent Solutions.

D. Questionnaire and Statistics: The Regression Analysis

1. Questionnaire and Statistics: The Sum Total of Procedural Justice

As shown in Table 2, the regression model is significant (F=85.231, p<.000), while the R-squared (R^2) coefficient is 0.127. Therefore, there is a significant causal relationship between the independent variable and the dependent variable. Table 3 indicates that the unstandardized regression coefficient for Procedure Justice is significant (B=0.003, p<.000). The result shows that the influence of the independent variable on the dependent variable (Procedure Justice) is positive and significant.

R	**R^2**	**Adjusted R^2**	**SS**	**DF**	**MS**	**F value**	**P**
0.356	0.127	0.125	152.896	1	152.896	85.231	0.000
			1051.231	586	1.7939		
			1204.128	587			

Table 1: The Analysis of Variance in Procedure Justice

	Unstandardized			
	B	Standard Error	T	P
	2.700	0.073	36.739	0.000
X	0.003	0.001	9.232	0.000

Table 2: The Regression Coefficients in Procedure Justice

2. Questionnaire and Statistics: The Sum Total of Substantive Justice

As shown in Table 3, the regression model is significant (F=44.666, p<.000), while the R-squared (R^2) coefficient is 0.071. Therefore, there is a significant causal relationship between independent variable and the dependent variable. Table 4 indicates that the unstandardized regression coefficient for Substantive Justice is significant (B=-0.002, p<.000). The result shows that the influence of the independent variable on the dependent variable (Substantive Justice) is negative and significant.

R	**R^2**	**Adjusted R^2**	**SS**	**DF**	**MS**	**F value**	**P**
0.266	0.071	0.069	70.490	1	70.490	44.666	0.000
			924.793	586	1.578		
			995.284	587			

Table 3: The Analysis of Variance in Substantive Justice

	Unstandardized			
	B	Standard Error	T	P
	3.612	0.069	52.392	0.000
X	-0.002	0.001	-6.683	0.000

Table 4: The Regression Coefficients in Substantive Justice

E. Questionnaire and Statistics: The Result of Hypothesis Testing[25]

Accordingly, the empirical hypothesis of this research is: "On the coordinate axis of quantity and price, the equilibrium point of the procedure justice and substantive justice is arbitration". The related research methods have taken the positivist path of questionnaires to carry out the statistical analysis with the returned data; the results indicate that the intersection point of the procedure justice and substantive justice is 197 to 198 days, which falls within the between litigation and arbitration. (Fig.2) Consequently, the practical hypothesis complies with the

[25] *See* Chin-Lung Lin, Yu-Ting Chen, Sheng-Hsien Lee, Yuan-Kai Chiang (2014), supra note 19.

statistical analysis on collected data. That is to say, the legal system may effectively adapt to the rapid changes of the environment under the premise of respecting the rule of law, in contrast to sending warning letters, issuing injunction orders, litigation, etc. As a patent dispute solution, business managers mostly choose the arbitration procedure, which in addition to regulating the difference between the procedural and substantive justice also allows the system to maintain a dynamic equilibrium point over and over again. Also, choosing arbitration procedure as a patent dispute solution is more likely to connect with transnational laws such as those governed by the World Intellectual Property Organization (TRIPS) and World Trade Organization (WTO).[26]

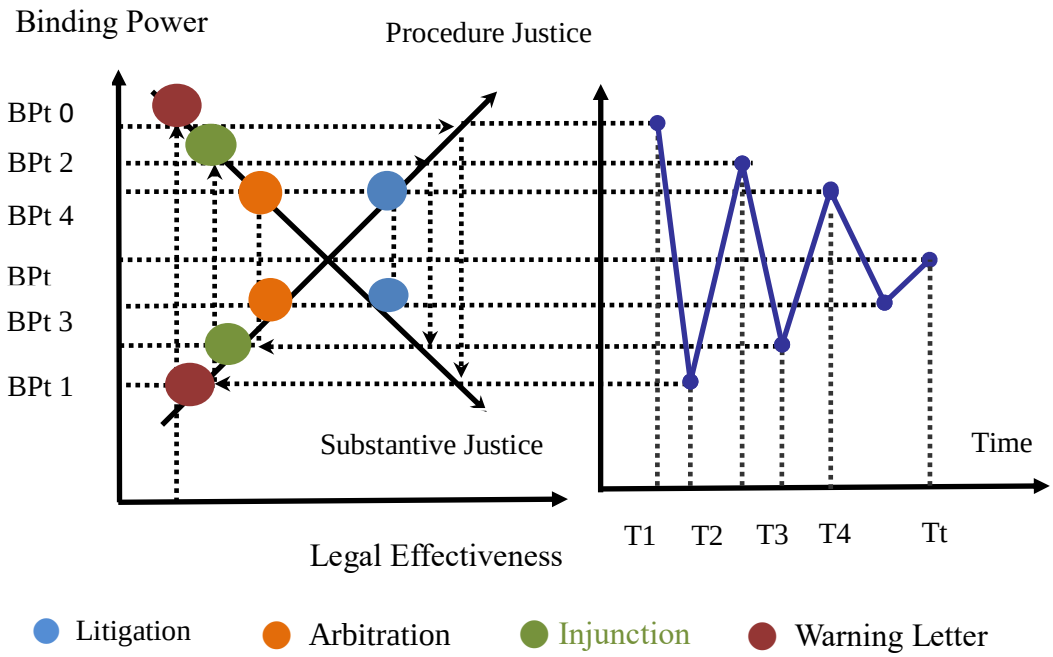

Figure 2: The trend under time series-procedural justice and substantive justice

Source: Author's Concepts based on Politics System Theory, Cobweb Model, and Time Series

[26] Ibid

VII. Conclusions

Arbitration is a best way to be patent dispute resolution; it is obviously in line with Taiwan's high-tech industry interests and status.

Without doubt, in the business strategies of the hi-tech industries used here in Taiwan, the concerns of the business manager are costs, benefits and effectiveness. The reason why the business managers make certain decisions is based on the economic rationality.[27] What the business manager is really concerned about it how to pursue the maximum profits in order to avoid the time consuming situation, and to solve the disputes in a much more efficient way, not only based on the concept of substantive justice and predictability. Thus, how the business manager reaches a balance between economic and legal rationality has become an issue worth discussing.

According to the result of hypothesis testing, it indicates that the intersection point of the procedure justice and substantive justice is 197 to 198 days, which falls within the between litigation and arbitration. Without doubt, there is no legal system without flaws and because of the different legal knowledge and experience of the judges; there may be some uncertainty of law when it comes to making judgments.[28] Second, the legal proceeding choices of business managers are based on economic rationality, obtaining the biggest profits. The business managers' only concern is how to solve the dispute and whether the business risk of the case is under control. Thus, besides the three disadvantages mentioned above, the business risk that may occur is already taken into consideration when signing a contract. Moreover, the disputes among countries can cause the deficiency of the law's predictability for the parties concerned owing to the unawareness of the law in other countries; if the international business arbitration is fully used, it will be better for solving the disputes.

The judicial opinions in Taiwan hold the belief that[29] the law makers pursue correct judgments in a careful way and thus establish another arbitration and mediation system which is more suitable to meet the need of promptness; the aim to give the parties concerned more disposition rights and thus balance the substantive profits and procedural profits, to make good use of the national resources and offer

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[27] *See* Maurice Godelier 1972 (1966), *Rationality and Irrationality in Economics*, The Translated from the French by Brain Pearce, New York and London, Monthly Review Press, p.12-15, cited by Wei-Ming Liao (2003), *Preliminary Study of the International* Law *in the* New Century - Legal Theory and Legal Education Consideration, MCU Law Review, Vol. I, Taipei: Ming Chuan University, p.75-79. (in Mandarin)

[28] *See* Shih-kuang, Pan (2006), *Challenges to Patent Validity Brought by Third Parties - the United States Supreme Court's 1971 Decision in Blonder-Tongue*, Intellectual Property Rights Journal. Vol.89, Taipei: Intellectual Property Office, Ministry of Economic Affairs R.O.C, pp.41-48. (in Mandarin)

[29] Civil Decision Tai-Shang-Zi No.1609, Taiwan High Court (2004).

the same validity as the judgments. Arbitration is quite different from litigation; it is from the concept of autonomy of private laws and the freedom of contracts. Thus, it will be against the purpose of the arbitration if we still need to turn to the general courts for settlement of the disputes, and it may also influence the opportunity and efficiency of the public using the system.

Dr. Jiun-Yi Lin, a judge of the Taiwan High Court, expresses that court decisions signify "belated justice", while arbitration provides a professional, speedy, harmonious and discreet way to resolve disputes. Also, the verdict of an arbitration court has the same effect as a judgment. The arbitration judge determines that no further appeal or declaration should be raised afterwards; and arbitration does not involve national sovereignty since it will provoke the recognition problem, which is unfavorable to Taiwan. Besides, arbitration has nothing to do with national sovereignty since it is private not diplomatic. These features and advantages of arbitration allow more flexibility to deal with disputes than litigation does.[30]

[30] *See* Yu-Chung Lin (2008), Arbitration Is More Flexible than Litigation, Vol. 211, Global Views Monthly. *Data available at*: http://www.promos.com.tw/website/chinese/industrylist.jsp?id =10 25600004727 (Visit Date: 2008.06.30)

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