

# Law-economics Analysis for the Restriction of Intellectual Property Rights

## ANALYSE DE LA RESTRICTION DU DROIT DE PROPRIÉTÉ INTELLECTUELLE SUR LA MÉTHODE DE DROIT-ÉCONOMIE

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**Abstract:** The restriction of Intellectual property rights, as an important principle and system in the Intellectual property law, has its own existence of the reasonable economic basis. This thesis begins with the definition of intellectual asset rights, reveals that the intellectual asset has the double properties of private products and public products, and demonstrates the rationality of moderate private right protection. And then it revises the economic senses in the intellectual property system using the method of economic analysis, and analyzes the important role which intrinsic balance mechanism and exterior restriction mechanism play, to guarantee information resource configured liquidly and carried on effectively.

**Key words:** Law-economics, Restriction of intellectual property rights, Pareto criterion

**Résumé:** En tant que le principe et l'institution importants du droit de propriété intellectuelle, la restriction du droit de propriété intellectuelle existe sur la base rationnelle de la science économique. Je commence dans cette thèse par la délimitation du droit de propriété intellectuelle afin de découvrir sa double caractéristique: produit privé et produit public, et d'argumenter la rationalité de le protéger mesurément comme le droit privé. Et ensuite, j'étudie la raison économique de l'institution du droit de propriété intellectuelle, au moyen d'analyse économique, et j'explique l'importance de son mécanisme équilibré à l'intérieur et son mécanisme restreint à l'extérieur pour assurer la distribution facile et la fonction effective des ressources informatiques.

**Mots-Clés:** droit-économie, restriction du droit de propriété intellectuelle, critère de PARETO

### 1. INTRODUCTION

There are many important economic meanings behind law, no matter whether the legislators realize the meaning consciously or not, law-economics or so called economic analysis law came about and owned more and more people's attentions after experiencing certain developing periods. As for what the law-economics is, so far there does not only exist a definition that is widely accepted by the public, but also by very famous scholars such as Richard • A • Posner, Robert • Kart and Thomas • Youln who have not given a definition to the law-economics.<sup>2</sup> Although law-economics has both extensive meaning and profound content, the substance of law-economics still emphasizes the society's interest and benefit related to legal system, which researches and studies for this subject are conducted from the

economic position. It advocates that law should minimize the social cost in the rights' definition. That is, it requires law should choose a kind of right configuration and implementation procedure which have a lower cost. It provides us a way to know and evaluate the intellectual property rights system according to the principle of efficiency. The author uses the method of economic analysis to revise whether the intellectual property system contains the reasonable economic senses and to analyze the important role which intrinsic balance mechanism and exterior limit mechanism plays for guarantying information resource configured liquidly and carried on effectively.

### 2. PROPERTY RIGHT DEFINITION OF KNOWLEDGE ASSETS

The definition of "The Intellectual Property Rights" was brought in from aboard when China joined in the World Property Right Organization at the end of 70's in 19<sup>th</sup> century. Intellectual Property has two meanings at least. One is knowledge product or knowledge asset, the essential factor of product or the valuable goods which is so called knowledge property. The other is intellectual

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<sup>2</sup> Weijian & Huanglijun & Lizhenyu, *Law Economic: foundation and comparison* [M]. Beijing: People's Publishing House, 2004, p. 6

\*Received 20 September 2006 ; accepted 11 November 2006

property rights itself. Property is defined based on knowledge produce, a kind of intangible asset, and derived from the economist's classification of public product and personal product, thus it is necessary to begin with this classification.

### 2.1 Personal Product and Public Product

The economists classify personal product and public product is based on whether the expense or the use of product that has exclusiveness. Personal product has the characteristic of personal exclusiveness; thus goods can only be used or expensed by a specific body in the specific space and time. On the contrary, the use or the expense of the public product does not have competitiveness. The noncompetitive refers to not only public product expensed by one person that does not reduce or reject public product expensed by the others, but also the public product's natural attribute or the technical attribute which means that it must pay the fat price to use it exclusively, for instance providing military security in the Nuclear Age. "Proving a citizen the protection to against a nuclear attack does not reduce the amount of protection to the others". "It is absolutely impossible to provide different amount of protection to against the nuclear arms for different citizens."<sup>3</sup>

The above-mentioned productized theory provides an assistance to establish a comparison to the efficiency of private or public recourses. What circumstances is private actually more effective than public or vice versa? The general conclusion of property rights economics is to define personal product as private, it is favorable for reducing trade cost; but it is very hard to define the property rights of public resource or asset as private. The reason is that it is very difficult or impossible to prevent "pick-up" to destroy the operation of these products markets for the pure public product. What we called "pick-up" refers to the action that a person pays for cost and the others enjoy the effects freely. There are many "pick-up" phenomena in the use or expense of public product. For example, an inventor invented tools that can forecast weather accurately, and sold the weather forecast which cost dearly to people. However, he or she was unable to negotiate with the users to get the profit higher than cost, because low-cost of weather forecast (radio or telephone) resulted in many people may get the weather information freely. It was impossible to realize how to prevent freeloaders because of tremendous costs. In short, the users' "pick-up" and the high cost of supervision determine that the public product is not suitable for private manufacture like weather report.<sup>4</sup>

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<sup>3</sup> [U.S.] Robert D. Court, Thomas • S • Ulan. *Law and Economics* (3rd ed.) [M]. (Shishaohua & Jiangjianqiang Trans. Zhangjun Comp.) Shanghai: Shanghai University of Finance and Economics Press, 2002, p. 92

<sup>4</sup> Liumaoling. *Economic Analysis of Intellectual Property Law* [M] Beijing: Legal Press, 1996, p 65

So, how to define property right of knowledge assets is efficient? It requires to research the attributes and characteristics of knowledge assets.

### 2.2 The Duality of Knowledge Asset

Knowledge asset mainly refers to the result of people's mental work, which is creativity or identity knowledge or information, incorporating invention, integrated circuits, new plant, the expression of literary, art and scientific works, technological secrets, industrial designs, software, trademark, trade name, geographical indications, domain names, image, etc. They are the assets with the duality of private product and public product.

On one hand, knowledge asset has certain public feature. Any knowledge and any piece of information in use do not have exclusiveness. A technical invention can be put into practice by many manufactures; a movement can be played at the same time in different places. Moreover, the value of the technology and the movement would not reduce or lose because of practicing and playing many times. That is the public feature in economics, as though many people share the light and the light guide them at the same time. The public feature of intangible asset brings about more tremendous external economic effects than the public feature of tangible asset. For example, in China, the "Exculpation on the Chinese Character Fonts Generator" skill invented by Wang Yongming free s foreigners' prejudice that input and typesetting of the Chinese character can not go into computer directly, and initiates profound changes in the typing and printing industry, it could even be said "created by one person, benefited for millions of persons".

On the other hand, knowledge asset has certain exclusive used characteristics. Although "knowledge", unlike natural recourses, has non-scarcity characteristics, "knowledge asset" is scarcity resources like land and capital. In other words, the unlimitedness of knowledge does not mean the unlimitedness of knowledge supply. It is necessary to keep secret (exclusive in use) to contest the numbered knowledge asset in a limited period. Because the creativity of knowledge asset may bring economic value, and an increase in the number of users and enterprises are actually dividing up innovative profit. Meanwhile, security of intangible asset makes the realization of exclusive in use become possible. As for public product like street lamp, it is impossible to control it to serve only one person by private because of overflow of light, therefore it does not possess security.<sup>5</sup> But the security of knowledge asset can do it, the most typical example is the self-protection of technology secrets and commercial secrets. We have heard the story that American Coca Cola Company "locks" their secret for a

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<sup>5</sup> Liumaoling. *Economic Analysis of Intellectual Property Law* [M] Beijing: Legal Press, 1996, p. 2

long time; under the guns by notary, the valuable information of xinhualou moon cake formula and technological mystery which coheres several generations' work was deposited into strongbox in Shanghai Pudong Development Bank of China on 10am July 29<sup>th</sup> 1997, the valuable information with a history of 70 years became the first commercial information in China which can only be opened by the joint group that were the enterprise, the bank and notary.

Of course, the exclusiveness of knowledge asset is not absolute, but relative. First of all, once in the confidential condition, much knowledge asset has not recognized or existed. For instance, there would be no sense to keep secret for trademark because its commercial value would not exist if the work is not published. Secondly, knowledge asset ephemeral asset; products go out of control easily for producer. In practice, in order to get profit from investment, we should concretize the intangible knowledge asset such as patent skills that are used in product manufacture, or the new plants that are used in practical agriculture production. However, if these products enter the market, insider can imitate or copy them easily by the methods of reverse engineering, revert engineering and so on.

The above-mentioned duality of knowledge asset leads people to think about human progress and national development which needs the number of knowledge asset absolute growth and serviceable range expanding ceaseless, but this goal is prevented by two aspects. Firstly, the public feature and fugitiveness of knowledge asset will result in serious external economic effects so that it has not enough power to develop and increase the absolute number. Secondly, its exclusiveness is not propitious for using and popularizing new information. The efficient property rights system should be able to overcome the negative effects of these two systems.

### 2.3 Different View from Economists

Economists have not made an agreement on the definition of knowledge asset. According to certain attribution of intangible assets, some advocate privately owned and others advocate publicly owned. There are three main viewpoints:

One is useless theory, i.e., the intellectual property system is useless for the growing number of intangible assets. F· Taussig and A·Pigou are the representatives of this view. They believe that the production of knowledge asset is a spontaneous action motivated by personal interests and abilities that has nothing to do with the legal property system. It appears that we may give many examples to express this point, for example, magnum opus like *The Story of the Stone*, *The Romance of the Three Kingdoms*, *History as a Mirror* and so on, which still came forth in the age which had no copyright law in China, the word-famous four inventions were also invented when there was no patent law. However, this view ignores the historical period of

these phenomena appeared. That is, they are all in the period prior to the commodity economy society. There were indeed that a lot of works and inventions have no significant relationship with market, but works and inventions cannot come about if they were separated from market or they came about but the number would be extremely limited in the market economy and commercialize nowadays.

Second is more harm than good theory. Y·Brazel and K·Arrow are the representatives of this view. Y·Brazel believes that the patent system would cause a lot of people vie with each other in researching repeatedly in order to gain patent right, but the patent right is only granted to the earliest applicant, and the free of researching repeatedly is harmful to the society. K·Arrow points out knowledge asset is public product, thus its marginal cost is zero, privatizing the knowledge asset would result in increasing marginal cost and then reducing the use and promotion of knowledge results, it is harmful to society. More harm than good theory is reasonable in some degree for the reasons that it emphasizes on the marginal cost of knowledge asset in use and tries to reduce the total social cost. The premise of this view is that people try their best to produce knowledge asset; however without incentive mechanism, no one would engage in creativity activity from which he can gain nothing by using his energy and money.

Third is beneficial and harmless theory. The early benthamites like J·Bentham and J·S·Mill hold this view. They believe that from the human's nature of "seeking advantages and avoiding disadvantages", patent system protects private property of knowledge asset, which may encourage creativity activity. Thus it is efficient to define knowledge asset as private.

In fact, the discussions existing among the economists have proposed a paradox regarding the definition of intellectual property. On the one hand, it is very hard for information producer to make a profit in a non-regulated market, the producer would not be stimulated strongly to create new knowledge or information until be given the monopoly right. On contrast, monopolist asks high price for the product that will prevent the use of the product, and therefore consumers may be difficult to pay for using information adequately. Consequently, it is impossible to achieve resource allocation' optimum utility. In short, the paradox is "there would be not enough information produced without legal monopoly, but there would be not too much information used with legal monopoly".<sup>6</sup> The legal method used for solving this dilemma is to balance implementation of spirit in the definition of intellectual property that is to combine enabling and restricting. The thesis focuses on the later, viz. restricting..

<sup>6</sup> [U.S.]Robert · Court & Thomas Ulen. *Law and Economics* (Zhangjun Trans.) Shanghai: Shanghai Sanlian Bookstore, 1991, p.18

## 2.4 The Rationality of Protection to Private Right within Limits

The above analysis, the author believe that in order to “allocating resources in the way is good to improve efficiency, and protecting the optimal allocation and use of resources by defining right and obligation”,<sup>7</sup> it is necessary to protect private right in defining the knowledge asset property, but it should be appropriate, inadequate protection and over-protection are unsuitable. First, private right protection is efficient to producers and society. With respect to producers who protect their benefits in the form of patent right and guarantee the controlment to intellectual result and the recovery of input cost. It is similar by adding firewood of profit to fire of wisdom, private benefits promote the production of knowledge. Regarding society, society has gain larger profit at lower cost (recognizing the knowledge asset’ exclusive right in the limited degree and protecting it), which promotes the inputs of knowledge production and then produce a lot of knowledge product, cost is less than the income which is produced by granting the exclusive rights to producer. We can get the same understanding analyzing from economic rationality and trade free:

First, from the standpoint of economic man’ sense, human have inherent pursuing benefit rational. Economist said,“economic man” is rational, it means that they will seek the maximize benefit consciously, thus maximizing the social interests. However, everyone wants to be “picked-up” and does not pay for “fare” because of inherent quality of pursuing benefit, therefore, there must be an institutional arrangement to let the “hitch-hiker” to pay enough costs, viz. Negative yield, which makes “hitch-hiker” think about it but not do it. Take the production of knowledge resources as an example, person A can improve the technology by what he or she has learned and sell it to others, he gets the profit at the same time others enjoy the benefits of technological improvements. The premise of “transferring” the technology is person A “owned” the technology, there is clear boundary of right between his technology and others’ in institutional economics meanings. If the system, which defines the right ownership of knowledge resources, is omission, the cost of using the product would be very low even zero, thus there will be more “hitch-hiker” than before. For initiators, the developed technology which spend much effort and money become the “public street lamp” that everyone can enjoy, therefore, personal returns become pan-mass, the cost far outweighs the benefits. As a rational person, person A will lose the motivation to create spontaneously. Consequently, the social knowledge asset would not increase because independent innovation becomes valueless. Likewise,

scarcity of system has direct proportion with scarcity of knowledge assets. Just like what professor Siluo, the representative of neo-institutional economics, pointed out the reason of the slow pace of technological change is largely due to without a series of knowledge asset ownership system, thereby destroying inventors’ enthusiasm and detracting social interests ultimately. Especially, after combining commercialization of knowledge result, right material and spiritual interest, this damage and loss is more obvious. It shows that to define private property of knowledge asset is good for defining the subjects of interests, guaranteeing inventors’ benefits and increasing enthusiasm for innovation.

Second, from the standpoint of transaction costs, knowledge asset private transaction costs are always less than its earnings. Economics have shown that private property rights will inevitably lead to transaction costs, but public goods do not have this problem. Because public goods do not have alienability for use in the sense of right, for instnsnce, it is unnecessary for one person to apply for lighting beneficial estate of lamp. This is not only because non-exclusive of consuming public goods decides that everyone has the right to share public goods like street lamp, but also because the cost of stopping others to use street lamp is very high, which means it is valueless to do it. However, it is completely different under the situation of private property rights. For instance, someone wants to pay nothing for using the obligee’ private light without the allowance of the obligee, he or she will take the risk of being published which costs higher than normal transactions. Therefore, in theory, private property rights can maintain the operation of normal transactions. The premise of private property rights is that property rights would be defined very clearly and the definition itself is also a cost. Thus, if it is impossible to define property right technically or if defining it will cost much by doing so, public property will be more worthwhile than private. Experience has shown that, as for knowledge asset, as long as defining its producers and details clearly, knowledge asset can be specialized, so it is possible to determine the boundary of ownership of knowledge asset. Knowledge asset have the right form in the legal meaning now, that is intellectual property right. The owners of knowledge asset may know their interest boundary clearly and they may get relief when their interests are infringed.

The protections for intellectual property private rights’ value and its existing meaning have been proved by historical facts. Since monopoly law in 1623 and Anna bill in 1710 had been made in the United Kingdom, more than three centuries pasted, western intense industrialization, highly developed technology and cultural market cannot be separated with the contribution made by the legal principle of “intellectual property private right”. The protection of intellectual property private right once being canceled was recovered and improved continuously after China’s reform and opening up. Take the patent right for

<sup>7</sup> Zhang Wenxian *Law Philosophy Category Analysis* (Revised Ed.) [M] Beijing :China Politics and Law University Press, 2001, p. 219

example, first of all, patent right was defined as a franchise which can be used in trade and can gain benefit in "The Law of the People's Republic of China on Chinese-Foreign Joint Ventures" enacted in 1979. China put the patent law into practice in April 1985 and made important changes to it in 1992, which made patent protection step forward to the international standards, its main parts met the standards of "Agreement on Trade Related Aspects of Intellectual Property Rights"(hereinafter TRIPs for short) requiring for developed country in advance; the 2000 amendments were geared to the WTO fully. Protection for private right provided by Chinese patent law gives a powerful motivation to technological innovation; the number of patent applications, the number of patents granted, the patent projects for national newly increased output all increase year by year.

Secondly, protection for private right should be in the limit of balancing the interests. To maintain public interests is essential reason for the reasonable existing of intellectual property law.

The protection for private right of intellectual property is based on the assumption of human sense. In the age of commodity economy, human reflected its sense limitation: people would compare the input and output of their economic behavior, i.e., people are selfish. From the viewpoint of economics, selfishness is to "maximize" personal interests and to "minimize" personal costs. Therefore, selfishness is as hurtful as healthful. It is efficient for property right system to have no other choice than to "maximize" the interests brought about by selfishness and to "minimize" the damage brought about by selfishness. As mentioned above, private right protection of intellectual property has its own advantages which are compensating producers' labor consumption, arousing their enthusiasm to create and enriching the spiritual food. All these are propitious to maximize the interests brought by selfishness; however, if private right expands maliciously, for example, obligee asks for a high price in transferring the product, and even the high price forming a monopoly prices above competitive prices. It has its own disadvantages which are preventing spiritual products from entering market, impeding public use and endangering the development of science and cultural. All these go against minimizing the damage brought about by selfishness. Thus, it is necessary to restrict private right properly so as to protect social interests. All in all, intellectual property private right can provide a superior position to producer, and it is not a monopoly to damage the public interests. Copyright, patent right and trademark right are all an exclusive right in a limited period. What protection the obligee get cannot exceed the right limitation enacted by law and the balanced interests goal.

The intellectual property systems in the world have been embodied the principle of the unity between private right protection and private right restriction.

That is, private right protection is the premise of private right restriction and private right restriction is indispensable to private right protection. This principle has been recognized and affirmed repeatedly in the international protection for intellectual property right. Followed by the Paris Convention and the Berne Convention, TRIPs agreement which came into force in January 1, 1995 declare in the preamble: "it recognizes intellectual property right as private right", meanwhile, "it recognizes that the goal of public interest protection emphasized in the various national intellectual property right protection includes development purpose and skill purpose". Article 7 of the agreement also stipulates clearly that: "protecting intellectual property right and enforcing right should aim at promoting technological innovation, transferring technology and disseminating technology. It is propitious to have mutual benefit between producers and users in the way of social economic welfare, meanwhile trying to balance rights and obligations." Practice has proved that, the principle of unity between private right protection and private right restriction is more durable and stable than concrete intellectual property system. But how to achieve a balance between insufficient private right protection and excessive private right protection is the eternal and basic problem in intellectual property law.

### 3. LAW-ECONOMICS BASIS OF INTELLECTUAL PROPERTY RIGHT RESTRICTION

It can be found that the evolution of the human right concept from natural ownership of property to the definition of property right. However, ownership itself does not mean that wealth increases its value. The growth of social wealth is based on rapid movement of property and most optimum distribution of resources. Therefore, corresponding with the change from ownership to utilization for property right system, modern intellectual property system should not be attributed to the ownership of intellectual property right protection. It should confirm producer in the possession and domination of property and promote the dynamic use of property (including himself-use and others use). This process includes economic rationality of intellectual property right restriction system. Intellectual property right restriction refers to, considering social interests, a reasonable and appropriate restriction for the content of intellectual property right and the exercise of the right and something like that with the purpose of promoting common progress of the society. Intellectual property protected powerfully by law with fundamental purposes of fairness and justice is private right. However, intellectual property right and its object have a close relationship with the process and development of

human society including technological process, cultural development and economic prosperity. Thus, the intellectual property law gives monopolistic protection to obligee economic benefits, and at the same time it sets up a variety of reasonable restraint to achieve the balance between obligee ' interests and social interests.<sup>8</sup>

### 3.1 External Economy Issues in the Knowledge Product Exchange

According to the microeconomics of supply and demand theory, the purpose of spirit product is still to exchange. Only through exchanging, individuals can obtain the best combination of a range of products to achieve the maximum effectiveness or interests. In market economy, knowledge product, which has the same commercial attribution with material products, becomes free exchange subject. The way to use recourses effectively is exchanging viz. market system. However, the operation of market system does not automatically lead to the optimal allocation of resources. British economist Pigou, the father of welfare economics, believes that market system will malfunction when "external diseconomics" appears. The so-called "external diseconomics" refers to the negative effects of "external economy effects". American economist Paul Samuelson gives "external economy effects" a definition as "the result is made by an economic man' s behavior affecting another welfare, and this result is not reflected in the monetary or market transaction".<sup>9</sup> Based on the result, the effects of external economic have positive and negative effects. Someone plays music and others listen to it freely; thus it is the external positive effects for others; others bear the damage caused by industrial pollution factory and pay for the damage, that is external negative effects or external diseconomics.

Intellectual property may have external diseconomy situation. Information producers have excellent natural resources (creativity), and they may take advantage of intellectual property monopoly to get a variety of "positive rent" (monopoly profits) in condition of lacking intellectual and artistic products. They attempt to maximize their personal interests and they may probably ignore the social consequences of their actions simultaneously. Take the demand of using and consuming information into consideration, users may utilize the public attribution of information to pursue the maximization of information effects. Thus it damage the producer' interests. Both of external diseconomy situations will increase transaction costs, which is not

conducive to maximizing the value of utilizing information resources. How to deal with this problem? This is the question answered by intellectual property law.

### 3.2 The Inspiration from Coase Theory

American professor Ronald Coase in Law school of Chicago University analyzed the impact of legal system to the allocation of resources by using transaction cost concept, and then he pointed out the importance of right definition and right arrangement in economic transactions. Coase' s theory is usually expressed as the following three rule: (1) If there is a "zero transaction costs", no matter how to choose the rule, an efficient outcome will appear. In other words, when the exchange is free and individuals are mutual-cooperative, any legal right allocations are efficient. (2) If there is a "real transaction costs", it is impossible to have effective results under every rule. That is to say, different right definitions will bring different effective allocation of resources. (3) There are transaction costs in the definition of property rights, the arrangement of property rights and re-arrangement. All of these may be hampered by the high transaction costs. Coase theory believes that as long as rights can be defined clearly exchanged freely and the subjects can be acted cooperatively, the distribution of rights will have beneficial results no matter who has the right. However, the transaction cost is only an assumption, and there is "real transaction cost" in the practical transaction. This transaction costs include the costs of getting accurate market information, the costs of bargaining and signing contract and the cost of monitoring contract performance. In conditions of real transaction cost above-mentioned, it is impossible to have effective results in every rule. The reasonable rule is the legal rule which can reduce the effect of transaction cost and even minimize the effect.

When people face external issues such as person A has harm person B, they should consider how to stop person A following what Pigou has said in "welfare economics". Here are some methods to stop it: (1) requesting person A pay for the losses; (2) imposing tax on person A according to the loss; (3) charging person A to stop the action. However, these methods are not suitable because the obstructive action has reciprocity. Stopping person A may prevent damage to person B, while it might damage person A. Proper consideration is to minimize what clients have suffered. As Costa said: "the problem has reciprocity, viz. to avoid the damage to person B may be harmful to person A. the real issue which we must decide is to allow person A to damage B or to allow person B to damage person A? The key to this problem is to avoid more serious harm".<sup>10</sup> Similarly, in the production---

<sup>8</sup> Taoxinliang & Yuanzhengfu *Intellectual Property Right Law* [M] Beijing :Intellectual Property Press , 2005 p.222

<sup>9</sup> [U.S.]Paul • Samuelson & Willian Nordhaus. *Economics* (12th Ed.) [M] (Xiaochen Trans.) Beijing: China Development Press, 2002, p. 1193

<sup>10</sup> [U.S.]Ronald • Coase *Social Cost Problem* [A] *The*

transmission--- use of intellectual property rights legal chain, to safeguard the producers' interests should be the core principle of legislation, and to forbid tortuous act of disseminators and users by utilizing property system and liability system; however, if producers are allowed to monopolize all right resources to control the dissemination and use of information products, it will bring about a high trade cost. Consequently, either users often gain the authorization or pay for monopoly price to reject using information product, or they pay for various costs such as costs for obtaining market information, costs for bargaining, costs for signing contracts and costs for monitoring the implementation. Obviously, it is a system choice without efficiency

In summary, the Coase theory tells us that different ways of right resources allocation will bring about different efficiency. Thus, people should weigh all parties' gain and loss so as to maximize the total interest when they design and choose the system of protection and restriction for intellectual property right.

### 3.3 The Rationality of Pareto Standards and Restrictions

Since Law Economics regards maximum benefit as a starting point of choosing a particular system, it must judge the standard of effectiveness firstly. In microeconomics, the leading standards for judging the effectiveness itself are Kaldor standard and Pareto standard. Kaldor standard believes that the change brought about by effectiveness is advisable even if someone losses his interest and someone benefits from it. Law economics does not agree with this view, but it advocates Pareto standard. Pareto effect, named by economist and sociologist Vilfredo Pareto in 19<sup>th</sup> century, is usually expressed as "if there is no way to make someone better without causing others worse, this situation is Pareto effectiveness."<sup>11</sup> Pareto standard considers that increasing effect must be beneficial to all parties, and it is not effective to improve the interest of one party at the cost of damaging the others.

According to Pareto standard, only if all parties' interests are protected based on maximum regularly, intellectual property system be can efficient. For details, intellectual property not only should provide necessary conditions and motivation for creative action of knowledge producer, but also should provide encouragement and stimulation for flourish of intellectual property industry and development of international intellectual property trade. At the same time, it should offer market to users to choose knowledge product freely and supply the order of market to the subjects. All these meet the Pareto optimal. In contrast, it is an ineffective choice to damage any

party, which may be producers, disseminators, users or competitors, to increase the other parties' interests. In a word, the standard of the Pareto effect, which is an economics basis for the rationality of intellectual property right restriction system, can make right restriction and balanced spirit have economical rationality.

## 4. RESULTS AND DISCUSSIONS

Regarding the consideration for balancing obligee interest and public interest, it is widely accepted that intellectual property right used as private right should be reasonably restricted. The "eternal problem" discussed now is the border of right restriction, that is to design what kind of intellectual property right restriction system can maximize the total effectiveness. Economic theory provides the external support for constructing the restriction system. Coase theory reveals different right resources allocation that would bring about different effects; the standard of Pareto effect provides intellectual property right restriction a limited measure--- not to increase the interests of other parties by harming the interest of one party.

However, legal practice is far more complex than simple theory problem, it is a more arduous process to design restriction system in details besides discussing the need for intellectual property right restrictions. The economic rationality of balancing interests points us the "direction of advance" . The selection of a solid way is limited by economic and technological developing lever, legal system, history and so on; the enrichment in details will establish on the base of a more detailed economic analysis.

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*Development of Property Right and System* [C] Shanghai : Shanghai Sanlian Bookstore, 1994, p. 4

<sup>11</sup> [U.S.] H • Fanlan *Micro-Economics: Modern Perspective* [M] Shanghai: Shanghai Sanlian Bookstore, 1994, p. 24

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