

# Justification for Dilution in Public Good Theory

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## ABSTRACT

This paper aims at utilizing the public good theory of economics and the principle of market efficiency to strengthen the jurisprudent Support of Trademark Dilution Doctrine in Trademark Law. Since dilution doctrine has long been one of the most controversial issues, that the justification to protect trademark from dilution remains doubtful. Though several theories of justifications for dilution doctrine have been proposed, they are limited in certain aspects. In some theories, trademark has deemed a property that deserves identical protection with property in other forms, while other theories focus mainly on the harm caused by dilutive use of trademark. This paper delves into the latter in an economic perspective. It first starts with the public good theory and its application in copyright and patent. Moreover, based on the characteristics of impure public good in which category trademark can be included, we can find that the core of trademark protection is the harm caused by certain behaviors of third parties. To reach a conclusion, we need to apply the principle of granting exclusive rights which control third parties' behaviors. In this principle, any exclusive right cannot be accorded unless it can make the society better off. In the public good perspective, the harm (preventing which brings corresponding benefits to the society) caused by dilution to the society is considerable, and costs to prohibiting this harm are trivial or nominal. Thus, this paper concludes that the preventing trademark from dilution is a desirable policy.

**Keywords:** Intellectual property, Trademark, Trademark Dilution, Public good, Exclusive Right

## 1. DILUTION, A CONTROVERSIAL CONCEPT

### 1.1 Introduction to Dilution

It is difficult to give a definition to the word “dilution” [1]. Originally, Schechter stated it as “whittling away of identity and hold upon the public mind” of a unique mark can occur, even without competition [2]. The crux of dilution is the absence of competition and confusion when a famous mark is “blurring”. Without confusion and competition, discussions about protection on trademarks seems unacceptable. Traditional theories argue that the function of trademark is to connect undertakings with goods and services to which the trademark is attached [3]. By doing so, trademarks encourage investment in product quality and prevent consumer deception [4]. So, any conducts of damaging the source-indicating function of trademark should be prohibited. Furthermore, protecting trademark is to protect a free and fair competitive market, by protecting the “core function” of identifiers [4], and it is also to prevent consumers from being confused by deceptive use of a similar trademark in competitive markets [5]. And because of the ambiguity of the word “dilution”, many scholars have

been concerned about the possible destruction dilution can bring to trademark law. For example, Robert N. Kliege stated dilution would upset the balance between fair and free competition, by “singling out” and giving more protection to the “persuasive function” of trademark [6]. Mark A. Lemley was concerned that we may be moving afoot to a world in which well-known trademarks are commonly protected in the absence of consumer confusion [4].

Now we can see, it is still debated about whether existence of dilution is desirable. Proponents of dilution have proposed many theories, like property theories, misappropriation theories, harm-based theories and psychological theories, to justify this boarder sense of protection conferred on famous trademark [7]. Although they failed to perfectly address all the questions presented by those dissenters to dilution, these researches are paramount to the recent development of dilution theory.

Part I of this article reviews the most dominant four theories to the justifications for dilution. This article identifies flaws associate with these theories and will try to propose a solution in part III applying public good theory. Part II introduces the characteristics of public good and how do we manage public goods such as copyright and patent. Part III first defines what is impure public good and then argues with details why trademark is impure public good. With respect to dilution, those users of trademark would congest the mark. Also, the congestion effects brought by dilution explain why preventing dilution is desirable.

## **1.2. Justifications for Dilution**

### **1.2.1. Property Theories**

Callmann enumerated many cases to support recognition of trademark as a form of property, just like copyright and patent [8]. Since trademark is property right, instead of “only a symbol of the goodwill of the business of the trade-mark owner” [8], when trademark is used by non-competitive users, the injunctive relief can still be applied. In other words, the trademark protection should not be limited by competition relationship, because:

Where there is no relationship but an exclusive right, the rights and duties are determined by the exclusive right itself, according to the scope of protection afforded it by the law.... Failure to recognize and accept this fundamental distinction between the relationship rationale and the exclusive right fathered the incongruous doctrine that trade names can only be protected against use or imitation on the theory of unfair competition [8].

Callmann also noted that dilution can also take place without confusion or deception [8]. Because serious repercussions can occur, when trademark is “simultaneous used” by unknown without “any visible effect upon the use by the original user” [8]. Pattishall slightly changed the property basis into ‘mental property’, stating that “The ‘property right,’ if any, deserving protection against dilution is the mark’s distinctiveness in the minds of those who have encountered it, rather than an ‘in gross’ property right in the mark itself [9].”

### **1.2.2. Misappropriation Theories**

The concept of misappropriation stemmed from the judgement in *International News Service v Associated Press* [10], which held that a defendant’s behaviors of “reaping where it has not sown”, to the point where “material portion of the profit” has been diverted, is unjustified [10]. Schechter argued that investment to a trademark extends the previous protection entitled to the goodwill of trademark, and “no one should be permitted to step in at the eleventh hour and appropriate advantages resulting from years of toil on the part of another [11]. Other proponents like Lee Goldman stated that trademark law protects the owner without their financial fundamentals being damaged, and an individual can reap the benefits he has created without being interfering by others [12]. Wendy Gordon proposed “malcompetitive copying”, trying to account between trademark monopoly and market competition [7].

Critique:

Misappropriation theories are kindred to the property trespassing theories that both find the justifications for dilution without requiring any harm to trademark [13].

However, preventing other parties from using a trademark is not desirable when there is no harm incurred. Without harm, preventing another person from using the trademark will not generate benefits to consumers. And such an absolute exclusive right will be something no more than a transfer of fortune, which encourages people to register more trademark. Because if others can “reap from where they haven’t sown”, the producer of trademark will be less likely to invest into creating trademark. But it is questionable that whether we need more trademark. And whether granting exclusive rights can give more incentive to create trademark.

### **1.2.3. Harm-based Theories**

Harm-based theories focus on the harm to the distinctiveness or selling power, caused by the use of the mark in commerce. A trademark originally denoting goods for only one company. When relevant public see the same or similar trademarks on other irrelevant products, they can recall more than one undertaking. With such recollection, the “advertising value” of trademark would be “impaired” [7] because it is not “the only one” in public’s mind.

This harm in another form is an increase in consumer search costs. Indeed, the most important function of trademark is to reduce consumer’s time spent on searching, by providing them with a recognizable, unambiguous identifier of the particular source of particular goods [14]. This harm could be described as an increase in the total “mental time and effort” for consumer to associate the mark with the source of product [14].

### **1.2.4. Psychological Theories**

In psychological perspective, pieces of information, like goods-identifying information are stored in “notes” in brain. And they are linked into a complicated network. Once one of the nodes is activated, the joined one will also be stimulated by virtue of the “links” [15]. And this “links” and “nodes” network would be disrupted when consumer encounters a similar or identical mark used by a third party. Different theorists have different theories about how exactly this change takes place. But they are consent to that “the introduction of a new product bearing a mark that is identical or similar to an earlier mark... can impair the strength of the earlier trade mark for reasons associated with the change in the cognitive network. [7]” Psychological theories are highly related to consumer harm-based theories that extra effort is required to associate brands and goods correctly and this will harm trademark’s selling power. These theories share the same argument with harm-based theories that dilution would cause something once unique “lost in commonplace words of language” [2]

Critique:

In economics, the harm is the increase of consumers’ search costs. In psychology, the consumers are also suffered by

forced to spend an extra mental effort. Thus, harm-based theories are not essentially different with psychological theories. To sum up, when a trademark is diluted, the consumers who are affected by the dilutive effects need more time to recall the mark correctly. However, harm itself seems not sufficient to serve as the basis of preventing others from using a trademark. For example, even when consumers have associated a functional feature with certain source, the creator of that functional feature will not be granted an exclusive right to prevent others from using it [16]. The harm will be incurred when this feature is adopted by others, because consumers will be confused about who will be responsible for the products with such feature. The reason behind not granting an exclusive right even when the harm exists is that the costs associated with preventing others from using a feature that is part of what makes the product work are too high. Competitors will be forced to spend more efforts to develop their products in order to avoid restrictions, which leads to monopoly of those who were granted the exclusive right to the essential functional features. Thus, we need to consider the further examination costs of preventing dilution and also, the harm proposed by harm-based and psychological theories seems ignorable.

## 2. PUBLIC GOOD THEORY

Generally speaking, intellectual property (including trademark) is a system of entitlements of rights to exclude others from engaging in certain conducts. Intellectual property law is conceived for a general goal, that is to maximize the welfare of society [17]. But while this system of entitlements brings benefits to the society, such as providing incentive to creators or increasing market efficiency, it also incurs costs, like deadweight loss. It is significant to measure the benefits against the costs before deciding of conferring exclusive rights. Even though we do not know to what extent granting exclusive rights will maximize the social welfare, it is reasonable to infer that the intellectual property mechanism should at least make society better off. From this point, whether a scope of entitlements is desirable can be measured by comparing the benefits deriving from entitlements with the costs of doing so. This section argues that, for intellectual property, it is justifiable for an entitlement of exclusive right only when the benefits to the society outweigh the costs [17]-[18].

This section first classifies goods into private goods, public goods and impure public goods. This classification helps to reveal the distinctions among them. Each good have different characteristic. Thus, they should be treated differently, and receive different degree of excludabilities (i.e. exclusive rights). It is important to go through the spectrum from private goods to public goods with trademarks as impure public goods lie in the middle of private goods and public goods. This section focuses on the scope of entitlements to copyrighted and patented works. After acknowledging some important characteristics of public goods and guidance on manage it, in part III, this

article argues that trademark should not be entitled protection when it is used non-rivalously. Thus, the justification for dilution can be found only when trademark is not used as public goods.

### 2.1. Public Goods, Private Goods, and Impure Public Goods

There are two important characteristics that classify goods into public goods, private goods, and impure public goods. The first is “rivalness”, the degree to which one’s consumption of a good diminishes another’s availability to benefit from that good [19]. Rivalness is a demand-side analysis. If a good is non-rival, that means people can consume [20] it simultaneously without imposing costs on each other. As defined, after a person’s consumption of a non-rival good, others can still derive benefits from that good as if the former user has never consumed the good. Further implication for this concept is that once a non-rival good is produced, it will cost nothing to allow another people to use an additional unit [21]. The second is “excludability” that is how costly it is for a person to exclude others from consuming a good. This is a supply-side analysis [19]. Whether a good can be efficiently allocated by markets relates to excludability. If the costs are prohibitive, under provision might occur because the supplier of non-excludable good cannot recoup his investment. A rational producer would decide not to produce the good, because the costs of producing exceeds the benefits. However, excludability is not a characteristic inherited by tangibles because their costs are influenced by social mechanism [22]. In the primitive society, land for crops could be invaded by others and the costs to prevent such invasion were enormous. Because the farmers have no right to the land, so they are unable to appeal to states for remedies. Exclusive right was conceived to provide people with incentives to labor on owned or unowned resources by excluding others from interfering. Entitling exclusive rights can not only encourage investment [23], but can also enable people to hold rational expectations in dealing with each other [24]. Allocating and distributing resources efficiently by virtue of price mechanism then is possible. As for intellectual property, it is believed that copyright owners will lose their incentive to produce if they cannot easily capture the values they have created [18].

Back to the classification of goods, rivalness draws a line between private goods and public goods. Private goods are rival. A typical pure private good is an apple. Munching on an apple will certainly affects the availability of that apple to anyone else. A famous example of public good is lighthouse which is both non-excludable and non-rival. Because once a lighthouse is built up, any ship on the sea benefits from its guidance without diminishing the guidance function available to others. Information is also both non-rival and non-excludable [25]. Without rivalness, the marginal cost of producing an additional unit of existing information is zero. The non-excludability feature also guarantees that without

intellectual property law granting exclusive rights to some information, it will be relatively more costly than other tangibles to exclude others from using the information. Thus, the government's intervention via institutions to address this non-excludability issue would be justified. Impure public goods are "durable goods" and have "sharable capacity". Whether these goods are consumed rivalously or non-rivalously depends upon several factors, such as how the resource is managed, the number of users, and the availability of capacity [19]. Impure public goods lie in the middle between pure public goods and private goods. The key to impure public goods is that they can be managed in a way that avoids rival consumption. So, whether a person will deplete the availability of an impure public good depends on specific situations.

## 2.2 Static and Dynamic Dilemma

Public good theory is mainly applicable to copyright and patent regulations. As mentioned above, information, like expressions in works of art and innovative ideas in inventions, is public good. Trademark is generally considered as private good, but there are scholars who argue that trademark is impure public good [23]. After a closer examine of the application of public good theory to copyright and patent, this article applies public good theory to find the justification for trademark dilution in section III. Because of the "non-rival" characteristic, the cost of producing an additional unit to allow an added consumer to use the existing public good is zero. Take idea as an example, it costs nothing to exchange ideas. That is, for public goods the producers' cost is only limited by the initial fixed cost, any additional variable cost is close to zero. In short, the marginal cost of supplying the good is zero [23]. Transaction establishes on the cost-benefit tradeoff. Suppliers would only produce when the benefits exceed costs. A consumer would sacrifice his own resource to substitute the access of that unit, only when he can derive more benefits from it [23]. And from that we have the concepts of supplier surplus and consumer surplus, the excess value from transaction [23]. At certain point, both surpluses reach optimal. Competitive market can achieve the goal of efficient allocation of rival goods when a supplier set price amounted to the marginal cost [23]. For the demand side, consumers can drive net benefits when they obtain the product by spending less than what they believe the product might worth. For the supply side, all suppliers can have benefits which exceed or equal to marginal costs. At this point, it is efficient for both suppliers and consumers. Since the marginal cost of public good is zero. We can draw a conclusion that the cost for every individual to get an access to an additional unit of public good should be zero. Because it will cost nothing for producers to produce one more unit. And consumers can benefit from consuming it as long as they attach any positive value to it [19]. Trotter Hardy suggested the entitlements to intellectual property owner should be "as narrow as

possible". And any extension to the scope of rights will impose more costs of sharing information to public [26]. Furthermore, any positive price can create deadweight loss. Because charging a positive price will definitely exclude a portion of consumers who would have gained benefits otherwise. Thus, the welfare of society would have been improved, if those consumers can access to public goods freely [23]. And this efficiency, where any person values a good more than its marginal costs should gain access to it, is "short-run" and called static efficiency.

However, what is the opposite to static efficiency is also important. The efficiency associated with the ability of suppliers of public goods to recoup their investment is called dynamic efficiency [19]. Besides the marginal costs, the providers of public goods still need to recoup the "initial" fixed costs. In pursue of static efficiency, allowing free access to public goods would discourage the supplier to produce public good at the first place [27]. Concerning market in a long-run way, we want to encourage activities to produce more public goods that can be shared at a price higher than marginal costs. Thus, it is desirable to confer some rights on suppliers, who were unable to identify and exclude free-riders. Information, one of the most typical public good, faces the static and dynamic dilemma. Glynn Lunney described this "cathch-22" situation in copyright law as "if copyright, deadweight loss. If free- access, dead incentive" [28]. The next question is how should we deal with this dilemma.

The bottom line to treat public goods' "non-excludability" is that any increment of rights to control public goods cannot be justified unless the benefits (potential positive effects to society as a whole) of doing so exceed the costs (potential negative effects to society as a hole) [18]. For the benefits, broader protection can grant more incentive to creators. But the costs of doing can also be paramount. Laying particular stress on one side would break the balance of static efficiency and dynamic efficiency. This conclusion is drawn under the guide line that the society should be better off with the help of exclusive rights. This guide line can also direct us to find the appropriate scope of exclusive rights for trademark.

## 3. PUBLIC GOOD THEORY TO TRADEMARK DILUTION

### 3.1. Trademark, Impure Public Goods

Trademark is information good [29]. It contains three types of information that is connection information, quality information and impressive information. First and foremost, connection information tells consumers who is responsible for whom. The producers (or sponsorship) are easily identified because a trademark distinguishes goods produced by a firm from that by others. Consumers can rely on this information to buy a product which will meet their expectancies. Because this information tells them "products

under this trademark have a consistent quality". For example, when we see a bottle of beverage bearing the mark "PEPSI", we know it is produced by PepsiCo Inc. Even if we do not know the exact company, we can predict that those drinks under the same brand have the same attributes and tastes.

Second, quality information can imply or describe some characteristics of a product under that mark. For example, from the trademark BUSINESS WEEK, we can presume that it provides the service of bringing updated business news to its subscribers. Speedy Burrito describes directly that products attached with that mark have the characteristics of fast food.

Finally, impressive information, which is usually created by persuasive advertisement. Not only can trademark tell consumer the attributions, origin or sponsorship of a product, but can it convey the information about brand personality. For example, AIR JORDAN from Nike Inc means a passion for basketball. Not only because people wearing shoes under that brand are young and enthusiastic about basketball, but the image of the brand has created as symbol dedicated to basketball devotees.

Deriving from the idea that information is public goods, Trademark is also considered public goods. However, trademarks also have the characteristics of private goods, that an identical mark can only be used to identify one undertaking in the same trade. Here argues that trademark is impure public good which has three characteristics [23]. And different characteristics can be found in different occasions. Reasons are given as follow.

Impure public goods can be used both rivalously and non-rivalously. To estimate whether a good is used rivalously or non-rivalously we need to consider several factors, such as the capacity of the goods, the number of users and the manners of use in question. This will be illustrated better with a specific example [19]. A lake is an impure public goods. A lake can be used in variable ways. A plant can be built by this lake to cheaply tackle with sewage pollution. People can fish by the lake, swim in the lake, or simply enjoy the scenery of the lake. This lake can serve as transport network for cargo ship. An additional people swimming in the lake will impose no cost to other swimmers in this lake. People fishing around it will not have effects on each other, and will not interfere with the people swimming in the lake, either. But what about the pollution? Some noxious matters released into the lake will be deleterious to the skins of swimmers and abundant fishes will die from toxicosis. The swimmers, fishers and people viewing the scenery are all excluded from access to the lake. Next is those cargo ships on the lake. If there are just one or two cargo ships sailing on the lake, they will not interfere each other and will not interfere with other users like swimmers or fishers, either. But what if the number of ships goes up to the certain amount the lake will be totally congested.

This is a simplified model of impure public goods. Those plants releasing pollution are proprietary users, whose consumption will deplete the availability for any other. In

this occasion, the use of lake is rivalously. Second, swimmers, fishers are people use the lake as public goods. They use the lake non-rivalously. Finally, the lake can be used non-rivalously when the number of cargo ships is relatively low (meaning that they do not interfere with each other and other users). However, when the number of cargo ships increase and cause congestion at which the value of the lake to each ship diminishes (meaning that they impose costs on each other and other users). Congestion, quite self-explanatory, means more crowded. A highway will be congested when the number of cars increases to a point that each person on the car will have a poorer view, or will spend an extra time on commuting. Before congestion, the congestible goods are used non-rivalously. After "a threshold number of users" or intensity of use is reached, Any additional user's access to the goods will affect other users' utility in certain level [30].

To summarize, in certain cases impure public goods can be consumed rivalously with respect to some uses (plants pollution), and in other cases they can be consumed non-rivalously (swimming, fishing), and it can also be congested with respect to some uses (cargo shipping). Beyond this simplified model, we should recognize that different conditions should be analyzed differently. For example, if the lake is infinitesimal (relating to the capacity of goods), even one swimmer will use up its availability and exclude others. The use of trademark fits into this model perfectly. Consumers can benefit from the connection information of trademark to identify the source of goods, without affecting any other to use this information. Competitors or relating parties can use connection or quality information of a trademark to accurately delivery consumers the attributes and qualities of their products [31]. Writers will find free to use impressive information for their parody or metaphor purpose [32]. This use is non-rival. Competitors can adopt a mark which is similar or identical to the trademark to deceive consumers into believing the products under the "imitating mark" have the same quality to those for which the trademark is registered. In this case the information is used rivalously. Source origin infringement is actionable to prevent the rival use and its damage to the information contained by trademark [33]. Trademark information can be used by non-competitive users who will not confuse consumers but might whittle away the information by forcing consumers to think more carefully about the context when they see the trademark. This use is congestible. Because sometimes adopting a same mark in an unrelated trade will not affect the adopted trademark. However, at some circumstances, the trademark's distinctiveness is distorted (congested) by these non-competitive producers' successive use.

### **3.2. Normative to Manage Impure Public Goods**

This section illustrates that trademark is impure public good. And the linchpin of trademark protection is the

information conveyed by trademark. Here this section argues that, as long as the information is used without affecting its integrality, the use is totally permitted. When a trademark is used in a way that its information is distorted to a certain extent, prohibition of this use could be justified. This does not mean that once the trademark is harmed, the protection is justifiable. In other word, trademark protection system (including dilution) centers on the harm to trademark information, and the justification for a certain protection can be found because the benefits (of a society as a whole) of prevent this harm exceed the costs [18].

### *3.2.1. Proprietary Use*

Proprietary use here means use of trademark in a rival way at which its information is ruined. In this sense, trademark is used as pure private good. And this rival use is prohibited reasoned as follows.

First, the essence of source origin infringement action is to protect the information function of trademark. Trademark is valuable because it can reduce consumers' search costs by virtue of the information it transmitted [14]. When a competitor adopts a trademark for identical or similar goods, consumers may be confused with respect to the source of the goods. And this confusion results from the destructive effects to trademark's information. Simply put, before consumer confusion, the information of trademark tells consumers that "I do not have to investigate the attributes of this product. Because every time I brought the products under the same mark, I will enjoy them." After confusion, the information then tells consumers that "I'm not sure about the quality of this goods. Because last time I have brought an inferior product under this same mark. Maybe they are produced by different companies, but I am not sure which one is better." The next step after harm to information is to measure benefits against costs.

Free ride is a rational behavior [14]. Permitting deceptive use of a trademark causing confusion will inevitably result in deceptive use everywhere. Because free riders will be at competitive edges, when they adopt others' (their competitors') trademark, by setting a higher price for their products without investing in creating and maintaining the mark [14]. So, the benefits of preventing this use are consistent with the benefits trademark can bring to the society. As long as this type of behavior is permissible, the precondition for trademark to function normally will never exist. Then the benefits against costs tradeoff turns to be the question that do we want to live in a word without trademark? And the answer is obvious.

### *3.2.2. Referential Use*

To referential use means use of trademark without causing any costs to other users. Trademark is pure public good under the condition of referential use. Everyone can be the "referential users". Consumers can use trademark to find the

products they like, or dislike. Competitors can use trademark to inform consumers the quality of their products. People outside markets can appraise a product by use of the trademark to refer to it. And whether a use is referential use should be analyzed case by case. When use of a trademark without distorting its information, this use is believed to be referential use. This article has introduced the characteristics of public goods and its static and dynamic dilemma in part II. From static point of view, trademark should be free to access. From dynamic point of view, trademark owner should be entitled with some excludabilities to charge a positive price, so that producers can have enough incentive to produce trademark.

Professor Barnes who pointed out that trademark has the characteristics of public goods, asserted trademark also faces the static and dynamic dilemma [23]. However, trademark is a kind of unique public good [25]. This article argues that, under the condition of referential use, trademark owners should be entitled with no protection in order to promote dynamic efficiency. Because the trademark only needs to achieve static efficiency. Reasons are as followed. First, the reason behind pursuing dynamic efficiency in copyright and patent is that our society need more information in question to be produced. More trademark may not improve our social welfare [4]. We desire brilliant minds to create more intellectual information because it can shape a culture-flourishing society. And this society can provide individuals with a wide array of information of profound thoughts and innovative ideas which can help people to shape their self-determination and self-expression [34]. Trademark does contain information, but this information does not inspire us to live a good life.

Second, even though we do need incentive to create trademark, entitlements to exclusive rights do not guarantee more incentive. A competitive market can allocate resources efficiently by allowing competitors to enter a market freely (to entry with a low cost). And it is important to make consumers be aware of the existence of new entrant who provides alternatives to existing products. New competitor needs to adopt a sign to differentiate their products from that of existing players in the market. Thus, trademark is created to tell consumers that products under the trademark are from a new competitor [17]. We have incentive to create trademark, because companies desire to enter a market which can make them profit from selling products. Granting an exclusive right to referential use may enable producers to profit from selling trademark's information, but that will not offer more incentive.

Third, copyright and patent help creators to recoup their production costs by excluding people from using their goods or technology without compensation. But companies can profit from trademark without any entitlements to restrict referential use. The "full price" of a product is consist of its monetary price plus consumers search costs [14]. Search costs are measured by the time the consumers have to spend on obtaining the information about the attributions and qualities of products. Trademark is a shortcut to find satisfying products for consumers. So, the

search costs of consumers are lowered by trademark, and the “full price” consumers are willing to pay will not change. That enables trademark sellers to sell the product at a higher money price. And this is how the sellers profit from trademark, by consumers access to goods. There is possibility that trademark owners can license competitors or unrelated users to use trademark. And this can make them realize more profit. On the one hand, trademark owners are highly unlikely to license their competitors to use the trademark. On the other hand, licensing to unrelated users could cause inefficiency of resource allocation. Because those users will pay a premium to trademark owners. And trademark owners would use the resources from unrelated users to compete with other sellers who do not get extra profits outside the market [17]. Thus, these extra profits enable trademark owners to sell their products at price lower than marginal cost. The sellers without licensing subsidies will be driven out of the market because they cannot afford selling the product at such competitive price. Eventually, this unusual low price would result in an inefficient allocation of resources [29].

Referential use of a trademark does not change the information of trademark. And many referential users are actually positive users who will create more information without confusing the public. Granting protections to referential use does not generate any social benefits because it gives no incentive to create more trademark. But the costs of granting protections regardless of harm to information are not negligible. For example, deadweight loss, increasing transaction costs, and possibilities of inefficiency of allocation of resources can make the costs to society outweigh the benefits. So, entitlements to referential use are not desirable on a cost-benefit basis.

### *3.2.3. Find the Justification for Dilution*

#### 3.2.3.1. Dilution, A Congesting Use

The most complicate part of impure public goods is the congesting use. The trademark is congestible good with respect to congesting use. Congestion will only occur when the number of users or the intensity of use reaches certain limit and the detrimental effects of these uses are cumulative and cataclysmic. Until that point, congesting users are actually “referentially using” the trademark because they do not impose any costs on each other. Although, these seemingly “referential use” would likely result in a congestion. And here argues that dilution is such a congested use.

The dilution is defined as the gradual lessening of distinctiveness and the weakening of associations of a famous trademark by being used in a non-competitive trade. And confusion is absent because the negative effect is that the consumers of famous mark will call to another’s mark after seeing it used in an unrelated trade. Dilution gives us a sense that it is (1) a dynamic process and (2) is not fatal to

trademark’s information, because there is not confusion. (3) And there are also many cases where the dilutive effects do not exist when the trademark is proprietarily used by non-competitive users [35]. From that, dilution tailors very well with the model of congestible goods [23]. However, the concept of dilution still needs to be clarified.

First, it is important to realize that whether congesting use will affect the utility of congestible goods highly depends on given situation. Several factors need to be considered, for example, the capacity of the goods, the intensity of congesting use and the number of users. Thus, those three conclusions only establish a general framework for dilution, and analysis must be performed case by case. In reality, there are cases where only one user can make the mark diluted [36]. It will not be so surprising if we take the intensity into account, because the hidden assumption about dilution is that the effects produced by single non-competitive user is negligible but will be dramatic once there are many users. Just like the hypothetical lake, one giant ship can make the lake congested and all the fellow boats have to travel slower.

Second, dilution as a gradual process only explains how dilution occurs. The word “dilution” in different situation has different meaning. Traditional concept of dilution goes that dilution is the gradual whittling away of trademark’s distinctiveness by being adopted by non-competitive user who will create new associations and dilute the original association. Some scholar found protections to dilution undesirable because in many cases, a famous trademark being used by non-competitors is unlikely to interfere the trademark [35]. And there are scholars using trespass to property theories or misappropriation theories to justify dilution, suggesting that only the creators have the exclusive right to benefit from “what they have sown.” These comments put the emphasis on the whole process of dilution. In dilution cases, the trademark is congestible good. Thus, there is a “referential/congestion dichotomy” in the process of dilution. Before a certain point, the trademark is used “referentially” at which users will not impose any costs on each other. Only after the number of users or the intensity of use reaches a critical threshold, can trademark’s information be impacted. Just like the cars travelling on the highway, only when there are certain number of cars in rush hour, can they congest each other. And only after the highway is congested (trademark is diluted), the time for commuting will be longer (time for consumers to validate accurate information in mind will be longer). Based on the management for referential use we have discussed, in the “referential phase”, not grating exclusive right to trademark owners makes more sense. In the context of justification for dilution, dilution is a static concept. If we want to find whether granting this exclusive right to trademark owners is desirable, we need to measure the benefits to the society of preventing dilutive use against the costs. We discuss the justification for prohibiting source origin infringement under the circumstances where the information is destroyed and we ignore the occasions where there is no confusion. There is no reason not to do so in dilution cases.

### 3.2.3.2. Measuring Benefits Against Costs

Here we argue that the key to find the justifications for dilution is the congestion. The “referential phase” before congestion has its own significance, but the justification for dilution lies in the “congestion phase”. However, congestion itself cannot support the exclusive right to preventing dilution. A measurement must be made by comparing the benefits of eliminating the negative effects of dilution with the costs of granting such exclusive right. The reasons of focusing on the congestion are as follow.

First, the congestion effects exist not only in theory but in reality. The information function of a diluted mark is distorted because public will associate the mark with more than one companies. And when they see the mark, they need to spend more time on considering the context to associate the brand with source correctly. Many surveys were carried out to support the existence of distortion to the information under the circumstances of dilution. For example, there was an experiment shown the lessening of association. Respondents were divided into two groups. Group A (diluted group) was shown the advertisement for Big Red strawberry snack bars. Group B (control group) was shown the advertisement for Nutri-Grain strawberry snack bars. Then they were asked to do a “simulated shopping experience” which asked them to choose a chewing gum with long-lasting cinnamon flavor among different brands. It turns out that, while 60% of respondents in Group B chose the Big Red, there were only 15% in Group A [37]. This experiment showed that the diluted mark was less likely to be recalled in public’s mind. This distortion of information can be described as “additional cognitive effort to parse out” which trademark should be recalled under the current circumstances [38]. In economics, this extra effort is the increasing in search costs [4]. In public good theory, the delay of reaction is the congestion. And the congestion is the key to dilution

Second, the regulatory approach for other congestible goods also directs toward controlling the “congestion phase”. Trademark is not the only congestible good, and regulating congestion is more common for environmental issues. Take regulating a lake as an example. In reality, much more complicated than our hypothetical lake, not only cargo ships need to be controlled, but fishing, boating and swimming in the lake may also need to be regulated to prevent congestion. Although the real situation is complicated, we can all agree that the bottom line is to control the negative effects of uses to a sustainable level: “This approach [in the environmental area] limits consumption to sustainable levels (at least in theory with the appropriate information), while simultaneously preserving an open access regime for other uses” [19]. It is safe to state that the most sustainable level is the level of no congestion. Before congestion occurs, there is no room for a congestible good to be less sustainable. Thus, if we want to find the sustainable level of congesting uses for a lake, we will focus on the situation where the congestion has happened. Similarly, if we want to find whether preventing congestion in trademark is

justifiable, we only need to consider the situation where the mark is already diluted. Based on this existing diluted mark, we can then measure the benefits and costs to society of granting exclusive rights to find the justification.

Finally, economists also drew a conclusion about the management for goods with limited capacity with respect to some users. That is an appropriate price should be charged when the user imposes costs on others as a consequence of congestion. And the price depends on the costs incurred by this user [23]- [39]. Under the circumstances of congesting use of trademark, if the imposing costs on others incurred by the additional user outweigh the benefits he can derive, he will not pay for this congestion. Dilution is the congestion, and the trademark owners are unlikely to grant a premium to such user just because he pays for that. And this user probably cannot afford it, because not only the congestion effects occurring dynamically but also will last dramatically. Thus, when such congestion occurs the law should prevent this congesting user from exploiting it. That is why preventing dilution is justifiable.

#### *Benefits*

First and foremost, the benefits of eliminating congestion are cumulative. In psychological perspective, more mental effort is required to identify a diluted trademark. That means consumers have to spend more time on searching for the goods they satisfy with. However, the increase in time to retrieve seems to be trivial, even when we taking into account the number of consumers. Traditional harm-based theories and psychological theories are not able to solve the problem. They did not take one step further and the justifications for dilution were found sorely based on the ground of the harm. Preventing dilution just because there is harm is questionable because the harm seems so trivial. An experiment has shown that the respondents who saw the advertisement for Heineken popcorn will only spend 125 milliseconds (a little more than a tenth of a second) more on recalling whether or not Heineken is a beer than other respondents that saw an ad unrelated to Heineken [40]. If there are 100 thousand consumers are interfered by this congestion. The total extra time will be added up to only about 27 hours, a little more than one day. The costs are not startled. However, the congestion effects are dynamic. Imagine a permanently congested highway, any car travels on the highway suffers the costs of congestion (a longer time for commuting). Or if there is a giant car parking in the end of the highway so that all the subsequent cars travelling through that road have to spend “an extra 125 milliseconds”. The highway will not be displaced just because each car travels through it needs to spend more time than before. There are always people willing to spend an extra time because the highway is essentially still a shortcut (just like the trademark is a shortcut for recognizing products). However, the time wasted will never come back. And the 27 hours will be double or treble or even tenfold as long as the congestion exists. The congestion theory takes the time dimension in to account. The negative effects which also are the benefits can be derived from preventing congestion are considerable as time pass by. And the

implications of reduction in search time is the consumers surplus for goods will increase while more consumers are able to enter the market. Back to the “full price” model, the full price of a good equals to the money price plus consumer’s search costs. The value consumers attached to a good always exceeds or equals to the full price. When the value is higher than the full price, the extra part is the consumer surplus, which is a net gain for society. Only when the value is equal to the full price, consumers will purchase from the goods sellers. Assuming the money price is fixed, the increase of search costs will increase the full price. Some of the consumers will be barred from the market [38]. And some of the consumers’ surplus will also decrease. If we add up the loss for each individual, the outcome would be considerable. This is how society can benefit from preventing congestion in form of economics and these benefits are also accumulated by time.

Second, trademark owners will have more incentive to maintain the good qualities for their products. Although we do not think trademark need incentive to be created, but the good qualities of products need incentive to be maintained [14]. Trademark is valuable as identifier because the products under the same mark have the consistent quality, and the consumers can rely on this to reduce their search time. Producers have the incentive to maintain or improve the qualities of their products because these good qualities will be associated with the brand and these positive associations to brands can improve the brands’ selling power which will help producer to make profits. This increase of profits is not only increase of private fortune. Because when the qualities of goods are maintained or improved and the brand’s selling power is stronger, consumers can buy a better product at a lower full price (because of lower search costs). Although the qualities of goods remained the same, consumers are unconsciously less likely to associate these good qualities with the goods and their producers. Inhibiting dilution can benefit the society by giving more incentive to producers.

#### *Costs*

Frist, the most well-known critique is that protecting trademark from diluting will create barrier to the entry into a market. It is a very important feature for competitive market where potential competitors can join freely..

Free entry into a market puts the existing producers under pressure that they have to produce and sell goods at a high quality and a reasonable price, lest potential competitors perceive that they can produce better and sell lower. Information plays a paramount role in market entry [41]. For the demand side, consumers need the information to inform them that there is a new entrant so that they can compare the new products with the existing products and make their purchase decision. There are two kinds of information that helps consumers to make a purchase decision. First, they need to be aware of new entrant. And this information can be delivered by advertisements [17]. Second, they need to be able to differentiate the new products with other existing products. They can get this information by identifying the differentiated trademark. Advertising activities are

permissible as long as they are not deceiving and confusing [42]. And products differentiation is the essential function and the prerequisite to obtain legal protection for trademark [14]. For the supply side, companies need to provide this information with a relatively low costs, or they will not be able to compete with others. Because when they have high costs of entry, they must sell their goods at a price higher than the marginal costs. And high costs of entry will make new entrant suffer disadvantages. But the costs of entry are decided by the availability of product identifiers that a firm can use. That is the reason why a generic word and a functional feature cannot be trademarked. Because confining protection to these features will dramatically increase the costs for new entrant. It is hard to find something alternative. But dilution does not increase such costs. Since these diluted trademarks are used in an unrelated trade, the users can still find dozens of trademarks that are famous, attractive and using some of them will not cause dilutive effects. And the vocabularies eligible for trademark will not decrease either. Then it will not be harder to enter a market due to dilution effect.

Second, the costs of abandoning the mark are low. Since the congesting users have already adopted the marks and they have invested some fortune into that marks. Prohibiting them from using the marks will cause this investment wasted. But this part of social costs is relatively low. The diluted trademarks in question are famous, and the users are intended to use these marks to promote their sells. Instead of investing directly in creating a new mark and its information, they can utilize trademarks’ impressive information function. The case in which the second seller incurs costs to conceive an arbitrary and fanciful mark and to create its own impressive information is fundamentally different from the case at which the second seller adopts other’s mark and use the existing impressive information. Although the bad faith is not a sine qua non for dilution, it reflects the costs invested by second seller in creating a mark are low.

Finally, and most importantly, preventing dilution will impose costs for consumers. Consumers need to spend time on getting aware of a new mark. Because prohibiting dilution will incur costs for consumers to process new information again, and the information with which consumers are familiar will be unusable. Although it will be easy for the second seller to adopt a new mark, consumers will still need to spend time and effort to learn it [14]. And more complicated is the more the trademark is diluted, the higher the costs for consumers to be familiar with a new mark. This part of costs seems to intertwist with the benefits of preventing dilution. When there are more consumers aware of the latter user’s existence, preventing this congestion will generate more benefits. As a consequence of more consumers being aware of the latter user, the costs for those consumers to abandon that mark and to learn a new mark are also higher. However, we believe that the dilution is still justifiable because these abandoning costs are short-term. The benefits deriving from eliminating congestion are rather long term. The benefits’ positive

correlation to the abandoning costs does not mean they will be equal. The benefits will be added up as time goes on, but the abandoning costs are more like “birth pangs”.

#### 4. CONCLUSION

Whether or not to protect trademark from dilution has always been controversial. And many theories have been proposed to find the justifications for preventing dilution, but each of them is imperfect. The baseline of granting exclusive rights is to make the society better off. Granting exclusive rights to public goods like information need to strike a balance between static efficiency and dynamic efficiency. Trademarks are impure public goods. Proprietary use should be prohibited. Referential use should be allowed, and if congesting use of a trademark incurs congestion, that use should be prohibited as well.

The availability of the information of trademark can be congested only when the number of users or intensity of use reaches a certain limit. Then, trademark dilution can be divided into two phases, “referential phase” and “congestion phase”. Property theories and misappropriation theories focus on the whole process of dilution to illustrate the justifications for preventing dilution. However, public good theory shows that the justification can only be found under the circumstances where trademark is congested, i.e. the second phase. And preventing others from using a trademark in “referential phase” can produce undesirable outcomes to the society. Harm-based theories find that trademark can be harmed when there is no confusion. And psychological theories provide supportive evidence that consumers need to spend more time on retrieving a diluted mark. However, it is not convincing enough to protect trademark from dilution solely based on the existence of harm. Because these theories have failed to show the benefits of eliminating that harm are costly to the society. In public good theory, the effects of congestion are dynamic and can be cumulated as time pass by. But the costs of preventing dilution are either nominal nor static. Under the guide line of making the society better off, the public good theory provides a more solid basis for preventing dilution. More than that, public good theory argues that source origin confusion is essentially different from dilution. Because the damaging effects of proprietary use are different from the congestion effects of congesting use. Dilution does not lie in the middle of the path to source origin confusion. Different form of evidence should be provided to prove different forms of harm. However, the factors to determine dilution and confusion are highly similar [43]. In public good theory, courts should focus more on the harm incurred by dilution and require a proof that is able to show the congestion effects.

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