

Debiasing a nonexistent endowment effect through law: the case of patent compulsory licensing in Chile

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Introduction

Behavioral economics is all over the place. It has empirically questioned several underpinnings of neoclassical economics by, for instance, proving that in certain contexts agents in the market are subject to cognitive biases or heuristics that affect their alleged mainstream rational decision making process. This finding discloses that under certain circumstances human behavior is predictably irrational or misbehaving (Thaler, 2015), showing preference for suboptimal alternatives.

This discovery poses huge challenges for law and policy making when it comes to the assignment of intellectual property rights to agents in the market that are not exempt of falling prey of these irrational deviations. A great deal of academic attention has been drawn to this matter (Sunstein et al., 2005, Ofer, 2011, Buccafusco et al, 2010, Korobkin, 2014, among others).

Due to the international harmonization of intellectual property rights most countries have already adopted patent legal systems that seek to promote innovation and dynamic efficiency, but also strike a balance (ensure more allocative efficiency) when it comes to the production and access of certain goods that are essential for public health like pharmaceuticals. In this sense many governments have set exceptions to property

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rules that govern patents, like compulsory licenses for instance. These institutional arrangements enable someone else than the patent holder to produce the patented pharmaceutical good or process without the consent of the patent owner based on strict conditions (national emergencies, public health and other cases) aimed at maximizing wellbeing but also the legitimate interests of the patent holder.

According to Buccafusco et al. (2010) a problematic behavioral bias in this regard is the endowment effect that in patent markets generates inefficiencies because owners of these rights are prone in certain circumstances to value them more highly than other that hold no intellectual property stake over the same. This behavior creates an inefficient gap in the market between the willingness to accept of the patent holder and the willingness to pay of the potential buyer, by increasing transactional costs. Hence it also questions, under certain conditions, the validity of the Coase theorem to solve privately the problem of positive externalities, and can provide grounds for recommending a shift to move from property rules toward liability rules held in compulsory licenses legal schemes.

Article 51 c) of Chile's Industrial Property Law N° 19.039 allows compulsory licenses over a registered patent when the same will be used for the working of a new patent that cannot be exploited without infringing upon the prior registered patent.

From this backdrop this article argues that the compulsory license regulated by Article 51 c) of Chile's Industrial Property Law N° 19.039, in connection to patented pharmaceutical goods could be viewed as a case of debiasing through law (Sunstein op. cit.), that seeks to offset the inefficiencies created by the endowment effect on owners of patents, but disregards the fact that pharmaceutical patents are introduced and handled in the marketplace by corporate managers that make decisions from business contexts as agents of companies that exempts them from the problem of this cognitive bias.

In order to sustain this argument, firstly I present a short economic rationale for patent protection based on classical economic theory and the rationale for patent compulsory licenses. Secondly the endowment effect is described in an effort to link this cognitive bias to patent owners and show how this short cut or heuristic can provide

grounds to justify a move from a patent legal system that adopts property rules and patent liability rules to one that only adopts liability rules. Thirdly I refer to article 51 c) of Chile's Industrial Property Law N° 19.039, in order to conclude that this provision's regulatory design can be described as a effort to debias the endowment effect through law that is however unnecessary when it comes to patented pharmaceutical products.

The economic rationale of intellectual property (patents)

Intellectual Property encompasses a broad scope of rights that are clustered in a legal institution which intends to stimulate innovation and creation by offering the prospect of a monetary reward that allows a titleholder to recover investments in research and development (R&D) and possibly make a profit, as well as, exclusive rights governed by property rules that prevent third parties from making commercial use of the knowledge without authorization (Correa, 2003). Hence patent titleholders benefit from a dual advantage, they are not only entitled to own and sell their innovations and creations, but also to control their use after the first sale, creating an intellectual monopoly not only over the product or process, but also over the manner in which they are commercialized after being incorporating into the free circulation of goods in the market.

Furthermore, intellectual property protection is inherently the result of a trade-off between incentives for innovation and creative endeavour (dynamic efficiency), on the one hand, and both economic efficiency and distribution of income, on the other. Intellectual property favors the former at the expense of the latter, and a sound patent policy would strike a balance between these opposing objectives².

In the pharmaceutical industry patents play a key role because the investment (private, fixed and variable costs – opportunity costs) in research and development to come up with a new pharmaceutical drug that is safe and effective in curing a disease is higher than its potential collective benefit and thus patents enable titleholders to recover

² According Correa (2003) this balance should be clear to the extent that “A basic policy question is how to reconcile providing short-term benefits to consumers (static efficiency) with the need to ensure that long-term benefits are obtained as a result of innovation (dynamic efficiency)”.

their costs of creation by a reward system (liability rules). The rationale in this condition can be found in the difficulty that patent producers may encounter in trying to recover their fixed costs of R&D, when the product or process that embodies the new invention is readily copiable in the marketplace (Posner, 2005).

Patents are also claimed to be effective at the i) promotion and disclosure of technology innovation, ii) the transfer and dissemination of technology to the mutual advantage of producers and users of technological knowledge in a manner conducive to social and economic welfare, and promote foreign direct investment. If countries protect innovations by granting patents, this would make them more attractive for foreign investors that hold IPR abroad (Gorasia, 2002). The latter would increase direct foreign investment, which would stem from countries where new patented technologies are originated. However, foreign investment through this avenue is usually only delivered when patents are granted based on the condition that the owner will actually use or exploit the scope of the invention in the country that issued the patent ownership title.

The OECD (2004) has stressed on the fact that *“patent protection may also hamper innovation, especially when it limits access to essential knowledge, as may be the case in emerging technological areas when innovation has a marked cumulative character and patents protect foundational inventions. In this context, too broad a protection on basic inventions can discourage follow-on inventors if the holder of a patent for an essential technology refuses access to others under reasonable conditions...In addition, as has long been recognized, the main drawback of patents is their negative effect on diffusion and competition...Nevertheless, patents can also have a positive impact on competition when they enhance market entry and firm creation”*. Moreover, strong patents could inhibit domestic innovation by restricting the scope for creative imitation and reverse engineering (both crucial in the initial stages of economic growth within the development proposition) in countries that cannot afford the cost that successful R&D demands.

The Economist’s survey of patents and technology (2005) acknowledges that one of the benefits of the patent system lies in that it improves business efficiency because of

its economic specialization. It creates a market of transferable assets (a technology market), where inventor and business man can meet, in order to share expertise and make a profit and mutually benefit for each other's efforts. Hence the patent market provides a fertile context in which to analyse the rationality applied by patent titleholders when they offer their protected goods.

The endowment effect: biasing patent titleholders?

Traditional neoclassic economics assumes that regardless of the initial allocation of property rights, provided that transactional rights are zero, this first distribution of those rights will not affect that final one, because the agents in the market will negotiate until the good will end up in the hands of the party that values it the most (Coase, 1960).

This assumption has been questioned by behavioural economics that reveals why human beings have bounded rationality, bounded self-interest and bounded willpower (Jolls et al. 1998) and therefore are predictably irrational or misbehaving (Thaler, 2015, Ariely, 2008). Numerous experiments have rendered evidence in the sense that people are prone to understand probability wrongly, act altruistically and lack enough willpower to avoid opting for activities that will provide an immediate pleasure but will be detrimental in the future, such as spending now rather than saving, consuming deserts instead of salad, or going to the movies instead of the gym.

Several cognitive biases that affect the human decision making process have been discovered by experimentation. As mentioned earlier Buccafusco & Spingman's findings (2010) show that one of these biases -the "endowment effect"- disrupts the correspondence between the willing of creators of patents or their owners to accept giving up their IP-related goods and the price buyers would be open to pay. These findings also reveal that the endowment effect may decrease the rate of intellectual property related transactions that actually occur, which in this regard appears to be suboptimal because less mutually beneficial transactions are actually confirmed. Undermining this discrepancy could entail an unreflective application of the Coase theorem to all kinds of property.

From patent property rules to only patent liability rules: a good shift?

In order to protect property, governments can resort to property rules or liability rules, or both together. By opting for property rules the law grants the patent holder for a given term the right to exclude others from the good or process by enforcing their rights with a civil or criminal action or setting the price of access to the good or process privately. They can also opt for liability rules that enable others to have access to the patented product or process provided that some form of payments is made to the owner of the patent for the damages suffered. (Kaplow & Shavell, 1996)

Property rules are especially important when it comes to private goods that are rival and excludable, whereas liability rules are more relevant when harmful externalities regulated by tort law appear. In the latter cases a legislature, agency or court will take the place of the market to determine the price of access. In the case of patents it essential to understand that the protection they provide is mainly related to information that resembles a public good in the sense that the same is not rival and difficult to exclude. (Buccafusco & Spingman, 2010)

So accordingly patent titleholders count on property rules to exclude potential infringers who free ride on their invention or grant them the option to negotiate a price to access the patented good. Differently liability rules bring in a neutral third person to the equation that will determine the price of access in relation to the harm generated to the patent titleholder. Consequently patent law inherently bears a presumption that private negotiations are efficient most of the time.

However experimentation in connection to the endowment effect renders evidence in the sense that the discrepancy between the wiliness to accept and the wiliness to pay comes with high transactional costs that hinders the ability of private negotiations to provide the optimal solution for the marketization of patent protected goods that are non-rival, so that those who value them the most are actually able to access them. This practical verification provides evidence in favour of a patent regulation move from a property rules to

liability rules that could be more optimal and provide a solution to overcome the cognitive biases than come with the endowment effect.

Compulsory licenses: a legal debiasing mechanism?

According to Correa (2003) "...compulsory license is an authorization that a national authority gives a person to exploit—without the consent of the titleholder—information protected by a patent or other intellectual property rights". They have been historically based on lack or insufficient working of a patented invention, public interest, government use, and anticompetitive behaviour.

Chile regulates compulsory licenses in article 51 of Law N°19039. They are defined as the authorization granted by the legal authority to a third party to use an invention without or against the will of the titleholder in connection with to three cases.

The first case can be granted if the titleholder uses or exploits the patent breaching competition law. This breach must be declared by the Antitrust Court of Chile. The second case can be accepted on grounds of public health, national security, non commercial public use or other emergencies that are declared by an authorized governmental body. The third case is established in Article 51 c) that allows compulsory licenses over a registered patent when the same will be used for the working of a new patent that cannot be exploited without infringing upon the prior registered patent. The new patent must entail a technical advancement of economic significance in regards to the prior patent. The compulsory license to work the prior registered patent can only be assigned with the new patent. The owner of the prior registered patent, under the same circumstances, may obtain a compulsory license under reasonable conditions to work the claimed invention in the new patent. In order to be granted a compulsory license in the third case the petitioner must file an action before a civil court and prove that they contacted the patent owner to ensure a license agreement and that the same was not able to be closed within reasonable conditions and deadlines.

Provision 51 c) enables a judicial decision to transform the patentee's right to exclude into a right to receive remuneration. Chile's compulsory license scheme basically moves the patent protection from property rules (ex ante) to liability rules (ex post). However in the case of article 51 c) the no voluntary licenses can only be assigned together with the new registered patent that must involve a technical advancement of economic significance in regards to the prior patent. Hence the possibility of negotiating an agreement in connection with the new patent will necessarily entail that the same actually meets the standard of technical advancement of economic significance, as well as always must be used or worked together with the compulsory license. Likewise the owner of the prior registered patent can also obtain a no voluntary license under reasonable conditions to work the invention claimed in the new patent.

The description of Chile's compulsory licenses regulation shows a clear legal intent to lower the willingness to accept from patent owners to the level of the willingness to pay of non patent titleholders, which involves according to Sunstein & Jolls (2004) a case debiasing through substantive law that clearly seeks to lessen the ownership factor in patents to effectively rule out the endowment effect.

Pharmaceutical patents, multinationals and agency

Pharmaceutical patents are mostly owned by multinational companies because they are assigned to them by inventors who are usually their employees or contractors. These pharmaceutical goods are transacted by corporate managers that do not exhibit the endowment effect because they act in a business decision making context and not in their individual capacity. Therefore when acting as agents of a principal (of a corporation) the willingness to accept a price for a patented good does not need to be lowered to meet the level of willingness to pay for it. (Arlen et al., 2002, cited in Sunstein & Jolls 2004).

It seems likely then to conclude that if most of patented goods are negotiated in the pharmaceutical market by company agents that are not their creators or inventors, they do not fall prey of endowment effect, so than the option of moving from property

rules to liability rules, as happens in Chile, does not unavoidably entail an ex post optimal solution.

Apparently there is still plenty of room in Chile for the Coase theorem when it comes to property rules and pharmaceutical patents that are handled by corporate managers who are governed by employment contracts or default agency laws that act as effective debiasing mechanisms against the ownership and endowment effect.

Final remarks

Bearing in mind that most innovative pharmaceutical goods are subject to a patent that is put in the market by an agent that is not impaired by the endowment effect, and that there agency relation with a multinational corporation is both regulated by an employment contract and by labor laws, I conclude that when it comes to patented pharmaceutical goods the option of moving from property rules to liability rules, as in the case of Chile, is actually no justified from a behavioral economic perspective, and thus compulsory licensing for these kind of products are not necessary because the endowment effect is not present in the decision making process of the key market agents from pharmaceutical multinationals. This may be the reason why up to now only one compulsory license petition has been filed in Chile.

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