

Exploring the Utility of Utility Models for Fostering Innovation

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A patent right provides the first and foremost form of protection for inventions. Patent regimes exist in almost every country. Despite convergence specially pushed through TRIPS, there are still important differences between these regimes. Lesser forms of patent protection for inventions, namely, utility models or short term or petty patents, constitute one of these fundamental differences. This article examines the pros and cons of these systems and comes up with the argument that such rights are necessary to foster innovation in a capitalist economy. The article further asserts that such utility models may serve to remedy the shortcomings of the patent system, provided that they are enforced within a legal structure conducive to innovation, i.e. complemented with certain restrictions envisaged in the relevant intellectual property legislation and conditioned by effective enforcement of antitrust laws.

Keywords: Utility models, innovation, patents, compulsory licences, antitrust

Utility model protection co-exists with the patent system in most countries, albeit under different names and in varying formats. This article examines the role of such lesser protection mechanisms and asserts that they constitute an essential component of a legal system designed to promote sustainable innovation in a country with a capitalist economy, be it developed or not. This argument is based on the premise that the functioning of such an economy depends on appropriability. Thus, it is essential to provide legal protection amounting to a property right to all innovations in order to secure sustainable innovation. Nevertheless, these rights should be devised in a certain fashion to serve their purpose. The threat of stifling further innovation that may arise from excessive protection should be duly addressed through effective enforcement of compulsory licensing and antitrust rules. On the other hand, the co-existence of these utility models together with patents may also provide the opportunity to correctly identify the problems plaguing the patent system and to reform that system accordingly.

The paper first explains the common main features of the lesser forms of patent protection followed by policy rationales for adopting such rights *vis-a-vis* the risks associated. Subsequently, two core arguments for establishing these rights are unfolded; that they are vital for sustainable innovation in a market economy,

and that they may help to identify and remedy the main problems associated with the patent system. Finally, the essential features of these rights are determined, followed by the conclusion.

Main Features of Utility Model Systems

Today, lesser forms of patent protection systems exist under various names in different parts of the world.¹ These are basically national systems, albeit with the limited possibility of having recourse to international patent protection mechanisms.² They are referred to under different names (i.e. utility models, utility certificates, petty-or *petite*- patents, short-term patents, innovation patents) with certain features of the rights differing from each other. The common elements are, however, their shorter term of protection and the relatively enhanced accessibility of these systems *vis-a-vis* patent protection. For practical purposes, these rights shall be referred to as 'utility models' in the article. Their main features may be analysed under four headings, namely, protectable subject matter, conditions for protection, application procedure and scope of protection.

Although, the subject matter of utility models corresponds roughly to that of patents, in some countries, processes and chemical substances are excluded from the scope of protection.³ Yet in others like Germany, Italy and China, only processes are barred. Finally, in some legal systems (e.g. in Austria and Australia), there exist no further restrictions than there are for patents.

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In most legal systems, the non-obviousness or inventive step requirement is either waived or diluted for utility models.⁴ Moreover, the novelty condition is not always envisaged as in patent legislation. The only requirement that would completely overlap with that of patents is industrial applicability or utility.

The application procedure is simpler and cheaper compared to patents. In most countries, there is only a procedural preliminary examination and no further substantive examination. The application and maintenance/renewal fees are considerably less than patent fees.

In some countries like Australia⁵ and South Korea, utility models do not provide immediate protection against infringement; the right holder is required to have a substantive examination conducted before he can initiate infringement proceedings. In other countries, however, utility models, once granted, ensure a level of protection equal to that of patents.⁶

The above brief review reveals that generally, utility models may be acquired more easily than patents, but their scope of protection may be more limited. Countries prefer to adopt such rights for various reasons, in spite of the threats they pose. Both the reasons and the risks involved are explored in the following section.

Pros and Cons of Adopting Utility Model Rights

Countries may envisage adoption of utility models for various reasons:

- (i) To contribute to the creation and fostering of domestic technology base and familiarizing the local industry with intellectual property rights. Application would be facilitated through a simplified and cheap granting procedure characterized by low fees, easy application and quick registration. It is more likely that such issues would be more of a concern for developing countries.
- (ii) To support policies intended to strengthen the position of Small and Medium-sized Enterprises (SMEs).⁴ Concern about SMEs would not necessarily be confined to developing countries, but could be on the agenda of the developed countries as well.⁸
- (iii) To promote research in the form of simple, but practical and useful solutions. Here, countries, irrespective of their level of development, may adopt such rules. By providing for a clearly-defined intellectual property right rather than lesser means of protection,⁹ a country signals to

innovators that their technical achievements shall be adequately guarded against free-riders. Moreover, existence of such rights may serve as a means to create a more competitive intellectual property climate by expanding the spectrum of rights available to potential applicants.¹⁰

- (iv) To expand the archive of knowledge to potential innovators through disclosure and to enhance the diffusion of such legally protected innovations.
- (v) To channel follow-on innovation to certain sectors. This may be achieved by restricting or widening the scope of protectable subject matter. At present, some countries do not provide utility models protection to chemical substances and processes, thus directing such incremental innovation to other areas of technology and to the development of new products rather than processes. Such restrictions do not apply in other countries and even where they do, they may be interpreted narrowly by patent authorities or courts that may adopt a policy of encouraging certain types of innovations.¹¹

More generally, such novel approaches may lead to other creative uses of utility models protection, proliferating their functions. For example, these rights may be tailored to provide protection for certain innovations which do not possess such an 'inventive' nature. By not requiring an inventive step, utility models may meet the demands of innovators who encounter problems with this somewhat vague and inherently subjective component of the patent system. In that respect, utility models may be quite well-suited to protect innovations especially in the biotechnology and pharmaceutical industry, achieved through skilled labour and investment-intensive foreseeable research. At the same time, utility models may match the legal protection requirements of innovators in industries such as semiconductors, computers and software, providing for a cheaper alternative with a shorter term of protection than that of the patent right.

Finally, by adopting utility model rights as an alternative to patents, countries may prefer to ease the burden on the patent authorities that conduct the examination procedure¹² and enable applicants to save money and time.

In spite of these potential advantages, the risks associated with the relatively lax granting procedure should not be underestimated. Through such rights, a monopoly as wide as that of patents would be conferred upon the rightholder and there is good

reason to believe that the system could be more prone to abuse than patents. Nevertheless, it should be borne in mind that these rights are unable to confer market power to the rightholders *per se*.¹³ The actual market power these rights may generate depends on a number of factors such as their original appeal to markets' needs and the competitive strength of the enterprise exploiting the rights.

On the other hand, it may also be claimed that large market players could abuse the system especially to the detriment of SMEs.¹⁴ Nevertheless, as stated above, it is not the mere adoption of these rights that could give rise to this undesired consequence, but their improper enforcement. In any case, as is valid for patents, these rights are –or should ideally be– restricted by other rules that would prevent their abuse; e.g., rules on compulsory licensing and antitrust.

It could also be argued that an overly attractive utility model regime offering the same protection as patents would lure potential innovators towards incremental innovations and deter research leading to major breakthroughs. Empirical evidence supporting such a view is however, not available. In any case, it is an obvious fact that innovators do not necessarily achieve major breakthroughs by always starting out with such a goal in mind, and such achievements are not always inspired by the prospect of patent protection.

There also exists an argument against such rights that they do not provide extra incentive to 'low-cost' innovations anyway.¹⁵ The basic shortcoming of this argument is that innovations likely to benefit from utility models are confined to those that are 'low-cost', a feature that should not necessarily be associated with the subject matter of such rights.

Utility Models: Indispensable for Sustainable Innovation in a Free Market Economy

In spite of the potential risks, utility model rights are essential to provide legal protection to a wider range of innovations. On the requirements of the innovation process, Herbert Hovenkamp asserts that 'by common consensus, the two most important prerequisites for healthy innovation are a large public domain of ideas and protection for the incremental innovations that continuously enrich our stock.'¹⁶

First and foremost, utility models fill the gap in providing legal armour to innovations that do not fall under the category of 'non-obvious', thereby providing them with intellectual property protection.

The adoption of these rights is necessary, irrespective of whether the country adopting such rights is economically developed or not, as long as it has –or desires to have– an innovative economy. Granting legal protection amounting to an intellectual property right for all innovations is objectively justified on the grounds of meeting the essential requirements of a market-driven economy.¹⁷ Such an economy depends on adopting and enforcing property rights. Unless such rights are envisaged, proper exploitation of the subject matter of these rights would not be possible and that would ultimately lead to market failure.¹⁸ If the market actors cannot own such subject matter, they cannot duly use that subject matter to compete in the markets. Such protection is also the key to competition in innovation.

Second, utility models would also contribute substantially to the emergence of technology markets by enabling the appropriation and valuation of legally protected innovations.¹⁹ The emergence of these markets heralds the beginning of an era where new technology is going to be more available both for exploitation and improvement. Such markets would constitute probably the most efficient cure against the possible ills of the monopoly granted by intellectual property rights on new technology, if, of course workable competition in those markets could also be safeguarded through competition rules. On the other hand, the possible internationalization of technology markets in the future could play a significant role in converging the different levels of technological development among countries.

If the necessity of providing legal protection for incremental innovations is one side of the coin, preserving a large public domain of ideas available for exploitation and further innovation is the other. To that end, the utility model system should incorporate certain restrictions on the absolute monopoly of the rightholder. Here, compulsory licensing provisions envisaged within the legislation on utility models would constitute the most important restriction.²⁰ Compulsory licensing rules relating to non-working are expected to ensure the quick exploitation and dissemination of innovations whereas those pertaining to dependent patents aim to secure the availability of existing technology for further innovations.²¹ The mere possibility of resorting to these rules by third parties would force rightholders to exploit and allow exploitation of their technology as efficiently as possible.²² The other restriction vital for the

promotion of innovation that should also be mentioned within the context of utility models legislation is the experimental use exception, enabling the free use of legally protected innovations for developing new ones.²³

Furthermore, outside the domain of intellectual property law, the system should be complemented by effectively enforced antitrust rules safeguarding competition in the markets. These rules should be enforced whenever there exists a threat against competition in the markets (not only in goods and services, but also in technology markets) related to the ownership of these rights.

Adopting Utility Model Rights as an Alternative to Patents

Can a utility model system specially designed to promote innovation constitute a viable alternative to the patent system? Before responding to this question, one should identify the shortcomings of the patent system in general, those regarding patentable subject matter, the nonobviousness requirement and the term of protection.

Redefining Protectable Subject Matter

First, it should be asserted that the goal of the patent system never was, nor should be to promote progress of science or of abstract bright ideas, but innovations, i.e. new techniques offering solutions to the problems of mankind.²⁴ Despite this fact however, existing patent legislation in general refers to 'invention' as patentable subject matter and it is extremely difficult, if not impossible to replace this conventional term.

The actual difficulty stems from the established dichotomy of 'patentable subject matter' and 'conditions for protection' for examination purposes. The authorities granting patent rights first examine whether the application relates to patentable subject matter or not and then examine the conditions for protection. Classifying protectable subject matter as patentable and non-patentable is unnecessary and contrary to the consistency of the system. The utility (or industrial applicability) of the subject matter should suffice to determine whether such matter is eligible for protection. Nevertheless, even if this dichotomy is preserved for the time being, it would be appropriate to address protectable subject matter as 'advance' and not as 'invention'. The combined term 'technical advance' would suffice to cover both the essential conditions for protection; 'advance' would denote novelty and its 'technical' nature, the industrial

applicability of the subject matter. Thus, not all advances, but advances providing technical solutions to problems would merit protection. Consequently, it would be accepted that such solutions involving the use of ideas and matters in nature –whether biological or not- could constitute protectable subject matter. Such an acceptance would in turn obviate the need to make hairsplitting distinctions between 'invention' and 'discovery'. In that respect, the irrelevance of objections raised against the legal protection of technical solutions involving the use of biological material would be more apparent. If there are health or ethical concerns against the exploitation of biological forms, these should be dealt with under other branches of law such as criminal law and health law, and not by the unsuitable means of intellectual property law. Thus, focusing on the technical nature of the protectable subject matter would put an end to the fruitless discussion of whether 'discoveries' may be regarded as inventions.

A utility model system embodying the wider concept of 'technical advances' may overcome the unduly restrictive 'invention' barrier. Utility models are more suited to accomplish such a mindshift because it lies in the nature of such rights that they are granted for practical solutions or in other words, innovations. The subject matter is characterized by this quality of utility, hence the term 'utility model' preferred to define the relevant right in most jurisdictions.

Challenging the Non-Obviousness Requirement

The problems associated with the non-obviousness condition, in practice, may perhaps be best illustrated by turning to the pharmaceutical sector. Roin explains as follows how this condition distorts the direction of innovations:

'The standards by which drugs are deemed unpatentable under the novelty and non-obviousness requirement bear little relationship to the social value of those drugs or the need for a patent to motivate their development. If the idea for a drug is not novel or is obvious, perhaps because it was disclosed in an earlier publication or made to look obvious by recent scientific advances, then it cannot be patented...This gap in the patent system for drugs has created a pervasive problem in the pharmaceutical industry, causing firms to regularly screen through their drugs in R&D and discard ones with weak patent protection. The potential harm to

the public from the loss of these drugs is likely significant.²⁵

As displayed in the pharmaceutical sector example, non-obviousness puts a straitjacket on innovators and investors; skilled labourers may refrain from and entrepreneurs may prefer not to invest in the development of useful innovations due to the threat that they may be regarded as obvious. Setting non-obviousness as a condition for protection may blur the vision of potential innovators by causing them to focus on advances that may not easily be achieved by others in their field, rather than their actual utility. This is especially dangerous when it is taken into account that research and development activities towards achieving technical advances are getting more organized in general and their desired outcomes are clearer from the beginning.

It should be seriously considered whether the system would function better without envisaging such a condition. Adoption of utility models without such a requirement would provide a perfect opportunity to test the effects of eliminating non-obviousness.²⁶ Non-obviousness is not incorporated into most of the existing utility model systems anyway, so nothing needs to be changed.²⁷ In other legal systems where such rights have not yet been envisaged, adopting utility models shall mean getting back to the conditions for protection that existed in the original patent systems.²⁸

Non-obviousness was mainly introduced in order to prevent granting of bad patents; however, this aim does not seem to have been achieved.²⁹ It is quite likely that, in proper functioning markets, bad patents shall be eliminated by market forces. It would not be possible for the rightholders of such patents to abuse the monopoly granted to them by utility models. If they attempted to do so, compulsory licensing and/or antitrust rules would intervene.

Curtailing the Term of Protection

There are a number of issues to be taken into consideration regarding the term of protection granted by patents: First, there is extensive economic literature on optimal patent length, providing for certain criteria pursuant to which such length should be calculated.³⁰ On the other hand, it has been asserted in numerous works that the patent system is disadvantageous, especially for the pharmaceutical/chemical industry, due to the period of compulsory clinical testing before technical advances may actually get on the market.²⁵ The following fact can not be

ignored either; the pace of technological innovation is getting faster and faster in most sectors such as information technology where 20 years of legal protection has become irrelevant.³¹ Based on the above, it has become obvious that the term of protection has to be on the agenda of patent reform as well.

In legal systems that have dual protection for technical advances, the two main differences between patents and utility models relate to the term of protection and the existence of the non-obviousness condition. In fact, there seems to be a direct correlation between these two features: If the technical advance may be shown to be non-obvious, it may merit a monopoly lasting for 20 years, otherwise the term of protection ranges between 6-15 years. In this regard, the condition of non-obviousness also serves to justify an excessively long monopoly and thus plays another negative role in the patent system. Its non-existence therefore could provide a valid ground for curtailing the term of protection.

Another issue related to the term of protection involves the requirements of different industries. For example, in most cases, technical advances in the pharmaceutical industry may appear in markets only after a compulsory testing period. On the other hand, computer-related advances may be marketed immediately and are outdated fairly quickly.³¹ The solution would then lie in providing for an initial or basic shorter protection period for all advances and then envisaging extra protection periods where this can be objectively justified.³² Thus, not only would the legislator have the flexibility to devise appropriate protection periods for different industries, it would also be able to decrease externalities arising from the excessive monopoly created by lengthy patent protection. By limiting the term of protection, more free space to innovate would be available.

If one looks at the issue from the perspective of the applicant, such a system would be especially favorable to applicants who anticipate that their advance would be outdated rather quickly, whether such advance is non-obvious or not.

Based on the assertions above, utility models may provide the opportunity to test with a shorter term of protection in general and with variable terms tailored according to the requirements of different industries.

What about TRIPS Requirements?

At this point, it is foreseeable that countries may be concerned with complying with TRIPS requirements pertaining to legal protection of inventions. It is

obvious that they would be violating TRIPS if they opted to provide utility model protection only; however, the situation is different as regards dual protection. Article 1(1) of TRIPS allows member countries to implement more extensive protection than required in their law, provided that such protection does not contravene the provisions of this Agreement. In that respect, granting utility models for lesser inventions (inventions that would perhaps not meet the patentability requirements) should also be allowed.

Would envisaging a utility model regime contravene any TRIPS provisions? Those pertaining to patents stipulated in Section 5 would be irrelevant, since the countries are required to implement a patent regime in conformity with those provisions irrespective of whether they adopt utility model protection or not. Then one would have to turn to Article 7 setting the objectives of TRIPS. Promotion of technological innovation and transfer and dissemination of technology are mentioned as the goals to be achieved. As explained above in detail, utility model protection is offered as a system to promote the innovation process and enable more extensive use of new technology. It is therefore, not likely that envisaging such a regime would be considered as contravening any of the TRIPS provisions.

Moreover, Article 1(2) of the Paris Convention, referred to as an agreement to be complied with in Article 2(1) of TRIPS, clearly recognizes utility models as an object of industrial property protection, together with patents. It may be argued that the utility model regime was deliberately left out of TRIPS, but even in that case, the approach may not be interpreted as a rejection, but merely as a reflection of the unwillingness of drafters to deal specifically with this matter. A similar approach is adopted as regards the exhaustion of intellectual property rights in Article 6, where it is asserted that this issue is outside the scope of TRIPS.

Another question is whether WTO member countries are obliged to apply the national treatment and the most-favoured-nation clauses envisaged in TRIPS as regards their utility model regime. First, countries that are members of the Union established by the Paris Convention are required to apply national treatment to the other members of the Union, even if they are not WTO members. If they are not members of the Paris Union however, the situation is different. Pursuant to Article 1(2), 'intellectual property' is

referred to and specifically regulated in TRIPS. Since utility model protection is not envisaged in TRIPS, national treatment and most-favored nation clauses that cover intellectual property as defined in Article 1(2) would not be applicable.

In any case, many countries that are members to the WTO already have existing utility model regimes and no issues relating to the adoption or implementation of these regimes have ever been subject to any controversy within the WTO context as yet.

The Essential Components of a Utility Model System Conducive to Innovation

As explained above, utility models may be introduced as an alternative at the point where the patent system fails, but certain policies should be adopted in order to ensure that utility model rights do actually serve to foster innovation. First of all, the scope of protectable subject matter should be kept as wide as possible, the focus being on the actual technical solution the subject matter provides. Second, the granting procedure of these rights should be simple, fast, transparent and objective. The risk of abusing such granting procedure should be borne by the applicant. Third, once granted, these rights should be easily exploitable. Fourth, the level of legal protection granted by utility models should be equivalent to that extended by patents, except the term of protection. Their ability to compete with patents should not be undermined through provisions burdening their enforcement. On the other hand, restrictions on utility models should be set both as regards the scope of claims and rights granted to third parties to ensure that such rights are not abused and further innovation is not stifled.

It therefore, ensues from the above discussion that utility models should bear the following essential features:

As regards the application and granting stage:

- Splitting off from a patent application and choosing to apply for a utility model instead should be possible. In that case, the applicant should have the right to claim the filing (or the priority) date of the earlier patent application. On the other hand, applying first for a utility model and then switching to a patent application should not be allowed. It should also not be possible to demand a patent for a technical advance for which a utility model has been obtained.

- The application fee for utility models should be kept low, but the annual maintenance fees may be increased by x-times (e.g., the amount may be doubled every year, thus it may start with x, and end with 512x after 10 years), encouraging the right holder to give up rights, which are not actually or likely to be exploited. If the advance is a market success, the increase of the fee will be nominal as compared to the gain of in monopoly delivered by the right.³³
- Pre-grant opposition should not be allowed for these rights in order to expedite the granting process and hence enable the quicker exploitation and diffusion of the advances.

As regard the substance of the rights:

- The protectable subject matter for utility models should be redefined as 'technical advances' instead of 'invention'. In conformity with this mindshift, restrictions should not be set on the type of protectable subject matter. The exclusion of certain subject matter such as chemical substances or processes *per se* shall have the effect of freezing innovation in those areas and in fact would lead to a discrimination between industrial sectors and different types of innovations. Today, none of the reasons asserted for excluding certain subject matter are a valid justification for such discrimination.
- The conditions of protection should be limited to universal novelty and industrial applicability. The non-obviousness condition should be left out of utility models system altogether. The patent authorities should require the applicant to demonstrate the actual technical solution(s) provided by the advance. This, in fact, should constitute the single element of the substantial – as opposed to procedural- examination to be conducted by the patent authorities. The applicant should bear the risk of demanding protection for a technical solution that is not novel. This could in fact lead to the establishment of businesses conducting professional novelty search for applicants and even an insurance system against damages arising from wrongful applications based on misleading feedback from these businesses.
- The term of protection should be limited to a maximum of ten years.³⁴ This period is the suggested maximum, the term of protection most

frequently selected by countries. Economic analyses may nevertheless be conducted in order to determine the optimal length of these rights. The protection period may actually be set differently for different types of technical advances. For example, protection for technical advances in pharmaceuticals could be prolonged for an extra period, accounting for the time lost during the clinical tests, so that the total term of protection would be more or less equal with other advances.

As for the actual beginning of protection, the applicants of these rights should not be allowed to take action against infringement before granting the right.³⁵ This would be justified by the fact that the patent granting process lasts considerably longer than that of utility models, during which the patent applicant should not be left vulnerable against infringement. Accordingly of course, it would be reasonable to start the term of protection from the date on which the right is granted.

- The scope of protection should be limited to the actual technical solution that the applicant has been able to demonstrate. Claims wider than that should not be allowed. In cases where the technical advance is exploited for another technical solution, a separate right may be granted, the exploitation of which would be dependent on the authorization of the initial right holder. Moreover, the 'supplementary patents' provisions enabling the right holder to obtain further patents associated with the original granted patent should not be envisaged under the utility models system.
- The experimental use exception and compulsory licensing provisions should be considered in order to ensure that innovation is not stifled.³⁶ The grounds for compulsory licensing should definitely include non-working and dependent technical advances; stipulating other grounds such as government use, failure to supply the domestic market adequately or domestic working requirements as a matter of economic policy choice. A system should be set up for resorting to compulsory licensing, of which the most important constituent would be a simple and precise framework for calculating the remuneration to be paid to the right holder.³⁷

As regards the enforcement of the rights and invalidity claims:

- The legal remedies available to the right holder should not be any lesser than patent protection.

In particular, the right holder should not be required to have his application examined and certified in order to be allowed to file an infringement suit.³⁸ On the other hand, where a claim pertaining to the invalidity or the cancellation of the right is pending, the rightholder may be prevented from exercising his right until the rejection of such claim is finalized.³⁹

- On the litigation front, it should be possible for third parties to file a suit against the validity of such rights or raise invalidity as a counterclaim in an infringement suit. It could be a good idea to stipulate that all claims regarding the validity of these rights should first be addressed to the relevant patent authority.⁴⁰ In this case, it should be possible to appeal to the court against the decision of the authority. Two particular suits to protect third parties from the abuse of right holders may be: (i) Obtaining a preliminary injunction from courts before or during the phase of investment involving exploitation of a technical advance, confirming that the exploitation of a particular technical advance does not constitute a violation of any utility model right. (ii) Enabling third parties to sue, or even demand double or triple the amount of damages from right holders who have acquired such rights in bad faith. This may also serve the purpose of discouraging such acquisition practices. The right holder could be assumed to have acted in bad faith if he knowingly acquired or was in a position to know that the utility model right he had acquired was for a technical solution that was not novel. One radical suggestion to deter abuse of the system could be to ban persons from applying for utility models protection after, say three times, they— or persons acting on their behalf—have been ordered by courts to pay damages to third parties.

Conclusion

In conclusion, there is no sound argument for acting overly-conservative in granting intellectual property rights to technical advances, i.e. novel technical solutions to the problems encountered by mankind. Confining intellectual property protection to rather major and unanticipated solutions could be compared to depriving holders of small plots of land while granting property rights only to big landowners. The situation is quite ironical in the face of the fact

that there exist certain rights in the free market economies even on yet non-existent subject matter, such as options and forwards in capital markets. Depriving innovators of legal protection is contrary to the basic logic of the system and constitutes discrimination. If property rights are not granted to the people who have deserved them, this inevitably constitutes a major disincentive.

With the ever increasing number of innovations, accelerated diffusion of technical advances and the new concept of emerging technology markets, the only reasonable route to be taken is to create easily exploitable property 'packages' for such advances so that they may be duly marketed. It should be borne in mind that intellectual property protection for technical advances is not an abstract reward mechanism; it is an essential legal component for the functioning of the markets. What meaning would the right to exclude others from producing goods and services by exploiting technical advances have, if there were no markets where such goods and services could be put on? In that respect, the essential contribution of the intellectual property system to the promotion and dissemination of technical advances is already well-acknowledged and once utility model rights are envisaged for these advances, they may also be exploited in a number of ways in the markets.

There always exists the risk that such rights may be abused, but this risk would be minimal if appropriate restrictions on the monopoly of the right holder were applied and enforced by relevant intellectual property and antitrust rules. There may be failures in the implementation of the above mentioned rules and in the administration of the system as a whole, but this is a risk equally valid for patents. In any case, it is a risk worth taking when weighed against the benefits to be gained.

On a final note, the patent system is often in a crisis and systemically fails to satisfy the requirements of the innovation process. The eventual acknowledgment of this fact will lead to a radical mindshift. In that respect, the co-existence of the utility models system may contribute significantly to identifying the shortcomings of the patent system and remedying them.

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- 11 (i) A recent decision of the German Supreme Court provides a good example in the context of pharmaceuticals. Although processes may not be protected by utility models under German Utility Model Law, the German Supreme Court decided that this restriction does not apply to applications regarding second medical use of known chemical substances. The Court identified the claim, neither solely as a product nor a process claim, but as a 'use-limited product claim'. Thus, a new, perhaps more suitable mode of protection has been made available to innovators who would like to spend effort on discovering other uses, Von Uexküll A and Hörder N, A clever move: Utility models for second medical use inventions in Germany, *Patent World*, 183 (2006) 23-26. (ii) Interestingly, similar voices are now being raised in the US as well, stressing that the patent system fails to provide suitable legal protection for such innovative activities, Roin B N, Unpatentable drugs and the standards of patentability, *Texas Law Review*, 87 (3) (2009) 503-570. (iii) Also advocated is the adoption of a utility model regime, for the purposes of, *inter alia*, granting legal protection to new formulations of active pharmaceutical molecules, Noonan K E, Could creating a US 'utility model' patent fulfill the 'need' for patent law reform? 2007, http://www.patentdocs.net/patent_docs/2007/05/could_creating_.html (10 August 2010).
- 12 Straus J, Is there a global warming of patents? *The Journal of World Intellectual Property*, 11 (1) (2008) 58. It is reported that there existed a backlog of some three million worldwide pending patent applications at the end of the year 2008.
- 13 Lemley M and Shapiro C, Probabilistic patents, *Journal of Economic Perspectives*, 19 (2) (2005) 75-98. On p. 75 the authors state, 'With nearly 200,000 patents issued each year in the US, many of questionable validity, economists have increasingly recognized that a patent does not confer upon its owner the right to exclude but rather a right to try to exclude by asserting the patent in court.'
- 14 (i) Leith P, Software utility models and SMEs, *The Journal of Information, Law and Technology*, (2) 2000, [http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/2000_2/leith1/\(1](http://www2.warwick.ac.uk/fac/soc/law/elj/jilt/2000_2/leith1/(1) August 2010) on p. 6, where he asserts that '...it is unlikely that large businesses will not see advantage in using these devices for the same tactical reasons that smaller enterprises will... It therefore does not seem possible that the new Directive will encourage a situation where SME usage will be enhanced and non-SME usage limited: we should expect larger enterprises to make more use of utility model protection in the new environment.' (ii) Iwai T, Modalities of future utility model system, 2004, http://www.iip.or.jp/e/summary/pdf/detail2003/e15_06.pdf, p. 3 (1 August 2010). In the case of Japan however, there exists empirical information that the utility model system is being predominantly used by SMEs, 'Showing a quite different situation from patent applications where a large number of patent applications are filed by a small number of particular companies, such many utility model applications are not filed even by large companies, with some exceptions.'
- 15 Kitch E, The nature and function of the patent system, *Journal of Law and Economics*, 20 (2) (1977) 281.
- 16 Hovenkamp H J, Innovation and the domain of competition policy, *Alabama Law Review*, 60 (1) (2008) 105.

- 17 Baumol W, *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism* (Princeton University Press, Princeton, NJ), 2002, pp 73-92; Kitch E, The nature and function of the patent system, *Journal of Law and Economics*, 20 (2) (1977) 290 states '...defined property rights in information significantly lower the costs of transactions concerning such information'.
- 18 Reichman J H in *Perspectives on Properties of the Human Genome Project*, edited by F Scott Kieff (Elsevier Academy Press, St Louis, MO), 2003, p. 297 states 'Exclusive rights make embodiments of intangible public goods artificially appropriable, create markets for those embodiments, and make it possible to exchange payment for access to these creations.'
- 19 Monk A H B, The emerging market for intellectual property: Drivers, restrainers, and implications, *Journal of Economic Geography*, 9 (4) (2009) 469-491.
- 20 Menell P S and Scotchmer S, in *Handbook of Law And Economics*, edited by Mitchell Polinsky and Steven Shavell (Elsevier, St Louis, MO), 2007, pp 1473-1570.
- 21 (i) Mueller J M, The tiger awakens: The tumultuous transformation of India's patent system and the rise of Indian pharmaceutical innovation, *University of Pittsburgh Law Review*, 68 (3) (2007) 491-641 gives a detailed case study on how the enforcement of compulsory licensing rules may serve to ensure further innovations; (ii) Cotropia C A, in *Patent Law: A Handbook of Contemporary Research*, edited by T Takenaka and R Moufang (Edward Elgar Publishing, Cheltenham), 2008, pp 557-583 assesses compulsory licensing within the patent law context in the US Courts; (iii) Rose S A, On purple pills, stem cells and other market failures: A case for a limited compulsory licensing scheme for patent property, *Howard Law Journal*, 48 (2) (2005) 579-627 for a discussion of how compulsory licensing within the patent law context may be used to enable access to patented technology and to stimulate free market competition.
- 22 Saunders K, Patent nonuse and the role of public interest as a deterrent to technology suppression, *Harvard Journal of Law and Technology*, 15 (2002) 434 states that '...a long-term approach to the problem of patent suppression should involve the use of compulsory licensing, whereby a court would order a patentee that is not using its patent to license the patent to another who will make use of it. Such a mandate would probably greatly reduce the incidence of patent suppression and persuade firms to overcome conflicts between blocking patents.'
- 23 Hagelin T, The experimental use exemption to patent infringement: Information on ice, competition on hold, *The University of Florida Law Review*, 58 (3) (2006) 483-560.
- 24 O'Connor S M, Using insights from the history of science to redefine patentable subject matter under the IP clause of the US Constitution, 2007, <http://ssrn.com/abstract=1104899>, p. 2 (4 August 2010).
- 25 Roin B N, Unpatentable Drugs and the Standards of Patentability, *Texas Law Review*, 87 (3) (2009) 503, 564, 567.
- 26 Noonan K E, Could creating a US 'utility model' patent fulfill the 'need' for patent law reform? 2007, http://www.patentdocs.net/patent_docs/2007/05/could_creating_.html (10 August 2010) where the author states, 'Lessening or eliminating the non-obviousness requirements, particularly for incremental inventions, would prevent much of the mischief expected to result from the US Supreme Court's *KSR Int'l Co v Teleflex Inc* decision, which will most likely be directed at just such incremental improvements'.
- 27 Ragavan S, 'Can't we all get along - The case for a workable patent model', *Arizona State Law Journal*, 35 (1) (2003) 117.
- 28 Duffy J F, Inventing invention: A case study of legal innovation, *Texas Law Review*, 86 (1) (2007) 1-72.
- 29 Kesan J P and Gallo A A, Why 'bad' patents survive in the market and how should we change? - The private and social costs of patents', *Emory Law Journal*, 55 (1) (2006) 61-140.
- 30 (i) Gilbert R and Shapiro C, Optimal patent length and breadth, *RAND Journal of Economics*, 21(1) (1990) 106-112, (ii) O'Donoghue T, Scotchmer S, Thisse J-F, Patent breadth, patent life, and the pace of technological progress, *Journal of Economics & Management Strategy*, 7 (1998) 1-32.
- 31 Bessen J E and Maskin E S, Sequential innovation, patents, and imitation, *Rand Journal of Economics*, 40(4) (2009) 611-635 'For industries like software or computers, there is actually good reason to believe that imitation promotes innovation and that strong patents (long patents of broad scope) inhibit it. Society might be well served if such industries had only limited intellectual property protection.'
- 32 Roin B N, Unpatentable drugs and the standards of patentability, *Texas Law Review*, 87 (3) (2009) 503-570, where he proposes an extra exclusivity period for drugs that pass the FDA test. Such an extra protection period of five years maximum has already been envisaged for medicinal and plant protection products in the EC system.
- 33 Suthersanen U and Dutfield G, Would Singapore benefit from a utility model regime? An empirical study-Executive Summary, 2006, http://www.ipacademy.com.sg/site/ipa_cws/resource/executive%20summaries/Executive%20Summary%205%20April%202005.pdf, (1 August 2010), p.11, propose a 'tiered renewal fees between large enterprises and SMEs' a proposal hard to implement in practice that could also lead to circumvention.
- 34 Would it be a good idea to keep that period even shorter than ten years? For example, in France, a utility certificate may last for six years. Iwai T, Modalities of future utility model system, 2004, http://www.iip.or.jp/e/summary/pdf/detail2003/e15_06.pdf, (1 August 2010) on p. 5 asserts that 'this term has been set probably because 50% of patents were abandoned after six years and so as to be in line with the then terms in other countries.' Is this a good reason for setting the maximum limit at six years? Probably not. It is better to provide a reasonably longer maximum protection period and leave it to the rightholder to decide whether to keep it or drop it.
- 35 Compare with GMG Article 11(1), 'Registration of a utility model shall have the effect that the proprietor alone is authorized to use the subject matter of the utility model.'
- 36 Compare with GMG Article 20, 'The provisions of the Patent Law concerning the grant of compulsory licenses [Section 24(1)] and the procedure for the grant of compulsory licenses (Sections 81 to 99 and 110 to 122) shall apply mutatis mutandis in the case of registered utility models.'
- 37 In cases where there exists a market for the protected technology, i.e. where the technology is already being traded, it would be much easier to determine a fair

remuneration. It would be relatively harder, but still possible to set a fair price if the technology at issue is already being exploited either by the right holder or through a licensee. In cases where the technology is not put to use, however, it is quite difficult to value it for compulsory licensing purposes. That may in fact constitute one of the main reasons for asserting that the right should be invalidated *ex officio* or upon demand if it has not been exploited for three years after it has been granted.

38 For example the recently established innovation patent system in Australia does not allow the rightholder to legally stop others from copying the innovation unless the innovation patent is examined by IP Australia. However, such restrictions undermine the effectiveness of the system and should not be visualized in order to maintain the competitiveness of utility models *vis-a-vis* patents.

39 Compare with GMG Article 13(1).

40 Compare with GMG, Article 16.