

OPTIONS WITHIN THE IP SYSTEM TO PROMOTE MINOR INNOVATIONS

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I. An Overview of the Options within the IP System to Promote Minor Innovations

The economic rationale for protecting utility models – understood as primarily covering some or all forms of minor or incremental innovations – is closely tied to the patent system and its presumed inability to extend legal rights to inventions that fall short of the novelty and/or inventive step thresholds.² The most common accepted rationale for the patent system in turn is to serve as a tool to incentivise new innovations: An incentive for market actors to produce and deliver innovative goods or develop innovative processes which are to the benefit of society and mankind. Without a certain degree of legal protection, economic theory argues that inventors and creators will not disclose the results of their innovative activities to the public in fear of imitation and copying.³ Hence, a legal form of artificial exclusivity which prohibits appropriation and so allows recouping investments and offers options for rewards is deemed necessary to encourage the development of new innovations. These are generally welcomed as a way of promoting progress in a society. Insofar, societal progress is the central objective underlying the system of patent protection.⁴ This in turn also requires the widest possible accessibility and dissemination of new innovations so that as many as possible may benefit from it. In order to achieve the objective of societal progress, IP regulation therefore has to offer a trade-off between a protection-incentive for market actors and public access to and dissemination of the resulting innovations. In general terms, this balance is achieved by the limiting the exclusive rights granted to innovators in time and in scope.⁵

In the context relevant here, the main limitation which represents the trade-off between incentive and access are the requirements for patent protection – namely novelty, inventive step and industrial applicability / utility. With regard to innovative activity that results in

¹ This paper is based on a report the author has recently completed for WIPO on Utility Model Protection as an Option to Incentivize Minor and Incremental Innovation. The paper however solely represents the views of the author.

² *G Dutfield & U Suthersanen*, Innovation without Patents (2007), at 17.

³ This is due to the *public good* character of ideas or other creations of the mind which comprise the subject matter generally referred to as intellectual property: In economic terms, such intellectual creations are generally *non-rival* and *non-exclusive* in their nature: They can be used and consumed by one person without excluding the simultaneous use or consumption by others (non-rivalry) and, once made public, their use cannot be effectively controlled (non-exclusivity).

⁴ See for example Article I, Section 8, Clause 8 of the United States Constitution, known as the Intellectual Property Clause, which empowers the United States Congress: “*To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries*” (emphasis added).

⁵ See for example Art.28 TRIPS (providing for certain exclusive rights for patent holders) on the one hand and Art.27 TRIPS (requiring patents only for new, inventive and industrially applicable products or processes and further allowing to exclude certain subject matter), 30 TRIPS (allowing to foresee certain exceptions to these exclusive rights), Art.31 TRIPS (allowing compulsory licenses) and Art.33 TRIPS (limiting the period of patent protection to the minimum of 20 years) on the other hand.

products or processes which do not meet these criteria, patent law does not offer legal exclusivity in their (commercial) exploitation and hence no incentive to innovate. Such sub-patentable innovations may nevertheless be considered as useful, important and worth to be incentivised by an IP right – depending on the relevant economic, technological and other societal circumstances. Hence, countries may decide to shift the incentive / access balance inherent in the traditional criteria for patent protection for small-scale, incremental innovations. With regard to these types of innovations, policy makers then have to decide between the following four options:

- (1) *not to protect sub-patentable innovation at all* by IP rights and thereby leave them in the public domain for everybody free to use;
- (2) *lower the thresholds for patent protection* in order to cover some or most of the innovations considered worthy of protection under the patent system;
- (3) *rely on alternative mechanisms* for protecting these innovations – in particular under notions of preventing misappropriation or unfair competition; or
- (4) *introduce a specific system (such as utility models)* for protecting sub-patentable innovations as alternative incentive mechanism.

II. How do the Alternative Options meet the relevant Policy Goals?

In the following, the main economic reasons for introducing a system of utility model protection are presented. The next section then discusses the potential costs and disadvantages of utility model protection, followed by specific considerations for developing countries. In the course of this analysis, the three alternative options (1) – (3) mentioned above are also taken into account. Therefore, instead of examining the alternatives mentioned above in abstract, they are analysed vis-à-vis the main rationales offered with regard to protecting sub-patentable, minor innovation.

1. Incentives for Minor and Incremental Innovation

In their book ‘Innovation without Patents’ Dutfield and Suthersanen offer two justifications for introducing a system of utility model protection in order to encourage small-scale and/or incremental innovation:

- (1) A theoretical justification for utility models: Since most welfare enhancing inventions are cumulative in nature and often sub-patentable in the sense that they may not meet the high standards of novelty and inventive step imposed by the patent system, there should be another, second-tier system of protection which focuses on these subpatentable innovations.
- (2) A practical justification is that many inventions are vulnerable to ‘unfair’ copying,⁶ especially the sub-patentable ones: Since they usually will be based on small-scale, incremental advancements of the existing state of the art, they will generally be easier to imitate or copy than technological breakthroughs.⁷

The basic rationale therefore is as follows: As patent law will traditionally not cover such small-scale and incremental innovations, a utility model system specifically addresses this perceived protection gap and prohibits copying and imitation, hence preventing free-riding. It

⁶ On the validity of the ‘unfair copying’ argument which is mainly based on natural right theories, see sections ii) and iii) 2) in this part below.

⁷ *U Suthersanen & G Dutfield, Innovation Without Patents (2007)*, at 35-36. See also *U Suthersanen, Utility Models and Innovation in Developing Countries, ICTSD Issue Paper No.13 (2006)*, at 6.

so creates a new incentive for the development, production and commercialisation of products (and services) based on such minor and/or incremental innovations.

Further arguments for utility model protection are based on:

- (1) the nature of IPRs and their role in securing investments and in exploitation;
- (2) psychological advantages over competitors.

(1) A utility model protection based on exclusive rights tailored to sub-patentable innovation further creates a legally recognised asset for those investing into the development, production and marketing of goods based on such innovations. This legal right functions as a tradable commodity which, as one may argue, can in principle be used as a collateral or security for venture capital or other investments by third parties. This in turn may make investments into the development, production, marketing of products based on sub-patentable innovations more attractive to venture capitalist. On the other hand, there may be a limited willingness of traditional banks to accept IP, in particular a new right such as a utility model, as collateral. According to a study commissioned by the European Commission, it is the difficulty involved in valuation of intellectual property assets which serves as an important reason why such assets cannot be used effectively as collateral.⁸ A WIPO study however points out that in countries with functioning and developed markets for venture capital, IP rights play an important role in obtaining access to funding.⁹

Regardless whether or not one views the existence of a new exclusive right in sub-patentable innovations as a potentially useful security / collateral, a utility model right can be licensed and so makes commercialisation and dissemination of the protected technology much easier by providing a reliable legal framework for exploitation of protected goods/services. Especially, as an exclusive right, not only the licensor but also the licensee may be in a position to invoke the right (to the extent of the license or transfer of rights) against a third party infringing the relevant rights. Licensing can further be used as a tool to access new markets.¹⁰

(2) Finally, a psychological argument has been forwarded by Dutfield and Suthersanen: Having a recognised right in a specific result of sub-patentable innovative activity confers to the holder a psychological advantage over competitors by creating an (illusory) effect that imitation by competitors will be delayed due to the exclusive right. This in turn encourages investment into the development, production and marketing of goods based on the innovative activity and covered by utility model protection. In absence of this psychological effect caused by the state-granted IP right, companies and third party investors would much more likely anticipate rapid imitation and hence refrain from significant investments due to the competition from imitations.¹¹

While two of the alternatives mentioned above (lowering thresholds for patent protection as well as alternative modes of protection for sub-patentable innovation) may entail the same positive effects in securing investments and in facilitating exploitation;¹² and may also convey

⁸ See *European Commission, Guarantee Mechanisms for Financing Innovative Technology* (2001). The survey indicates that none of the surveyed European commercial banks accepts intangible assets like IP rights as a security for a loan.

⁹ *WIPO, Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 10. Although this role of IP rights may be limited to patents and apply rather in high-tech sectors for which utility models will be less relevant.

¹⁰ *WIPO, Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 6.

¹¹ *U Suthersanen & G Dutfield, Innovation Without Patents* (2007), at 42.

¹² However, one would need to take into account the practical availability of patents or other alternative IP protection regimes in terms of costs and time until protection is obtained; see the next section below.

a 'psychological advantage' over competitors, this would of course not apply the alternative option of leaving these innovations in the public domain. The latter however has several positive connotations as discussed in the section III. below.

2. *Incentives for Small and Medium Enterprises (SMEs)*

A system of utility model protection is argued to be of specific benefit to SMEs. This follows from the assumption that there is a large presence of SMEs in technological sectors where small and incremental innovation is the norm.¹³ In a study on IP rights and Innovation in SMEs, WIPO recognises that in a number of industrial sectors other than the development and production of high-tech goods, innovation by SMEs mainly consists in minor adaptations to existing products, innovation in designs, mode of service delivery or management and marketing practices.¹⁴ In many such sectors, SME innovations are to a large extent of an informal nature and without formal R&D investments, R&D laboratories or R&D personnel. The study acknowledges that in such cases, other intellectual property rights, in particular as utility models, industrial designs and trademarks may play a bigger role than patents in providing a competitive edge to SMEs.

Of course, this assumption needs to be verified by empirical data in the relevant national setting. In an ideal scenario, such empirical research should focus not only on the question how large the percentage of SME presence is in those industrial sectors where incremental innovation occurs (and whether this is actually the case). It must also try to find relevant data on whether there is indeed harmful copying and imitation of the results of these innovative activities – and whether such copying and imitation leads to improved or otherwise value-added products based on follow-on innovations.¹⁵ This fits with the utility model related conclusion of a WIPO research paper on Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises. Here, WIPO generally recommends to “evaluate the current use – and potential impact of a wider use – of utility models and consider their more active promotion or their introduction, as the case may be”.¹⁶

Further arguments are based on:

- (1) cost factors; and
- (2) patent backlogs.

(1) Due to the usual absence of a comprehensive examination system, the up-front costs for registering and obtaining a utility model hence are significantly lower than in the patent system. This cost factor is also one which is especially important to SMEs.¹⁷ Relevant costs are not only the official fees (including application fees, publication fees and maintenance fees) but also the costs entailed in preparing an application and those subsequently related to enforcing a patent (such as court and attorney fees).¹⁸ As the WIPO study on the use of IP

¹³ *U Suthersanen & G Dutfield*, *Innovation Without Patents* (2007), at 38. See also *U Suthersanen*, *Utility Models and Innovation in Developing Countries*, ICTSD Issue Paper No.13 (2006), at 6-7.

¹⁴ *WIPO*, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 5.

¹⁵ See sections ii. 2. and 4) a. ii. & iii. for further details.

¹⁶ *WIPO*, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 22.

¹⁷ The costs of patenting are generally perceived as one of the greatest barriers for SMEs, see *WIPO*, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 7.

¹⁸ See *U Suthersanen*, *Incremental Innovations in Europe: A Legal and Economic Appraisal of Second Tier Patents*, *Journal of Business Law* (2001), at 327-329. Further difficulties and complexities in patent enforcement add to the obstacles which prohibitive costs produce for SMEs in using the patent system and often lead to a perception of ineffectiveness of the patent system from the side of SMEs; see *WIPO*, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 7-8.

rights by SMEs notes, the costs of protection may be perceived by many SMEs as exceeding the potential benefits to be obtained from patent protection, particularly considering that a significant part of the costs may be incurred before the product has reached the market and that lenders, investors or government programs rarely provide financial support for the protection of IP rights.¹⁹

The costs involved in obtaining a utility model registration and subsequently enforcing it on the other hand usually need not be prohibitively high. This applies first of all to the registration and maintenance fees which do not need to compensate for expensive novelty searches. Even if a utility model system demands for an examination before infringement proceedings can be initiated or successfully concluded, SME right holders are still significantly better off than under a system where high up-front costs have to be paid before obtaining protection.²⁰ SME utility model holders can make a cost-benefit calculation based on the costs of the examination report (and the further litigations costs) in comparison to the costs incurred by the alleged infringing activity (and the likelihood of winning the case). This enables them to decide on a case-by-case basis whether they consider the enforcement of their utility model protection to be worth it. Finally, alternative dispute resolution, arbitration or mediation facilities could be introduced or existing ones applied in order to facilitate a mutual acceptable solution in infringement cases.²¹ The WIPO report on IP rights and SMEs concluded that “it is clear that expedited procedures for settling IP disputes out of court such as expedited arbitration and the introduction of post-grant opposition and/or review procedures at IP offices are mechanisms for settling disputes that seem particularly appealing to inventors, researchers, entrepreneurs and SMEs with limited financial resources. In addition, fast and efficient procedures for disputes in courts are also necessary to ensure that SMEs may rely on the courts whenever necessary.”²²

(2) Next to the issue of costs, further elements of the patent application process may act as a disincentive for SMEs to seek protection, such as the time required to be granted a patent. The ever-increasing number of patent filings has often led to an increasing backlog which in turn creates continuously increasing time-periods from filing to grant of a patent. As the WIPO study notes, for SMEs, a long delay for obtaining a patent leaves a great degree of uncertainty and delays the possibility of finding potential licensees or partners for exploiting an invention.²³ This has further substantiated calls for a simple, fast, no-examination second-tier system of protection whereby the applicant would gain registered right within weeks or months from application – as compared to the waiting period in cases of patent applications which usually take several years until grant.²⁴

Looking again at the alternatives to utility model protection as mentioned above, the first option of not protecting sub-patentable innovation at all certainly does not function as a direct incentive for SMEs. It may however have positive welfare effects in terms of keeping such innovations free in the public domain for everyone to use – while the innovator would be required to amortise her/his costs within natural lead time she/he enjoys. Another option (lowering patent thresholds) will usually be too costly and time-consuming – as discussed in

¹⁹ WIPO, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 7.

²⁰ For a more critical position on this point see *U Suthersanen*, *Incremental Innovations in Europe: A Legal and Economic Appraisal of Second Tier Patents*, *Journal of Business Law* (2001), at 329.

²¹ In the European context for example, a report commissioned by the EU recommended the introduction of compulsory expert arbitration as a possible solution to the excessive costs of patent litigation; see *European Technology Assessment Network*, *Strategic Dimensions of Intellectual Property Rights* (1999).

²² WIPO, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 20-21.

²³ WIPO, *Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises* (2004), at 8.

²⁴ *U Suthersanen*, *Incremental Innovations in Europe: A Legal and Economic Appraisal of Second Tier Patents*, *Journal of Business Law* (2001), at 327.

detail above. While reliance on other alternative means of protection (e.g. via unfair competition law) may not involve such costs and do not require a lengthy application procedure, they are usually dependant on certain conduct of competitors deemed unfair and hence involve significant uncertainty and litigation costs for SMEs.

3. Encouraging Local Innovation

From the first two rationales addressed above (incentives for small and incremental innovation; incentives especially for SMEs), the third rationale of encouraging local innovation follows: As most SMEs engaged in minor or incremental innovative activities are presumed to be part of the local industry, a system which promotes innovative activities by SMEs facilitates local innovation. Of course, this is another issue which demands verification by means of empirical research in the relevant domestic setting.²⁵ General empirical support comes from the WIPO World IP Indicators 2011 Report which concludes on the question of users and beneficiaries of national utility model systems:

The UM system is primarily used by resident applicants to protect inventions at their respective national patent offices. In 2010, resident applications accounted for 98% of the world total, and the share has remained more or less constant since the mid-1980s. Grant data show a similar distribution.²⁶

Further arguments are based on:

- (1) information contained in utility model applications; and
- (2) historical evidence.

(1) A general argument in favour of a utility model system which however may be especially relevant in the context of facilitating domestic innovation is based on the value of technological information contained in the applications for patents and utility models. For patents, the utility of patent information as a source for inspiration for further research and for follow-on innovations has been acknowledged – although often the under-utilisation of this source, especially by SMEs has been highlighted.²⁷ For information contained in utility model registrations, the accessibility, quantity and quality of the data – and hence its relevance for follow-on innovation – certainly depends on the respective national system.²⁸ Even though a registration may not entail a mandatory examination by the IP office, the information required in an application should always include the claims. These, in combination with any illustrative figures, should be made available online for searches. Another aspect is that utility model registrations may represent a valuable source indicating domestic innovative activity and allowing tailored and informed responses by policy makers concerning innovation policy in

²⁵ See sections 4) a. & c. below.

²⁶ *WIPO*, World Intellectual Property Indicators (2011), at 95. For further details on foreign registrations see pages 96-99.

²⁷ *WIPO*, Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises (2004), at 9-10. The report laments the lack of awareness of the wealth of information contained in patent documents and searchable via online patent databases and the inability to interpret patent claims in these documents.

²⁸ In case of Germany for example, the DPMA website allows various searches for utility model registrations according to various parameters (see <http://register.dpma.de/DPMAreger/pat/einsteiger> for the search page directed to anyone not familiar with patent searches) and allows to access individual registration certificates (Gebrauchsmusterschrift) which contain the basic data as well as the main utility model claims, taken from the application.

general.²⁹ These aspects therefore should be taken into account when designing a national registration system.

(2) Research on historical evidence from the use of a second-tier system of protecting minor innovations in certain Asian countries also points to a positive role such a system has in encouraging technological learning and follow-on innovation by local industries. Kumar found that in Japan, South Korea and Taiwan a combination of weak first-tier patent protection and the availability of second tier patent systems (like utility models) to protect minor technological advances has facilitated local innovation through technological learning: While ‘weak’ patent protection³⁰ allowed to absorb foreign technology, a second tier patent system encouraged minor adaptations and follow-on innovations by local firms.³¹ The relevance of these findings for the current debate on utility model systems however may be limited: Since the multilateral legal framework after the TRIPS Agreement has entered into force allows much less policy space for a ‘weak’ patent system,³² the historical approach taken by certain East Asian countries will not be available for repetition in a post-TRIPS world.

A final argument relates to the positive impact of increased local innovative activities: Especially for countries which are net-importers of IP protected goods, encouragement of local industry to produce more IP protected goods is important to reduce dependency on imports. This would equally reduce a trade deficit in IP protected goods – and in turn reduce royalty outflows.

Contrasted with the three alternatives in dealing with sub-patentable innovation, the option of lowering threshold for patent protection may to some extent bring about similar positive results in terms of providing a source of knowledge and enabling follow-on innovation through patent data. The historical evidence however suggests to go rather the opposite route when weak patent protection is considered a key ingredient for the earlier stages of technological and industrial development. Not protecting sub-patentable innovations would of course not trigger additional information on these innovations in any database administered by the IP office – but it may serve as a common knowledge base from which innovators, including those who come up with small improvements and follow-on innovation, may draw.³³ That in turn may also facilitate local innovation. Alternative protection mechanisms finally are often by their nature not functioning as incentives for (local) innovation – they rather allow investors ex-post to prevent specific unfair conduct of competitors. The need to show the existence of these criteria for unfairness causes significant ex-ante legal uncertainty so that the system would not lend itself in facilitating business decisions to invest in the development of innovative products – where the product itself will not obtain any protection per se.

III. Costs and Disadvantages

²⁹ See *A Odman Boztosun*, Exploring the Utility of Utility Models for Fostering Innovation, *Journal of Intellectual Property Rights*, Vol.15 (2010), at 430.

³⁰ Such weak protection for example entailed the exclusion of food, beverage and pharmaceutical products as well as chemical compounds from patent protection in Japan until 1975 when domestic technological advancement mandated an extension of the patentable subject matter; see *N Kumar*, *Intellectual Property Rights, Technology and Economic Development: Experiences of Asian Countries* (2002), at 4-5.

³¹ *N Kumar*, *Intellectual Property Rights, Technology and Economic Development: Experiences of Asian Countries* (2002), at 4-6 & 22-26.

³² See section a. iv. above for details.

³³ See section ii. 2. below for details.

The introduction of a second-tier system to protect minor or incremental innovations may also involve costs and disadvantages. Again, much will depend on the respective circumstances in the jurisdiction where such a system is being implemented. In the sections below, the arguments which are generally raised against utility model protection are discussed.

1. Legal Uncertainty and Wasteful Litigation

One point of critique that has been raised by Suthersanen appears particularly relevant in the context of SMEs in developing countries. She observes:

The fact that the utility model regime encourages a lowering of thresholds without an appropriate examination system in place may result in legal uncertainty and excessive litigation. Indeed, there is a reasonable concern that larger market players may use utility models as a means of circumventing the more stringent criteria under the patent system and overuse the system in ways that make it hard for SMEs to compete. Certainly, the lack of substantive examination prior to grant will give rise to uncertainty for third parties when conducting infringement searches to ascertain what valid rights exist in a particular field of technology, which may act as an additional barrier to competitors.³⁴

The main argument therefore is based on the absence of any substantive examination system which serves as a gatekeeper to prevent the protection of products and processes which do not meet the relevant protection criteria. Of course, the main idea behind a utility model system is to establish protection at a lower threshold for incentivising innovative activity below the patent level. But this certainly does not imply that protection will or should be available for ‘anything under the sun made by man’. The main criteria for utility model protection – a certain level of novelty and usually also a degree of inventive activity – must be present for any innovative result to receive protection via a system of exclusive rights granted by the state to private persons and enforceable by legal remedies.

The absence of a pre-grant examination system therefore carries with it the automatic risk of abuse where protection is claimed for utility models which do not meet the conditions for protection. If such utility models are being enforced, other market actors may be prevented from selling competing goods on the market and innovators may be prevented or discouraged from innovating for fear of litigation. Of course, SMEs are a prime target for such abusive enforcement activities as they may easily give in without risking court proceedings or may not have the financial means to fight it out in courts.

The risk of abuse however could be addressed by several mechanisms. First, it has been noted that it is not the introduction of utility model protection as such which is the main concern, but rather its improper enforcement.³⁵ Tailored checks and balances in the IP enforcement system therefore may be the most appropriate response to mitigate the potential for abuse. For example, several national utility model systems do not allow the enforcement of a utility model without a mandatory prior examination procedure.³⁶ The rationale here is to make sure that no subject matter is being protected against alleged infringements without having tested whether it actually meets the conditions for utility model protection. Such mandatory pre-trial examination should prevent abusive litigation – but may not undermine abusive pre-litigation

³⁴ *U Suthersanen*, *Utility Models and Innovation in Developing Countries*, ICTSD Issue Paper No.13 (2006), at 8.

³⁵ See also *A Odman Boztosun*, *Exploring the Utility of Utility Models for Fostering Innovation*, *Journal of Intellectual Property Rights*, Vol.15 (2010), at 431.

³⁶ See section b. ii. above.

bullying against competitors (especially SMEs). Potential defendants may still give in and cease the allegedly infringing activity out of fear for any sort of legal action and the costs involved.³⁷ In any case, no presumption of validity should apply to utility models which are merely registered and not substantively examined.³⁸

Another enforcement related safeguard against abuse may be not to make injunctive relief available to utility model right holders. Especially without having obtained a substantive examination report which validates the claimed innovation as protected utility model, no injunction should be granted. Since the relevant multilateral treaty obligations concerning IP enforcement (including the availability of injunctive relief) under TRIPS do not apply to utility model protection, countries have sufficient policy space to design the enforcement system outside the obligations contained in part III of TRIPS.³⁹ Such a limitation of the enforcement options for a utility model holder does not leave her or him without any protection: If the main proceedings (after a substantive examination has taken place) find in favour of the claimant, infringing activity must cease and the defendant should be obliged to pay reasonable compensation for the unauthorised use of the utility model. This effectively turns the exclusive right into a liability rule until (1) the IP office has confirmed that the registered model fulfils the conditions for protection and (2) a court has positively confirmed that the utility model is indeed infringed.

Further safeguards against abuse which have been suggested in this context are antitrust remedies and compulsory licensing.⁴⁰ It however remains unclear whether either of them can function as a valuable remedy especially for SMEs. Antitrust investigations take time, are expensive and require a functioning Competition Law authority. They usually further depend on the existence of market power (in form of a monopoly or market dominance) and hence do not apply to all market actors.⁴¹ Compulsory licensing may be an option where the utility model holder is not willing to license her/his technology and there is a recognised public interest for its use. But as the system is generally based on an individual procedure for each technology to be licensed, it involves lengthy proceedings and does not offer a speedy remedy against abusive reliance on a claimed utility model.

Finally, one may consider limiting the protectable subject matter to those areas of innovative activities where SMEs are mainly engaging in innovations which are perceived as worthy of protection and/or where the conditions for protection are easy to determine. Certain patentable subject matter – such as pharmaceutical products, chemical compounds, biological material, software or business methods – could hence be excluded from utility model protection. In this way, policy makers could reduce the potential for the system to be abused by major market players which take advantage of the absence of an up-front substantive examination system.

³⁷ In order to reduce the cost factor, one could prescribe that the costs for the pre-trial examination are in any case borne by the right holder. This on the other hand may disproportionately affect the claimant who may hence be effectively prevented from enforcing her/his rights. An option may be that the pre-trial examinations are carried out for free by the IP office for SMEs (as part of an enabling SME programme), whereas other claimants beyond a specific company size and turnover must bear the costs themselves.

³⁸ Such a presumption often applies in the patent enforcement context. As it is based on the comprehensive examination conducted by the patent office, it does not apply where such an examination does not take place.

³⁹ See section a. ii. and iv. for details. The national treatment obligation under Art.2:1 of the Paris Convention however does apply to utility models so that foreign right holders must be treated as nationals in matters of enforcement; see section a. i. above.

⁴⁰ A *Odman Boztosun*, Exploring the Utility of Utility Models for Fostering Innovation, *Journal of Intellectual Property Rights*, Vol.15 (2010), at 431.

⁴¹ Nevertheless, provisions relating to restriction of competition can well be applicable. For example, if two or more firms enter into agreement to restrict competition, i.e. price fixing or market sharing, can be investigated by competition law authorities.

Looking at the alternatives to utility model protection, the option of not protecting minor innovation at all would naturally not involve any specific danger of abusing the system as not specific protection is available. Lowering the thresholds for patent protection on the other hand may create some legal uncertainty and wasteful litigation – but given that patents generally are granted based on examination of the substantive conditions of protection, there should be in theory overall less danger of abuse. Whether that holds true in practice will depend significantly on the ‘quality’ of the patent examination process, options for pre- or post-grant review, and how courts deal with validity challenges in the course of infringement proceedings. Relying on alternative protection mechanisms, especially unfair competition-, misappropriation-, or tort law (passing-off) in turn will, given that protection is generally available only against certain ‘unfair’ acts, carry less danger of abuse. It however may involve a significant degree of legal uncertainty as to which activities are prohibited, unless relevant statutes or case-law by the courts offer sufficient guidance.

2. Blocking the Public Domain and Preventing Technological Learning by Imitation

The other main argument which has been forwarded against introducing a second-tier system to protect innovation below the patentability threshold is based on the conception of public domain. The traditional notion IP protection rests on the idea of protecting creative works under copyright law, distinctive signs as trademarks and inventions under patent law. If the latter do not fall under the patentable subject matter and fulfil the accepted conditions of novelty, inventive step, and utility / industrial application, then no protection applies and the relevant innovations remain in the public domain. This allows everyone to utilise, exploit and build on such un-protectable subject matter.⁴²

Introducing another layer of protection below the thresholds established by traditional patent protection requirements on the other hand results in the newly protected subject matter to be taken out of the public domain. Thereafter, no-one can freely use it without the authorisation of the right holder or within the boundaries of an applicable exception or limitation to the exclusive right. This shifts the balance between access and incentive⁴³ in a significant way and therefore should not be decided lightly. As Dutfield and Suthersanen have observed:

In a market-based economy it is generally accepted that all market actors, including competitors, follow-on creators and consumers, should be allowed to freely use any work which falls short of the required standards. Indeed, as some courts and jurists have argued, copying and free riding is necessary, if not beneficial, for competition. As we saw, imitation is an essential stage in learning to innovate and can even be creative in itself.⁴⁴

Any curtailment of the public domain therefore must be based on positive evidence which establishes a clear need for introducing a new IP right or expanding existing ones as a matter of policy. As the economist Machlup has stated in his famous review of the US patent system in the 1950s:

If one does not know whether a system ‘as a whole’ (in contrast to certain features in it) is good or bad, the safest ‘policy conclusion’ is to ‘muddle through’ either with it, if one has long lived with it, or without it, if one has lived without it. If we did not have a patent system,

⁴² An expression of this boundary between protection and the public domain free from protection in the copyright context can be found in Art.9:2 TRIPS which states that... In the patent context, Art.52 of the European Patent Convention fulfils a similar function by excluding from patent protection

⁴³ See at the beginning of section c. above.

⁴⁴ *U Suthersanen & G Dutfield, Innovation Without Patents (2007), at 41.*

it would be irresponsible on the basis of our present knowledge of its economic consequences to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible on the basis of our present knowledge to recommend abolishing it.⁴⁵

Of course, the whole idea of introducing utility model protection is premised on the inability of the patent system to protect minor and incremental innovations below the patent level.⁴⁶ As these innovations are being perceived as particularly vulnerable to appropriation and copying by others, a need to protect them is identified. This policy rationale is not as such invalid in light of the arguments identified in section II. above. However, it must be weighed against the potential negative impact of taking such sub-patentable innovation out of the public domain and the consequences this has for follow-on innovation and technological learning through imitation and copying as well as competition on the market.

This weighing and balancing cannot be performed in abstract. It must be conducted within a specific national legal system, taking into account all relevant domestic circumstances. Only then one can find out what the concrete positive welfare effects are (does the system incentivise innovative activity which would otherwise have not occurred?) and whether they outweigh the concrete negative welfare effects (does the system prevent technological learning by copying and imitation?). In the context of sub-patentable innovation, this entails empirical analysis which should, to the extent possible, ascertain the following aspects:

- (1) Which domestic industries/sectors especially engage in small scale or incremental innovative activities?
- (2) What role do micro, small and medium enterprises (MSMEs) play in these sectors?
- (3) What role do IP rights play in these sectors, especially for MSMEs?
- (4) Is copying or imitation an issue in the industrial sectors with small scale or incremental innovative activities which functions as disincentive to innovate or to bring the products resulting from innovative activity onto the market?
- (5) On the other hand, is there any indication or evidence that MSMEs rely on existing innovative products locally produced to come up with follow-on innovation or to produce value-added products?

One could however argue that imitation and copying of the results of another person's effort, labour or other form of investment is per se unfair and hence should not be allowed.⁴⁷ This 'unfair copying' argument is primarily vested in natural rights theories whereby someone who has not sowed may not harvest. It has been relied upon in the traditional context of patent or copyright protection as a justification for the inventor or creator to reap her / his just rewards.⁴⁸ There however, the 'unfairness' is premised on the fact that what has been copied meets the conditions for protection under either copyright or patent law. It therefore does not lend itself as an argument against copying or imitation per se. If one would accept the unfair copying argument as a general principle, the results of any investment-bearing activity would be eligible for some form of protection against misappropriation.⁴⁹ That for example would imply to protect scientific discoveries, laws of nature, mathematical concepts or ideas if

⁴⁵ *F Machlup*, An Economic Review of the Patent System, US Senate Subcommittee on Patent, Trademarks and Copyrights – 85th Congress, 2nd Session (1958), at 79-80.

⁴⁶ See section i. above.

⁴⁷ On this topic in the context of utility model protection see further *U Suthersanen*, Incremental Innovations in Europe: A Legal and Economic Appraisal of Second Tier Patents, *Journal of Business Law* (2001), at 330-332.

⁴⁸ See the dictum of Peterson J ('what is worth copying is prima facie worth protecting') in *University of London Press Ltd v. University Tutorial Press Ltd* (1916) 2 Ch.601 at p.610.

⁴⁹ See *U Suthersanen*, Incremental Innovations in Europe: A Legal and Economic Appraisal of Second Tier Patents, *Journal of Business Law* (2001), at 332.

finding out about them entailed skill, labour, effort or other forms of investments – a result which contradicts all well-accepted boundaries of IP protection.

Further, unfair competition torts in civil law countries or misappropriation doctrines in some common law countries protect, under specific circumstances, against acts of copying or imitation. Those are however generally acts where additional circumstances justify findings of unfairness – whereas the general rule remains that anything that does not meet the traditional criteria for copyright, patent or trademark protection, stays in the public domain and hence is free for everyone to use.⁵⁰ In that sense, the unfair competition and misappropriation laws reinforce the general rule that copying and imitation as such – outside the accepted boundaries of IP protected subject matter – is not in any way ‘unfair’.

Looking at the other alternative within the IP system, namely to lower the bar of patent protection, this would pose similar, if not more severe concerns about blocking the public domain and preventing technological learning by imitation. Patent rights in most instances are granted for a longer period and often are less subject to subject matter exclusions as compared to utility models which may be limited to three-dimensional models, or exclude certain fields of technology, processes or substances as such. Patent enforcement remedies may also go beyond those offered against alleged utility model infringements.

A decision on expanding the scope of existing IP protection (lowering the patent threshold) or introducing new IP rights (utility models) in order to cover some subject matter previously in the public domain should therefore not simply be based on arguments of unfairness in regard to the copying going on. It is a value judgement the law and policy makers of a country have to take whether they consider the negative welfare effects of the copying or imitation as so harmful that it outweighs the benefits of the newly protected subject matter remaining in the public domain. This decision should be informed by knowledge on relevant industrial, technological, economic and other societal circumstances. It hence should be based on a sound empirical analysis and attempts to find answers to the questions posed above.

IV. Specific Considerations for Developing Countries

Based on arguments in favour (in section I.) and against (in section II.) a second-tier system of protecting innovations below the threshold of patent law, the following four main considerations should guide policy makers in developing countries when determining the utility and feasibility of introducing a system of utility model protection.

1. Domestic Innovation below the Patent Level

The basic rationale of utility model protection is based on the idea that patent protection does not extend to most minor and / or incremental innovations. With regard to innovative activity that results in products or processes which do not meet the criteria for patent protection, patent law therefore cannot offer an incentive to innovate. Such sub-patentable innovations may nevertheless be considered as useful, important and worth to be incentivised by an IP

⁵⁰ In the German unfair competition law doctrine for example, this is expressed by the notion of ‘Freihaltebedürfnis’ (need for a public domain). Any act of copying or imitation per se is not unfair, unless specific additional elements are present which justify a value judgement of unfairness (compare also Art.10 bis of the Paris Convention). For a summary of different approaches in national laws in Europe see *A Kampermann-Sanders*, *Unfair Competition Law* (1997), at 22-68.

right – depending on the relevant economic, technological and other societal circumstances. The key questions for policy makers therefore are:

- What is the domestic standard for patent protection, in particular how high is the threshold of inventiveness being applied in practice by the domestic IP office?
- Which domestic industries/sectors, especially SMEs, engage in small scale or incremental innovative activities?
- To what extent does the output of these innovative activities meet the threshold for patent protection?

2. Degree of Copying and Imitation in Sub-Patentable Innovation

If policy makers have a fairly clear picture of the domestic innovation landscape, especially regarding innovative activities below the patent threshold by SMEs, the next question concerns how the results of these innovative activities are being appropriated and used by the innovators, competitors and other third parties. Two issues must be considered:

(1) The amount of imitation or copying of these results and whether this serves as a disincentive for further innovative activities or investments into such activities. Alternatively, copying or imitation may lead to other responses such as keeping the innovations secret, or reliance on other tools for legal protection (see 3. below).

(2) The extent to which imitation and copying creates follow-on innovation, value-added products or is otherwise used in a societal beneficial way. These two sides must be considered, empirical data and stakeholder opinions – not just of the main beneficiaries of a potential new utility model right, but also commercial and private users and other affected groups – must be gathered and then policy makers have to make an informed decision: Do they wish to protect sub-patentable innovation legally or do they want to leave this subject matter in the public domain? Of course, this value judgement need not be a categorically yes / no answer, but may involve safeguards as further discussed in section ii. above.

This decision hence requires primarily an inquiry into the following:

- Is copying or imitation an issue in the industrial sectors with small scale or incremental innovative activities which functions as disincentive to innovate or to bring the products resulting from innovative activity onto the market?
- On the other hand, is there any indication or evidence that MSMEs rely on existing innovative products locally produced to come up with follow-on innovation or to produce value-added products?

3. Alternative Protection Regimes

As it has been pointed out above, there are generally four different legal options for dealing with small-scale, incremental innovations. With regard to this type of innovations, policy makers then have to decide between the following options:

- (1) *not to protect sub-patentable innovation at all* by IP rights and thereby leave them in the public domain for everybody free to use;
- (2) *lower the thresholds for patent protection* in order to cover some or most of the innovations considered worthy of protection under the patent system;
- (3) *rely on alternative mechanisms for protecting* these innovations – in particular under notions of preventing misappropriation or unfair competition; or
- (4) *introduce a specific system for protecting* sub-patentable innovations as alternative incentive mechanism.

If – on the basis of points 1. and 2. above – policy makers have decided that a degree of imitation and / or copying is taking place which is not outweighed by the benefits of having the respective innovative output in the public domain, the next question concerns the different legal alternatives for protection. The main alternatives in the IP context to introducing a special IP right covering sub-patentable innovations (like a system of utility model protection) are:

- Trade Secret Protection
- Protection against Unfair Competition / Passing-Off Tort
- Industrial Design Protection

In the context of identifying alternatives which can be used by SMEs the main issues to be considered by policy makers are:

- Are there any existing alternatives, either within or outside the IP system, to a system of utility model protection which especially MSMEs can rely on? The alternatives need to be assessed in the specific national context and may vary significantly. Nevertheless, the following general considerations may guide any examination of alternatives:

- o Is there a legal protection against ‘unfair competition’, misappropriation of another person’s efforts, or passing off (usually in form of a tort)?

Even if a system of unfair competition protection can be extended to cover outputs which have involved substantial investments (such as innovative products in the industrial sectors where minor innovation occur), unfair competition and passing-off usually involves further elements of unfair conduct. The protection does not apply to the product, but is available against certain (commercial) acts of competitors which may have a reflexive effect of sometimes providing indirect protection to a product. But it is highly unlikely that such protection would encourage local innovation by SMEs – given its uncertainty in application, the additional elements of unfairness required and the fact that it is not constructed as an IP right which can be licensed.

Also, from an international perspective, there is no consensus on the meaning of the term ‘unfair competition’ although article 10*bis* of Paris Convention sets out some minimum guidelines. These however all involve specific elements of unfair conduct and indicate that protection against unfair competition generally is not perceived as IP-like protection for a specific subject matter.

- o Can industrial design protection be used, in particular in form of unregistered design right?

In order to serve as an alternative to a utility model system, the industrial designs application and registration system needs to function as a simple and fast way of obtaining protection. The most serious limitation of the system however is that, in most instances, it covers only ornamental or aesthetic aspect of an article in a two- or three-dimensional form – but not the functional aspects of such forms. Utility model protection on the other hand in most instances attaches to the technical invention, possibly incorporated in a three-dimensional form. Protection of aesthetic or ornamental features of an article – hence excluding its merely functional aspects – does not amount to an alternative protection regime. It might be relevant for the textiles sector, but would most likely not encompass innovative products in other industrial sectors where minor innovation occurs.

- Is trade secret protection a viable alternative?
Regardless how the national courts would apply trade secret protection, this system can only be complementary rather than a substitute to utility model protection. This is because for trade secret protection to apply, the information subject to protection must be kept secret or confidential and only disclosed in circumstance in which an obligation of confidentiality can be imported. It would therefore not cover most cases where an innovative product is imitated or copied by a competitor or user.
- If available, are any of these alternative systems being used by MSMEs?

In addition, non-IP related alternatives should also taken into account. In this regard, the WIPO study on Innovation and SMEs points out the following:

Given some of the barriers faced in using the patent system, SMEs often use alternative means of appropriating their innovations. Some of the alternatives to patenting include secrecy, exploitation of lead-time advantages, moving rapidly down the learning curve, use of complementary sales and service capabilities, technical complexity, on-going innovation, relationships based on trust and use of trademarks to differentiate their products from those of imitators. It is often noted that secrecy and lead-time advantages may be the most common way of appropriating innovations among firms, particularly (though not exclusively) among SMEs.⁵¹

Especially in case any of these ‘non’ IP alternatives encourage further innovations, or at least do not allow for copying or imitation by others to serve as disincentive, they are one argument in favour of retaining the status quo in terms of IP protection. In some industrial sectors natural lead time in particular will make any specific new form of IP right obsolete. Such sectors may be those in which other factors than imitation or copying are decisive for successful product development – such as skilled personnel, know-how, including traditional knowledge, infrastructure, raw materials, etc. Whether these or other factors may play a relevant role, is another aspect to be taken into account.

4. Domestic IP Infrastructure (IP Offices, Courts, Professionals)

Any decision on which form of IP protection – if any – to be introduced or modified in order to protect small-scale and incremental innovation should be taken with the relevant domestic IP infrastructure and its use by the main target group of such protection, in this case SMEs, in mind. This aims to ensure that the legal protection regime chosen actually can deliver meaningful results on the ground. Especially for SMEs,

- the familiarity with the IP system in general and its potential utility for SMEs;
- the availability of support and/or awareness programmes in applying for IP rights,
- the costs involved for using the system, and
- easy and affordable access to legal services, the court system and other IP enforcement tools

is of crucial importance. For a system especially designed to protect the results of innovative activities by SMEs, these aspects will probably have a greater bearing on the overall success of the system than its substantive rules. Of course, they may involve further costs and administrative efforts than simply introducing a new IP right or modifying existing ones. Nevertheless, a tailored legal regime should be accompanied – to the extent possible – by

⁵¹ *WIPO*, Intellectual Property Rights and Innovation in Small and Medium-Sized Enterprises (2004), at 8.

equally tailored measures which focus on the practical usability of the system for its main target group, SMEs.

The following issues therefore should be addressed by policy makers:

- How detailed – if existing – is the knowledge of SMEs of the IP system?
- To what extent do SMEs generally use the domestic IP system? In particular:
 - o Are there any awareness programmes by the IP Office (or other institutions) focussing on SMEs?
 - o Is there any support for SMEs in registering or applying for IP rights?
 - o Do SMEs use the judicial system to settle IP related disputes; especially do they bring infringement proceedings?
 - o Are legal services (advice, litigation) from attorneys, etc. affordable to SMEs?
 - o What role do IP rights play for SMEs in their business activities in general and in protecting the results (good, services, processes) of their innovative activities in particular?
 - o If so, what kind of IP rights are relied upon by SMEs?
- Are there any factors outside the IP system which may affect the ability of MSMEs to use the IP system to protect their innovations?

In sum, the considerations discussed in this section should guide the decision of policy makers in developing countries on how to deal with sub-patentable innovation. It is evident from the number of factual questions raised above that such a decision always is highly dependant on the domestic circumstances addressed in the considerations above.