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Creating a “model” utility model patent system

A comparative analysis of the utility model patent systems in Europe and China

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A comparative analysis of the utility model patent systems in Europe and China

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Abstract: Although it is difficult to create an optimal "model" of the exact types of every aspect of every country's utility model patent system, this study illustrates that it is possible to create a useful legal, policy, and institutional framework based upon an understanding of the statutory, procedural, and institutional composition of utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy; reasons behind the composition, including any revisions to, these systems; and usage of the systems. It also briefly discusses relevant experiences of Belgium and the Netherlands.

Keywords: utility model patent systems, comparative analysis, Europe, China, substantive law, procedural law, institutions, patent quality, innovation

ABOUT THIS STUDY, AND ACKNOWLEDGEMENTS

This study is part of an ongoing activity on utility model patent (hereafter abbreviated as "utility model") systems under the "IP Key" Project (short for "Intellectual Property: A Key to Sustainable Competiveness") – a three-year project with multiple activities every year, running from 2013-2016. The project is funded by the European Commission and the Office for Harmonization in the Internal Market (OHIM), and implemented by OHIM with support from the European Patent Office (EPO). It serves as the vehicle for implementing the Administration Agreement on the New EU-China Cooperation on Intellectual Property signed in July 2013 between the European Union and the Government of the People's Republic of China. The IP Key activity on utility models in 2014, on which this paper is based, is conducted in partnership with China's State Intellectual Property Office (SIPO) and with the support of representatives of the patent offices in Austria, the Czech Republic, Finland, France, Germany, and Italy. It consists of a questionnaire exchange from European stakeholders on the workings of certain aspects of China's utility model system, and a questionnaire from stakeholders in China on the utility model systems in certain EU Member States; as well as a roundtable on the workings of the utility model systems in China and the six EU Member States mentioned, which was held from May 21st - May 22nd 2014 at SIPO's headquarters in Beijing, China. In addition to information from the aforementioned exchanges, this study incorporates original legal research, a literature review, follow-up consultations with experts from the aforementioned patent offices, and consultations with other experts in the field of utility model systems.

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EXECUTIVE SUMMARY

This study is part of an ongoing activity on utility model patent (hereafter abbreviated as "utility model") systems under the "IP Key" Project. The IP Key activity on utility models in 2014, on which this paper is based, is conducted in partnership with China's State Intellectual Property Office (SIPO) and with the support of representatives of the patent offices in Austria, the Czech Republic, Finland, France, Germany, and Italy. It consists of a questionnaire exchange from European stakeholders on the workings of certain aspects of China's utility model system, and a questionnaire from stakeholders in China on certain EU Member States; as well as a roundtable on the workings of the utility model systems in China and the six EU Member States mentioned, which was held from May 21st - May 22nd 2014 at SIPO's headquarters in Beijing, China. In addition to information from the aforementioned exchanges, this study incorporates original legal research, a literature review, follow-up consultations with experts from the aforementioned patent offices, and consultations with other experts in the field of utility model systems.

This study provides a comparative analysis of the composition of utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy; reasons behind the composition, including any revisions to, the systems; usage of the systems; and resulting implications of these elements. It also briefly discusses relevant experiences of Belgium and the Netherlands. The study's cross-cutting findings as well as those relating to statutory and procedural instruments are summarised below.

Key cross-cutting findings:

- Theoretical and empirical economic research supports the idea that utility model systems, in at least some developing countries, can be useful tools to stimulate technological diffusion, learning, absorption, and, in turn, incremental innovation which in the longer term can lead to more advanced innovation. Additionally, as gauged by current usage rates of the utility model systems mentioned in this paper, it also appears that utility model systems are viewed as useful tools to protect inventions and enable competitiveness for at least some entities in some developed countries.

- Despite the aforementioned findings, a utility model system can grow to be of limited value in some developed countries. Utility certificates in France are said to be relatively unattractive to patentees given the legal uncertainty inherent in the unexamined right. In the Netherlands, similar legal uncertainty in their short-term patent system (treated as equivalent to a utility model system in this study) was deemed significant enough to outweigh positive aspects of the system, and led to its abolition in 2008. Similarly, due to such dynamics, Belgium abolished its petite/small patent system (treated as equivalent to a utility model system in this study) in 2009.

- The usage of utility models relative to invention patents may be a useful indicator of the optimality of the technological trajectory of many countries, including China – but not necessarily all countries. For example, the strong filings of utility model patents since 2005 in the Czech Republic appear to be an outlier to this trend.

- Although not necessarily an exhaustive list, the main factors identified as explaining the composition of a utility model system are:

- historical, whereby once an element is engrained in the system and there does not appear to be a convincing enough reason to change it, it will remain in the system;
- policy diffusion/legal transplant, whereby, working through a process of learning, emulation, competition, and/or a number of other dynamics, legal mechanisms from one country may find their way into another country;
- interpretational, whereby different institutions provide new views on how the utility model system should function;
- values, whereby views on ethical, moral, security, economic, among other issues determine how different utility model systems are constructed;
- technological, whereby some utility model systems may be designed to protect newly emerging and shorter lifecycle technologies;
- implementation of innovation and IP policies, whereby utility model systems can be designed to meet the objectives in such policies;
- simplification, whereby utility model systems are revised to be more practical and align with other aspects of the IP system;
- accommodation, whereby utility model systems are designed to cater to the needs of entities using the system;
- efficiency, whereby methods are developed to facilitate smoother working of the patent office;
- global-reach, whereby utility model systems can be calibrated to reflect the global nature of IP rights;
- substantiveness, whereby differing levels of depth in the examination phase for utility models reflect different perceptions of the optimality of such approaches;
- speed, whereby fast granting procedures are a key aspect of utility model systems;
- costs, whereby low costs are key components of utility model systems;
- target groups, whereby utility model systems can be designed to meet the needs of small-scale inventors and inventors in industries where technological lifecycles are shorter than ten years; and
- quality, whereby utility model systems are designed to maintain and/or improve the quality of utility model applications, granted utility models, and to ensure effective and efficient procedures for invalidating and otherwise enforcing against low-quality utility models.

- Revisions have been made to different utility model systems over time and will inevitably be considered in the future. Some of the main reasons identified for doing this, which are the same as some of the aforementioned factors explaining the composition of utility model systems, include interpretational factors; new methods to improve the efficiency of the work of the patent office; implementation of overarching innovation and IP policies; and, importantly, new ways to improve the quality of utility model applications, utility models granted, and the effectiveness and efficiency of procedures for invalidating and otherwise enforcing against low-quality utility models.

Key findings relating to statutory, procedural, and institutional instruments:

- **Duration**: It is reasonable for the maximum duration of utility models to be ten years, although there may also be a reasonable rationale for somewhat different durations
- **Official costs:** Official costs for utility models should be lower than for invention patents
- **Reductions in and subsidies for official costs**: Schemes to reduce utility model costs for specific entities and subsidise costs may yield some benefits, although should be approached cautiously as

they can also create negative impacts on patent quality and innovation or at a minimum not optimally use government resources

- **Electronic filing**: Electronic filing for utility models can be a useful mechanism to facilitate patent office efficiency
- **Translation**: Offices can require translation of utility model application documents into local language(s)
- **Duty of candor**: Requiring a duty of candor accompanied by penalties for non-compliance may have value but is not a universal aspect of utility model systems
- **Granting speed**: Utility models are ideally granted faster than invention patents
- **Patentable subject matter:** It is reasonable for patentable subject matter for utility models to at a minimum be restricted in a number of areas (for example, inventions inconsistent with public interest, order, policy and morality; schemes, rules and methods for programs for computers; certain methods for treatment of the human body by surgery or therapy; diagnostic methods practiced on humans; "essentially" biological processes for production of plants and animals; certain animal varieties; certain plant varieties; schemes rules and methods for mental/intellectual activities; schemes, rules and methods for playing games; scientific discoveries; scientific theories; mathematical methods; aesthetic creations; schemes, rules and methods for doing business; presentations of information; and the design of an apartment, the campus planning or the residential district planning). However, if checked appropriately by other mechanisms in a country's utility model system, it appears reasonable for there to be differences in subject matter protectable by utility models among countries (for example, in terms of protecting processes; program logic for data processing systems; diagnostic methods practiced on animals; methods of treating animals by surgery or therapy; microbiological processes; microbiological products; compositions containing microorganisms, and nucleic acids; certain substances like liquids and compositions and components of substances under certain conditions; the microstructure of a substance that is part of a technical solution; and substances obtained by means of nuclear transformation).
- **Novelty**: Novelty should of course be mandatory for utility models, and there may be benefits of an absolute novelty standard for some countries
- **Substantive Examination**: Substantive Examination of utility models does not need to be mandatory for all countries
- **Preliminary Examination**: Preliminary Examinations for utility models should at a minimum include an assessment of formalities, like clarity and completeness of claims and descriptions. Additionally, Preliminary Examinations can assess if the application "obviously" lacks novelty, which includes using a method to determine if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed obviously lack novelty – which is a useful method to ensure patent quality. It also appears useful for some countries to assess the patentability of subject matter in the claims and/or the industrial applicability of the solution in the application, even if such assessments only cover "obvious" non-conformity with these requirements.

- **Search Reports in the Preliminary Examination stage**: Including a Search Report for utility models alongside their Preliminary Examination can be a useful method for some countries to ensure quality of utility models
- **Search Reports or other novelty reports**: Offering Search Reports or another form of report listing prior art relevant to a utility model application prior to publication of the application to the applicant upon request and for a fee and/or offering such a report to any entity at any time after the utility model is granted for a fee, and making such a report available to the public, can provide more certainty to an otherwise often notably uncertain IP right
- **Patent Evaluation Reports**: Patent Evaluation Reports are primarily intended to help courts decide whether to stay a utility model infringement proceeding until the administrative decision on validity is issued by the patent office
- **Third party observation mechanism**: A third party observation mechanism can be a useful tool for some countries to ensure poor quality utility models are not granted. Another less formal mechanism, under which utility models are published and via which third parties can submit petitions/observations to the patent office, even if not legally binding per se on the granting of the utility model, can be a useful mechanism for quality oversight in some countries.
- **Inventive step requirements**: There does not appear to be strong evidence that utility models must have the same inventive step requirement as invention patents, although in statute and/or in practice some countries have this requirement
- **Methods to determine inventiveness**: It is unclear exactly what constitutes best internal practice to determine inventiveness for utility models (e.g. via restricting pieces of prior art reviewed and/or restricting technical fields reviewed), although there appears to be benefits in allowing a flexible approach to doing so
- **Amendments**: It is reasonable to allow amendments to utility model applications under certain conditions
- **Parallel filings**: Allowing parallel filings of utility models and invention patents in certain circumstances can be a useful method to optimise patent protection
- **Double-granting**: Double-granting of invention patents and utility models is allowed in some countries, although has been reported in some countries to have mixed impacts
- **Invalidation proceedings**: Different countries use different institutional (courts vs. patent offices) and procedural mechanisms for invalidation proceedings, but regardless of who is making a validity judgment as part of the proceeding, it appears necessary to ensure the decision-makers are collectively experts in the field, capable of assessing both the legal and technical elements of the case
- **Infringement proceedings**: Different countries use different institutional (some involve the patent offices, some do not) and procedural mechanisms for infringement procedures. In countries where patent offices are involved in infringement proceedings, it is useful to require the courts to consider relevant opinions of the patent office. A range of countries provide the same judicial protection (outside of the longer duration of protection provided to invention patents and possible differences in rules surrounding commercialisation of patents) for utility models as they do for inventions patents.

- **Internal quality control**: Solid internal quality control procedures are important to ensure a certain level of quality in examination, re-examination, and/or invalidation procedures, and ensure the overall efficiency of the utility model system

Although focusing specifically on the utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy, this study reveals a range of findings that should be applicable across a wide range of countries. Although it is difficult to create an optimal "model" of the exact types of every aspect that should go into every country's utility model system, this paper illustrates that it is possible to create a useful legal, policy, and institutional framework based upon an understanding of the composition of utility model systems in several different countries; reasons behind the composition, including any revisions to, the systems; and usage of the systems. This is particularly useful for countries responding to challenges in their own systems or those considering instituting a utility model system for the first time. It should also, more generally, be useful for other government officials and scholars involved in IP, science and technology (S&T), and innovation policymaking; and for businesspeople and IP professionals interested in learning more about the workings and functioning of utility model systems around the world. The framework could be further developed via a similar comparative assessment of other countries' utility model systems not analysed in this paper.

1. INTRODUCTION

1.1 The purpose and geographical distribution of utility model systems

The utility model patent (hereafter abbreviated as "utility model") system[1] was first developed in Germany in 1891, and since then 90 countries have developed utility model systems (WIPO 2012).[2] Within these systems, there are a range of fundamental statutory and procedural differences (Richards 2010).[3]

There is theoretical, as well as empirical, support for the idea that utility model systems are useful for technological development and innovation in developing economies. Evenson and Westphal (1995) finds that the utility model systems in countries like South Korea facilitated technological development.[4] World Bank (2002) uses case studies from Brazil and the Philippines to show how the utility model systems in those countries stimulated technological development.[5] Maskus and McDaniel (1999), using econometric approaches, show that the utility model system in Japan enabled increases in total factor productivity (TFP) and stimulated technological catch-up.[6] Kardam (2007), which focuses on Japan but draws experience from Germany and a range of other countries, provides empirical evidence showing utility model systems enable improved technological diffusion and learning that leads to incremental innovation (which is distinct from "breakthrough innovation").[7] Kumar (2002), looking at the utility model system in Japan, South Korea, and Chinese Taipei (Taiwan), provides empirical evidence showing utility model systems enable technological learning that leads to incremental innovation and ultimately higher levels of innovation.[8] Zeitsch (2013) suggests that developed countries that are net importers of new technology, such as Australia, could benefit from a utility model system that aids the absorption and/or adaptation of such technologies by local firms.[9]

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[1] The definition of "utility model"/equivalent of a utility model *used for this study* is a "second tier" patent-type of right that has a shorter allowable duration of protection *and* lower requirements for granting than an invention patent (e.g. no Substantive Examination for granting, and/or lower inventive step than for invention patents or no inventive step).

[2] WIPO, 2012. Where can utility models be acquired? Retrieved on August 5th 2014 from <http://www.wipo.int/sme/en/ip_business/utility_models/where.htm>

[3] Richards, J., 2010. Utility model protection throughout the world. Intellectual Property Owner's Association. Retrieved on April 23rd 2014 from <http://www.ipo.org/AM/Template.cfm?Template=/CM/ContentDisplay.cfm&ContentID=25244>

[4] Evenson, R., Westphal, L. (1995). Technological Change and Technology Strategy, in: J. Behrman and T. N. Srinivasan (eds.) Handbook of Development Economics, 3A, Amsterdam, North-Holland, pp 2209-2299.

[5] World Bank (2002). Global Economic Prospects and Developing Countries. Oxford University Press, New York.

[6] Maskus, K., McDaniel, C., 1998. Impacts of the Japanese Patent System on Productivity Growth. Japan and the World Economy 11, 557-574.

[7] Kardam, K. S., 2007. Utility model – A tool for economic and technological development: A case study of Japan. World Intellectual property Organization and Japanese Patent Office. Retrieved on June 25th 2014 from <http://www.training-jpo.go.jp/en/uploads/text_vtr/ws_pdf/kardam.pdf> Note: "Breakthrough innovation" (which may also be called "radical" or "discontinuous" innovation) is creation of brand new/cutting-edge innovations; breakthrough innovations often have the potential to create completely new markets and/or displace existing innovations. "Incremental innovation" is exploitation of existing innovations in a way that improves upon them, but less dramatically than via breakthrough innovation; incremental innovation typically involves less risk and takes less time than breakthrough innovation, resulting in solutions considered less cutting-edge than those from breakthrough innovation. (Source: Managing creativity and innovation: Practical strategies to encourage creativity, 2003. Harvard Business Essentials. Harvard Business School Publishing, Boston, Mass.)

[8] Kumar, N., 2002. Technology and economic development: experiences of Asian countries. Commission of Intellectual Property Rights, London.

[9] Although the author notes that the limited empirical survey results from the study do not provide strong enough evidence either way as to if such a system provides net benefits to the Australian economy. Source: Zeitsch, J., 2013. The Economic Value of the Australian Innovation Patent. Report prepared for IP Australia Discovery House, Australia. Retrieved on May 19th 2014

Several studies focus on the usefulness of the utility model system in mainland China in particular to stimulate competitiveness and incremental innovation. Liu (2011) finds that growth in utility models increased labour productivity in China.[10] Zhao and Liu (2005) finds that utility models in China had a significant impact on TFP from 1988 to 1998, and from 1999 to 2009 both invention patents and utility models had significant impacts on TFP (although invention patents had stronger impacts than utility models).[11] Li (2003) describes how individual inventors and small- and medium-sized enterprises (SMEs) in particular, although also large companies to some extent, in China have benefited from learning opportunities afforded by using utility models, which can enable innovation.[12]

The most extensive cross-country econometric studies supporting the idea that utility model systems in developing countries can facilitate technological learning, which in turn leads to incremental innovation and ultimately higher levels of innovation[13] and other forms of competitiveness, appear to be Lee et al. (2006)[14] and Kim et al. (2012).[15] Kim et al. (2012) succinctly describes how this process works: where domestic firms lag in technological capabilities, the utility model system enables protection of minor/incremental innovations that can be learning tools for developing more inventive technologies.[16]

The attractiveness of the utility model system lies in the fact that it provides an easier and cheaper alternative for patent protection than the invention patent system. Given utility models are generally easier and cheaper to obtain, they may be particularly advantageous for small and medium-sized enterprises (SMEs) who do not have as much money to spend on patenting as their larger counterparts (Juma 1989);[17](Janis 1999).[18] And, given the granting process for utility models is typically notably faster than the invention patent process, it can especially enable innovation (e.g., by allowing companies to

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from <http://www.acip.gov.au/pdfs/Economic_Value_of_the_Innovation_Patent_-_Final_Report_-_Verve_Economics_-_24_Mar_2013.pdf>

[10] Li, W., 2012. Analysis of impact of different types of patents on technological advancement in China. African Journal of Business Management 6, 3623-3629. Also see Liu, H., 2002. Patent System and Economic Development: Theory & Reality, Analysis on the Dynamic Utility of China's Patent System. China Software Science 10, 26-30; Sui, G., Shen, G., Song, J., 2005. The industrialisation of China's high-tech industry based on the region regional differences of patent level. Management World 8, 87-93 (in Chinese); and Huang, Z., Yu, P., 2007. The effects of technical innovation to economic growth of our country in recent years: an empirical study based on panel data models. Science and Technology Management Research 8, 74-77 (in Chinese)

[11] Zhao, Y. and S. Liu, 2011. Effect of China's Domestic Patents on Total Factor Productivity: 1988-2009. School of Statistics, Renmin University of China.

[12] Li, Y. (2003). Utility Models in China, in: Heath, C., Kamperman Sanders, A. (eds), Industrial Property in the Bio-medical Age: Challenges for Asia. Kluwer Law International, Netherlands, Hague, pp 257-268,

[13] Despite the literature reviewed herein, some recent sources suggest that although utility model systems can be effective tools to stimulate economic catch-up "there is no empirical evidence showing a positive correlation between innovation performance and utility models" (Source: Diaz Pozo, M., circa 2010-2014. Utility models" OECD and World Bank Innovation Policy Platform. <Retrieved on August 13th 2014 from <https://www.innovationpolicyplatform.org/content/utility-models>) This may be an overly cautious assessment given the clear correlation in some studies between rises in common innovation proxies (e.g. TFP) and utility model protection.

[14] Lee, K., Kim, Y. K., & Park, W. G. , 2006. Appropriate intellectual property protection and economic growth in countries at different levels of development. Retrieved from The American University, College of Arts and Sciences. Retrieved on August 1st 2014 from <http://www.american.edu/cas/faculty/wgpark/upload/Intellectual-Property-Rights.pdf>

[15] Kim, Y. K., K. Lee, W. G. Park and K. Choo, 2012. Appropriate intellectual property protection and economic growth in countries at different levels of development. Research Policy 41, 358–75.

[16] The authors also find that once reaching higher technological capabilities, firms rely more on invention patents and less on utility models.

[17] Juma, C., 1989. The Gene Hunters: Biotechnology and the Scramble for Seeds. Princeton University Press, Princeton.

[18] Janis, M.D., 1999. Second tier patent protection. Harvard International Law Journal, 40

quickly commercialise protected technologies) when the life-cycle of a product is quite short (e.g. for basic electronics) (Suthersanen 2006).[19]

In countries with lower inventiveness thresholds for utility models than for invention patents, the system is particularly useful for entities skilled at making small/minor improvements on existing inventions because the utility model system allows them to protect these inventions (Juma 1989). In a similar vein, many inventions from SMEs in developing countries have a lower standard of inventiveness and thus are prime candidates for free-riding by competitors, thus the ability to protect such inventions can help prevent such behavior and mitigate the effects of market failure by better stimulating innovation (Suthersanen 2006).

The utility model system can also provide a number of other benefits. Utility model protection allows small-scale innovators and other entities to stay in business in an environment where new technologies, foreign or otherwise, may threaten their competitiveness (Juma 1989). The speed with which utility models can be obtained may also be beneficial for some start-up firms as they look to attract investors (although at the same time the unexamined and/or otherwise uncertain nature of the right relative to invention patents brings with it potential costs and uncertainties) (Brack 2009).[20] Cross-cutting these findings, the literature on the economic benefits of utility model systems also focuses on how the systems enable catch-up by local/indigenous firms to foreign firms by enabling imitation and absorption of foreign technologies by local firms (Suthersanen 2006).

However, other evidence shows that utility model systems can create problems that undermine the value of such systems, or create challenges sometimes requiring the systems to be reformed. For example, Suthersanen (2006) suggests that utility model systems may be used against their original intention, whereby instead of being used by SMEs, large market players may abuse the system as a method to circumvent the more stringent invention patent granting process. SIPO (2013a) and SIPO (2013b) find that although the quantity of utility model patents in China has exploded in recent years, their quality deserves improvement, and initiatives have been undertaken to help ensure such quality.[21]

In Europe in particular, utility model systems in some countries have created problems so great that the systems were ultimately abolished. Due to the amount of legal uncertainty caused by the lack of substantive examination for the "short-term" patent (in this paper, treated as generally equivalent to a utility model) system in the Netherlands, it was abolished in 2008.[22] Similarly, in Belgium, due to the

[19] Suthersanen, U., 2006. Utility models and innovation in developing countries. UNCTAD Project on IPRs and Sustainable Development, Issue paper No.13, United Nations Conference on Trade and Development. Retrieved on February 10th 2014 from <http://www.unctad.org/en/docs/iteipc20066_en.pdf>

[20] Brack, H. P., 2009. Utility models and their comparison with patents and implications for the US intellectual property law system. Boston College Intellectual Property & Technology Forum, pp 1-15

[21] SIPO, 2013(a). Patent Applications Surge in China but Quality Remains Low. Retrieved on May 19th 2014 from <http://english.sipo.gov.cn/news/official/201305/t20130523_800009.html>; SIPO, 2013(b). Development of China's Utility Model System. Retrieved on May 6th 2014 from <http://english.sipo.gov.cn/news/official/201301/t20130105_782325.html>

[22] Short-term patents in the Netherlands had a maximum duration of six years. The system was abolished on June 5th 2008, and the last short-term patent in the Netherlands expired on June 3rd 2014. (Source: Written correspondence from A.A.M van der Meer, Dutch Ministry of Economic Affairs, on March 27th 2014 and August 21st 2014). The short-term patent was introduced in 1995, and did not require a prior art search. As of 1995, a prior art search for the 20-year patent was conducted and such patent was granted regardless of the outcome of the search. From 1995-2005 there were approximately 500-700 short-term patents granted in the Netherlands, and approximately 1,500-2,000 20-year patents were granted. An evaluation of the Dutch patent system in 2006 confirmed suspicions that the short-term patent was only popular with applicants of such type of patent and that, overall, the short-term patent system was creating significant legal uncertainty; as such, the short-term patent was abolished. The same investigation led to the requirement that a written opinion should be included with the Search Report for

legal uncertainty caused by the lack of novelty search for the "small patent" (in this paper, treated as generally equivalent to a utility model system) before granting, the entire system was abolished in 2009.[23]

1.2 Inter-country comparative analysis as a tool for analysing utility model systems

Although it is difficult, if not impossible, to create an optimal "model" of *the exact* types of *every* aspect that should go into *every* country's utility model system, it is possible to learn the rationale behind different systems, reasons why some have been revised over time, and to observe their usage. This has given rise to a number of inter-country comparative studies which focus on some of these elements.

Several studies analyse differences in the frameworks of utility models systems in different economies with a view to comparing how effective they have been to stimulate technological innovation and/or competitiveness. As mentioned, Kumar (2002); Lee et al. (2006); Kardam (2007); and Kim et al. (2012) each provide inter-country comparisons in their empirical economic analyses, collectively providing a detailed assessment as to how the utility models systems in Japan, Germany, South Korea, Taiwan, and a number of other economies function to stimulate technological learning and innovation. Suthersanen (2006) surveys a wide range of utility model systems and concludes that there are necessary similarities in the legal instruments of the systems but also necessary differences that reflect different economic and other circumstances. Grosse Ruse-Khan and Mukhtar (2012) provide a brief comparison of the utility model systems in Australia, China, Germany, and Malaysia, which serves as context for a detailed analysis of positive and negative aspects of introducing utility model protection in Pakistan and according recommendations.[24] Llewelyn (1995) provides an overview of a range of different utility model systems in Europe, with a view to assessing the feasibility of a community-wide utility model system.[25] Commission of the European Communities (1995) provides survey results from entities in some European Member States with utility model systems as to the workings of those systems.[26] Suthersanen (2001) also assesses the utility model systems in Europe.[27] Moga (2012) provides a brief comparison of the legal aspects of the utility model/equivalent systems in Australia, China, Germany, Japan, and Korea.[28]

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each 20-year patent application, and that Search fees should be reduced from 340 Euros to 100 Euros for the 20-year patent. "*After the changes, the total number of patent filings for 20-year patents was nearly equal to the sum of the filings for the short-term and 20-year patents before the changes. It is therefore safe to assume that the users of the six year patent have changed over to the 20-year patent. It should however be kept in mind that at the same time the fee structure was also changed in favour of the applicants and furthermore the option to file in English was introduced, both of which have an upward effect on filing numbers.*" (Source: Written correspondence from D.J. de Groot, Director of the Netherlands Patent Office, August 22nd 2014)

[23] Small patents (which have a maximum duration of six years) granted before January 8th 2009 are still maintained under the old legal regime in Belgium until they expire. The abolition of the system has had little influence on the number of filings or preference for invention patents from 2009 till present. (Source: Written correspondence from Geoffrey Bailleux, OPRI, Belgian Ministry of Economy, July 2nd 2014)

[24] Grosse Ruse-Khan, H., Mukhtar, A., 2012. Utility Model Protection in Pakistan: An Option for Incentivising Incremental Innovation. Report commissioned by WIPO under the TRTA-2 Program <Retrieved on November 13th 2014 from <http://www.ip.mpg.de/files/pdf2/WIPO_Study_on_Utility_Model_Protection_in_Pakistan.pdf>

[25] Llewelyn, M., 1995. Proposals for the introduction of a community utility model system: A UK perspective, Web Journal of Current Legal Issues.

[26] The Commission of the European Communities, 1995. Green Paper: The Protection of Utility Models in the Single Market, presented by the Commission in Brussels July 19th 1995 <Retrieved on July 2nd 2014 from http://europa.eu/documents/comm/green_papers/pdf/utility_model_gp_COM_95_370.pdf>

[27] Suthersanen, U., 2001. Incremental Inventions in Europe: A Legal and Economic Appraisal of Second Tier Patents, in Journal of Business Law, 319-343

[28] Moga, T., 2012. China's utility model patent system: Innovation driver or deterrent. US Chamber of Commerce Publications.

Inter-country comparative analyses of how utility model systems work and perhaps should be reformed are of a particularly high importance to a range of countries at present. As of 2014, the European Commission's Directorate General for the Internal Market and Services (DG MARKT) is overseeing a study conducted by external consultants on the economic impacts of different utility model systems in Europe (DG MARKT 2013).[29] The Australian government's Council on Intellectual Property has been conducting a review of their equivalent of a utility model system (called the "innovation patent" system), which includes a comparative analysis of other countries' systems (ACIP 2013).[30] The Indian government's Department of Industrial Policy & Promotion has conducted analyses of other countries patent systems as it considers developing a new utility model system in India (DIPP 2011); (Leung 2014).[31]

1.3 Purpose of this study: an inter-country analysis of six Member States in the EU and China

In order to build on the aforementioned literature, further comparative study would be useful to provide additional perspectives as to the composition, usage, and resulting implications of different countries' utility model systems. This paper seeks to contribute in this area by investigating the following research questions:

- How do the utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy compare in terms of core statutory, procedural, and institutional components?
- What are the main factors explaining the composition of, including any revisions to, these systems?
- How have these systems been utilised in recent years?
- What implications do these findings have for countries considering revising an existing utility model system or newly developing one?

There appears to be an absence of up-to-date literature answering these questions. As such, it appears that this paper is unique and should be a useful contribution to the body of literature. It should be particularly useful for government officials, academics, and businesspeople responding to challenges in their own countries' systems or creating a utility model system for the first time; more generally, for government officials and scholars involved in IP, S&T, and innovation policymaking; and for businesspeople and IP professionals interested in learning more about the workings and functioning of utility model systems around the world.

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[29] DG MARKT, 2013. Study on the economic impact of the utility model legislation in selected Member States – Invitation to tender MARKT/2013/065/D. European Commission Directorate General for the Internal Market and Services. Study to be led by Alfred Radauer of Technopolis and a study team of other experts.

[30] ACIP, 2013. Review of the Innovation Patent System. Australian Council on Intellectual Property, Australian Government. Retrieved on July 15th 2014 from <http://www.acip.gov.au/reviews/all-reviews/review-innovation-patent-system/>

[31] DIPP, 2011. Discussion Paper on Utility Models. Department of Industrial Policy & Promotion, Government of India. Retrieved on July 16th 2014 from <http://dipp.nic.in/english/Discuss_paper/Utility_Models_13May2011.pdf>; also see Leung, P., 2014, Oct. 9. Are utility models a key part of India's economic strategy? Managing Intellectual Property. Retrieved on September 12th 2014 from <http://www.managingip.com/Blog/3388782/Are-utility-models-a-key-part-of-Indias-economic-strategy.html>

The remainder of this paper is structured as follows: the next (second) section provides a brief overview of the research methodology; the third section lays out the findings answering the research questions; and the last section concludes.

2. METHODOLOGY

As mentioned in the Introduction, this paper attempts to answer four research questions. The research method and data employed for doing so, as well as the scope of this research, are described in this section.

2.1 Research method and data

This study is part of an ongoing activity on utility model systems under the "IP Key" Project (short for "Intellectual Property: A Key to Sustainable Competiveness") – a three-year project with multiple activities every year, running from 2013-2016. The project is funded by the European Commission and the Office for Harmonization in the Internal Market (OHIM), and implemented by OHIM with support from the European Patent Office (EPO). It serves as the vehicle for implementing the Administration Agreement on the New EU-China Cooperation on Intellectual Property signed in July 2013 between the European Union and the Government of the People's Republic of China. The IP Key activity on utility models in 2014, on which this paper is based, is conducted in partnership with China's State Intellectual Property Office (SIPO) and with the support of representatives of the patent offices in Austria, the Czech Republic, Finland, France, Germany, and Italy. It consists of a questionnaire exchange from European stakeholders on the workings of certain aspects of China's utility model system, and a questionnaire from stakeholders in China on the utility model systems in certain EU Member States; as well as a roundtable on the workings of the utility model systems in China and the six EU Member States mentioned, which was held from May 21st - May 22nd 2014 at SIPO's headquarters in Beijing, China. In addition to information from the aforementioned exchanges, this study incorporates original legal research, a literature review, follow-up consultations with experts from the aforementioned patent offices, and consultations with other experts in the field of utility model systems. Further details of these components and how they fit into this paper are described below.

The first step in carrying out the utility models activity was to identify which EU Member States' utility model systems (in addition to China's system) should be researched. IP Key compiled a list of the 21 EU Member States who currently have or once had a utility model system/the equivalent of what could be considered a utility model system. These countries are listed in Table 1 below.

Table 1: Countries with and without utility model/equivalent systems[+] in the European Union

Currently have (19)	Austria, Bulgaria, Croatia†, Czech Republic, Denmark, Estonia, Finland, France***, Germany, Greece, Hungary, Ireland**, Italy, Poland, Portugal, Romania, Slovenia, Slovakia, and Spain
Used to have (2)	Belgium* and the Netherlands**
Did not/currently do not have (7)	Cyprus, Latvia, Lithuania, Luxembourg, Malta, Sweden and the United Kingdom

Sources: Richards (2010); Consultations with representatives from Belgian Ministry of Economy, and Netherlands Ministry of Economy and the Director of the Netherlands Patent Office; von Uexkull and Holder (2006),[32] Innovaccess[33]; and review of Croatia's Consensual Patent Law. Notes: + This classification follows the definition *used for this study* that a utility model patent/equivalent of a utility model patent has a shorter allowable duration of protection *and* lower requirements for granting than an invention patent (e.g. no Substantive Examination for granting, and/or lower inventive step than for invention patents or no inventive step). †Croatia has a "consensual patent" that meets these criteria.[34]**The Netherlands had a "short-term" patent which meets these criteria.[35] *Belgium had a "small/petite" patent which meets these criteria.[36] **Ireland has a "short-term" patent which meets these criteria. ***France has a "utility certificate" which meets these criteria.

After providing some examples of the differences among the Member States' utility model systems, IP Key asked SIPO to pick ten EU Member States they were interested in researching further in 2014. IP Key then, based on a preliminary analysis, compared the systems of each European country to one another and to the Chinese system, and then from this selected six of the ten Member States with a view to providing a diverse yet relevant mix of utility model systems. This approach was used to provide a useful sample of countries while balancing project budget and other resource constraints.

The six Member States ultimately chosen were Austria, the Czech Republic, Finland, France, Germany, and Italy. The authority handling patent matters in each of these countries was contacted by OHIM and all offices agreed to participate in the IP Key activity and nominated the following representatives: Dr. Johannes Werner, Austrian Patent Office (APO); Šimon Bednář, Industrial Property Office of the Czech Republic (IPO CZ); Hanna Aho, Finnish Patent and Registration Office (PRH); Jean-Baptiste Barbier, French National Industrial Property Institute (French IP Office) (INPI); Dr. Johannes Holzer, German Patent and Trade Mark Office (DPMA); and Giovanni de Sanctis, Italian Patent and Trademark Office (IPTO). (Although not attending the seminar, Loredana Guglielmetti from IPTO and Emilie Gallois from INPI provided highly useful answers in writing to questions related to the research for this study.) At the May 2014 roundtable, these European representatives were joined by fifteen representatives from SIPO, including the Deputy Director General of the Utility Model Examination Department, Directors and other representatives of different divisions within the Utility Model Examination Department, and representatives from the Patent Re-Examination Board (PRB) and other SIPO departments.

Various resources were used to gather information on the seven utility model systems selected. Each of the seven patent offices provided a "country fiche," which briefly summarised the main statutory, procedural, and administrative aspects of their respective utility systems, and these were shared at the May 2014 roundtable. Also, different participants were asked to provide a presentation on a particular component of their utility model systems at the roundtable. This information was supplemented by in-depth discussion during the course of the two-day roundtable. It was also supplemented with answers provided by the representatives of the European Member States' patent offices to a questionnaire from SIPO and Chinese stakeholders, and with answers from SIPO on a questionnaire submitted by IP Key on behalf of European stakeholders.

[32] Von Uexkull, A., Holder, N. 2006. A clever move: Utility models for second medical use inventions in Germany. Patent World 183.

[33] INNOVACCESS. A European Network of National Intellectual Property Offices. Retrieved on January 15th 2014 from <http://www.innovaccess.eu>

[34] The consensual patent has a shorter lifespan than an invention patent, protects inventions, and does not undergo a Substantive Examination before grant.

[35] The Netherland's short-term patent had a shorter allowed duration of protection than an invention patent and both did not undergo a Substantive Examination before grant.

[36] Belgium's small/petite patent had a shorter allowed duration of protection than an invention patent and both did not undergo a Substantive Examination before grant.

Information gleaned from the aforementioned activities was supplemented with a substantial amount of additional research. Original legal research was conducted by the author on all the relevant legislation governing the utility model framework in each of the seven countries. Depending on the country, this required review of countries' utility model laws and patent laws, and/or codes of industrial property. Also, follow-up consultations were conducted by the author with the patent office representatives that attended the May roundtable, other members of these patent offices, and several other IP experts. Brief consultations were also conducted with representatives from the Ministry of Economy in Belgium, the Patent Office of the Netherlands, and the Ministry of Economy in the Netherlands. Additionally, a multi-disciplinary literature review was conducted by the author.

2.2 Scope

In terms of scope, this study is only intended to serve as a brief and concise guide to answering the research questions posed herein. For some issues, like the section on infringement rules and usage of the utility model systems in the seven countries, this study is intentionally kept especially brief. It is envisaged that future research under the IP Key project might build upon this study.

3. FINDINGS AND DISCUSSION

3.1 Comparison of main statutory, procedural, and institutional aspects of the systems

(1) Duration of protection[37]

Austria, China, the Czech Republic, Finland, Germany, and Italy provide up to ten years of protection for their utility models from the date of filing. France provides up to six years of protection for its utility certificates from the date of filing. Fees must be paid at different periods within this time period in order to maintain the validity of the utility models/utility certificates. By way of comparison, the duration of protection for an invention patent in all the seven countries studied is twenty years from the filing date.[38]

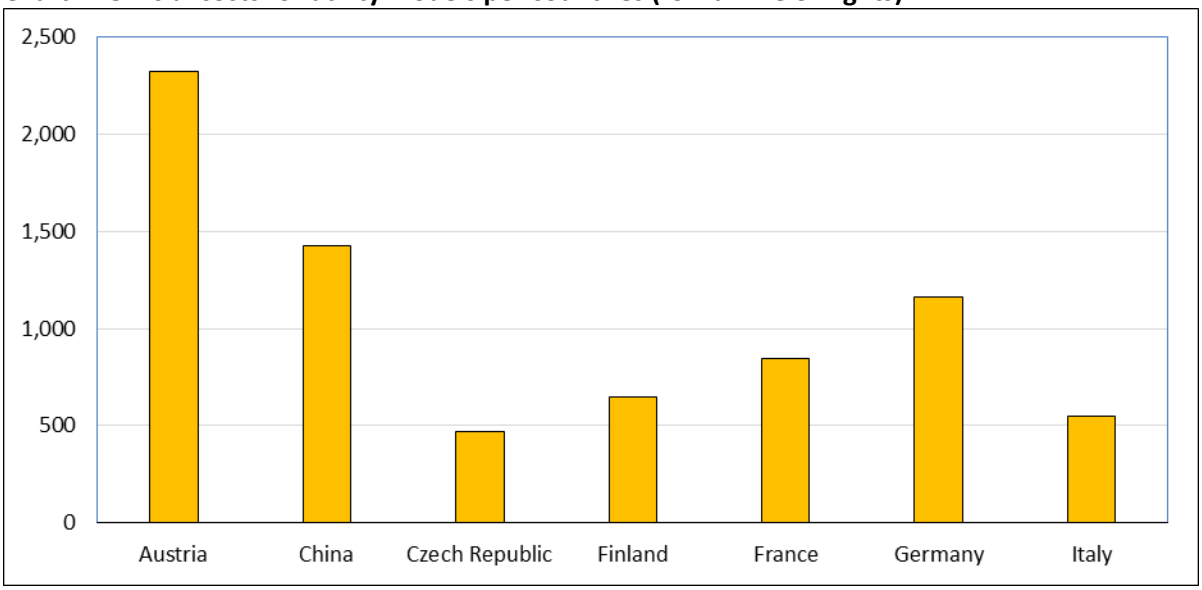
(2) Official costs

The official (unsubsidised/otherwise reduced) costs for filing, granting, and maintaining utility models vary among the countries studied. The Czech Republic has the cheapest total official fees for filing, granting and maintaining a utility model for the maximum duration of the right, at EUR 468. Austria has the most expensive fees at EUR 2,323. The other countries fall in between this range, with the fees for Italy being EUR 550, Finland being EUR 650, France being EUR 844, Germany being EUR 1,160, and China being EUR 1,430. Chart 1 illustrates these results. For reference, the differences in total official fees for filing, granting and maintaining an invention patent for its maximum duration vs. those for filing, granting, and maintaining a utility model for its maximum duration are greatest in Finland, the Czech Republic, Italy, Germany, Austria, China, and France, respectively (see Chart 2).

[37] Although China and the six countries from the EU studied set a maximum duration for utility model at ten years or less, it is worth noting that, according to Richards (2010), some other countries in the world, for example, Portugal (an EU country), allow longer durations of protection for utility models (e.g. 15 years).

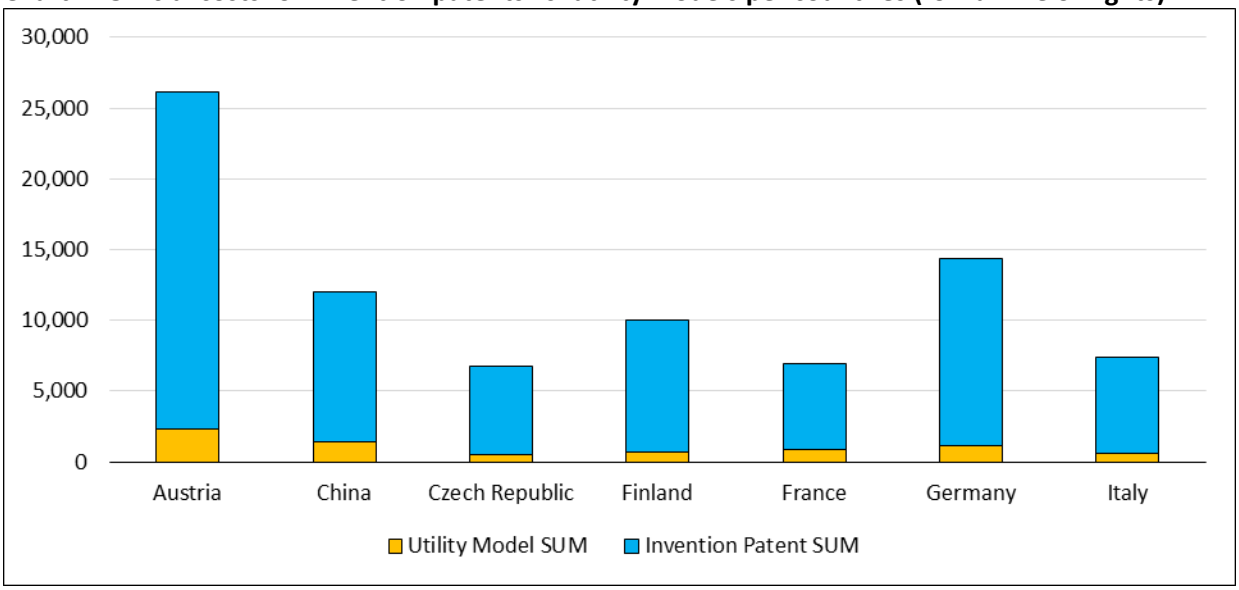
[38] Consultations with respective patent offices, May 2014

Chart 1: Official costs for utility models per countries (for full life of rights)



Sources: raw data from patent office representatives; author's calculations.[39]

Chart 2: Official costs for invention patents vs. utility models per countries (for full life of rights)



Sources: raw data from patent office representatives; author's calculations.[40]

[39] Note 1: Only includes "basic" and mandatory official fees or filing and granting the utility model (i.e., filing fees, maintenance fees for the full possible life of the right, any stamp tax/printing fees that are mandatory to grant the right). (To be sure, "basic" fees do not include those for particularly extensive/lengthy applications – e.g. those with a large number of claims and many pages of drawings – for which additional costs are charged at some offices. They do not include "external" fees, for example fees for late payment of annuity fees. They do not include attorney/agent fees). Fees converted to EUR based upon exchange rate as of September 2014; all conversions were rounded.

[40] Note 1: Only includes "basic" and mandatory official fees for filing and granting the invention patent (i.e., filing fees, maintenance fees for the full possible life of the right, any stamp tax/printing fees that are mandatory to grant the right, and mandatory Substantive Examination costs). (To be sure, "basic" fees do not include those for particularly extensive/lengthy applications – e.g. those with a large number of claims and many pages of drawings – for which additional costs are charged at

(3) Monetary incentives for filing: reduced and subsidised costs

Finland, France, Germany, and Italy provide reduced application fees for utility models filed electronically as opposed to by paper.[41] China,[42] the Czech Republic,[43] and Austria[44] do not provide reduced fees for utility model applications filed electronically.

Some countries surveyed provide reduced official fees to particular types of entities filing utility models. The Czech patent office charges a reduced fee of 50% of the application fee (down to EUR 18 from EUR 36) for a utility model patent when an individual inventor (rather than a business or other entity) is the applicant.[45] The French office provides a 50% reduction off the official costs associated with the main procedure for filing and granting a utility certificate, as well as reduced maintenance fees to individuals, SMEs with less than 1,000 employees whose capital is not more than 25% owned by an entity not meeting certain conditions, and to non-profit organisations (NPOs) in the sector of education and research.[46] The Austrian[47] and Finnish[48] patent offices do not provide any such fee reductions. DPMA does not provide fee deductions for individual inventors or small businesses in particular, but does exempt certain entities, like the Federal Republic of Germany itself, certain public law entities, municipal governments and municipal associations under certain conditions, and WIPO institutions, from paying official utility model fees.[49]

Italy provides monetary support for filing utility model patents outside of the reduction in fees for filing electronically. Universities and research institutes, the Ministry of Defense, and Ministry of Agriculture are not charged any official fees for filing utility models or invention patents in Italy.[50] Outside of these exemptions, IPTO itself does not provide incentives specifically designated for utility models; however, given that in Italy "simultaneous"/alternative applications are allowed for invention patents and utility models, and given one can be rejected for the other (see the below section on parallel filings for more details), it is possible that an invention patent application could be filed and qualify for an incentive intended for invention patents although ultimately the right takes the form of a utility model which in effect enjoys the incentive.[51] In addition, according to Munari and Liang (2012), outside of the central

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some offices. They do not include "external" fees, for example fees for late payment of annuity fees. They do not include attorney/agent fees). Fees converted to EUR based upon exchange rate as of September 2014; all conversions were rounded.

[41] Ibid

[42] Written correspondence from Dr. Oliver Lutze, Spruson & Ferguson, June 11th 2014

[43] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

[44] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014

[45] Written correspondence from Šimon Bednář, IPO CZ, May 2014

[46] Written correspondence from Emilie Gallois, INPI, September 19th 2014. Fees for e-applications are reduced to 13 EUR from 26 EUR, fees for paper applications are reduced to 18 EUR from 36 EUR; fees for grant are reduced to 43 EUR from 86 EUR; and fees for maintenance fees are reduced to 18 EUR from 36 EUR per year from the first to fifth year, and to 54 EUR from 72 EUR for the sixth year. SMEs and NPOs must make a request for fee reductions within the period of payment of the filing fee, certifying that they meet the criteria for entities qualifying for the fee reductions.

[47] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014

[48] Written correspondence from Hanna Aho, PRH, September 17th 2014

[49] According to Section 4(1) of the Regulation of the Administrative Costs of the German Patent and Trade Mark Office. Applications meeting these requirements are seldom filed. The reductions do not include applications from private entities like companies whose shareholder is the Federal Republic of Germany or a German Federal State. (Source: Written correspondence from Dr. Johannes Holzer, DPMA, October 31st 2014.)

[50] Consultations with Giovanni de Sanctis, IPTO, May 22nd 2014 roundtable; written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014

[51] Consultations with Giovanni de Sanctis, IPTO, May 22nd 2014 roundtable. Note: In order to qualify for this scheme, the application must be thoroughly assessed according to a number of criteria. For more on monetary support/incentives for

patent office and central-level Ministry of Economic Development, local chambers of commerce and provincial governments in Italy provide subsidies to entities for filing fees, patent attorney costs, among other costs associated with filing invention patents and utility models.[52]

China has provided significant government-led incentives for utility model filings. Individual inventors in China can submit a request to reduce their annual utility model maintenance fees by 25% and companies can submit a request to reduce annual utility model maintenance fees by 15%.[53] The central-level Ministry of Finance (MoF) and sub-central level MoF provides subsidies for application costs, and other costs associated with Patent Cooperation Treaty (PCT) filings and other methods of filing abroad, as well as maintaining these patents abroad – these can apply to invention patents and utility models. Various provincial and local governments have provided subsidies specifically for costs associated with filing utility models in China. As of 2007, 27 provinces in China had a patent subsidy program (Li 2012).[54] This being said, in December 2013 SIPO proposed dramatic reforms to these patent subsidy systems.[55]

(4) Electronic filing

All countries surveyed allow electronic filing for utility models. As noted in the previous sections, Finland, France, Germany, and Italy provide reduced application fees for utility model patents applications filed electronically as opposed to by paper.

(5) Translation of materials

All countries studied require translation of application documents for utility models, at least after a certain time period from filing, into the local language(s). Since Finland has two official national languages, it has requirements regarding writing parts of utility model applications in both languages.[56]

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patents in Italy via the IPTO see <http://www.uibm.gov.it/index.php/brevetti/archivio-articoli-brevetti/2007656-incentives-to-companies> (retrieved on July 25th 2014)

[52] Munari, F., Liang, X. (2012) Are patent subsidies for SMEs effective? Empirical evidence from Italy. EPIP Conference. Retrieved on April 25th 2014 from <http://www.epip.eu/conferences/epip06/papers/Parallel%20Session%20Papers/MUNARI%20Federico.pdf>
Notes: pp 24-25 provides an overview of the details of subsidies in Italy as gathered from 34 measures promoted by local chambers of commerce, provincial, regional or national authorities from 2002-2010.

[53] Written correspondence from Xie Qingyi, SIPO, May 2014

[54] Li, X., 2012. Behind the recent surge of Chinese patenting: an institutional view. Research Policy 41, 236-249.

[55] See Several Opinions of the State Intellectual Property Office on Further Improving Quality of Patent Applications (issued December 18th 2013), especially Article 2: *"Improving general funding policies for patents. General funding policies for patents shall be oriented towards support for the small and the weak, with micro, small and medium-sized enterprises, public institutions, research institutions, and individual invention applicants as the primary recipients of funding with regard to the official charges of domestic and international patent review institutions and service fees of patent agencies. In accordance with the requirements of 'authorisation first and partial funding,' the general funding policies for patents shall be constantly adjusted and improved. Funding shall only be offered to a patent application which has obtained authorisation. The total amount of funding at all levels that a funding recipient obtains shall not be higher than the sum of all official charges and patent agency service fees that the recipient has paid. To receive funding for a utility model patent application or a design patent application, a patent search analysis report issued by a patent agency or a patent information service institution, or a patent right evaluation report issued by the administrative patent department under the State Council shall be provided."*

[56] Section/Article 7 of the Utility Model Law of Finland (2013) requires: *"The description and claim shall be written in Finnish or Swedish in compliance with the language laws in force. If the claim is written in one only of the two national languages, the Registering Authority shall have the claim translated into the other national language before the utility model is registered. The applicant shall pay the prescribed translation fee. Where the applicant is a foreigner, the description shall be written in Finnish and the claim in Finnish and Swedish. However, all applicants shall be entitled to write the description of the invention and the claim in both Finnish and Swedish. "*

(6) Duty of candor

None of the countries studied have provisions in their laws providing penalties for non-compliance with rules that applicants should submit known prior art references in their utility model applications (a so-called "duty of candor" requirement).[57]

(7) Publication of application documents, and time to grant

Out of the seven countries studied, Finland and Germany appear to have the shortest average time for granting a utility model. In Finland, upon request, application documents can be made public from the filing day or at latest as of 15 months from the filing date or priority date;[58] and the rough average time for granting a utility model in Finland from the date of filing is three months.[59] In Germany, the average publication time of a utility model application is six weeks prior to granting.[60] Utility models in Germany can be granted as quickly as four days after application if no formal or material objections are made and the fees have been paid;[61] in other circumstances, utility models are typically granted in three to four weeks if a patent attorney is involved, and when a patent attorney is not involved the average time is three months.[62]

The other countries studied have varying time periods under which they publish and grant utility models, although most grant utility models within one year from the filing date and all grant utility models within two years from the filing date. In the Czech Republic, the date of registration/granting is the same as the publication date for utility models,[63] and the average time for granting a utility model is four months from the date of filing.[64] Similarly, in China, utility model models are not published until the day of grant,[65] and the average time for granting a utility model is five months.[66] In Austria, Search Reports are produced and published on average six months after the filing date,[67] and the utility model patent is granted about ten months from the filing date.[68] In France, utility certificates are typically published within eighteen months from the day of filing, and are typically granted within 21 months from the filing date.[69] In Italy, utility models are published approximately eighteen months from the date of filing,[70] or after 90 days if specifically requested by the applicant upon filing, and the average time for granting the utility model is 23 months from the filing date.[71]

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[57] Written correspondence from representatives from respective patent offices in September 2014
[58] Written correspondence from Hanna Aho, PRH, May 2014
[59] Ibid
[60] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014
[61] Ibid
[62] Ibid. Also see DPMA, FAQ Retrieved on August 25th 2014 from < http://dpma.de/english/utility_models/faq/index.htm>
[63] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014. Announcement of the registration in the Bulletin (without legal effect) takes approximately another nine days from this date.
[64] Written correspondence from Šimon Bednář, IPO CZ, May 2014
[65] Article 40 of the Patent Law of China (2008)
[66] Written correspondence from Xie Qingyi, SIPO, May 2014
[67] Written correspondence from Dr. Johannes Werner, APO, May 2014
[68] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014
[69] Written correspondence from Emilie Gallois, INPI, September 19th 2014
[70] This is in accordance with Article 53.3 of the Italian Industrial Property Code (2012)
[71] Consultations with Giovanni de Sanctis, IPTO, May 21st 2014 roundtable; written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014

(8) Submission of physical models

Although Germany used to require the submission of physical models of the solution described in a utility model application, this is no longer required.[72] None of the other countries surveyed have such a requirement.[73]

(9) Patentable subject matter

All the countries studied set broadly similar requirements that certain technical solutions that are novel, have inventive step, and are industrially applicable can be patented as utility models. However, although all countries studied exclude certain types of matter from patentability as utility models, there are differences in what is excluded.

Further, outside of providing general overall guidance of what constitutes a utility model, only some countries clearly specify in statute specific subject matter that can be protected by utility models (a positive list of patentable subject matter). Although excluding certain subject matter, the Utility Model Act of Germany does not actually specify which subject matter can be protected. Finland and the Czech Republic follow a similar approach in their laws. China and Italy provide a restricted overall scope on what can be patented as a utility model. France provides explicit details in statute about what can and cannot be protected as an invention patent, and these requirements are the same for utility certificates.[74] Austria provides details about what can and cannot be protected as a utility model in its

[72] Written correspondence from Dr. Johannes Holzer, DPMA, July 2014. Note: The 1936 amendment to the Germany Utility Model Law changed the requirement that applicants had to submit a model of his/her invention to the patent office. But until 1990, the protection of utility models was limited to inventions that could be represented by models.

[73] Written correspondence from patent offices, September 2014

[74] See Intellectual Property Code of France (2014), Article L611-10: "*1. Inventions which are susceptible of industrial application, which are new and which involve an inventive step shall be patentable. 2. The following in particular shall not be regarded as inventions within the meaning of the first paragraph of this Article: a) discoveries, scientific theories and mathematical methods; b) aesthetic creations; c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; d) presentations of information. 3. The provisions of (2) of this Article shall exclude patentability of the items referred to in these provisions only to the extent to which the patent application or the patent relates to such subject matter or activities as such. 4. Save as provided in Articles L611-17, L.611-18 and L.611-19, inventions will be patentable under the conditions provided for at (1) above if they concern a product consisting of in whole or in part biological material or a process by means of which a biological material is produced, processed or used. Any material containing genetic information and capable of reproducing itself or being reproduced in a biological system shall be regarded as a biological material."* Article L611-16: *"Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body shall not be regarded as inventions susceptible of industrial application within the meaning of Article L611-10. This provision shall not apply to products, in particular substances or compositions, for use in any of these methods."* Article L611-17 (Act No. 94-361 of 10 May 1994, Article 7, Official Journal of 11 May 1994 (Act No. 2004-800 of 6 August 2004, Article 17 a I, Official Journal of 7 August 2004): *"Inventions shall be considered unpatentable where their commercial exploitation would be inconsistent to public policy or morality; however, such inconsistency may not emanate from a prohibition by law or regulation."* Article L611-18 (inserted by Act No. 2004-800 of 6 August 2004, Article 17a II, Official Journal of 7 August 2004)*: "The human body, at the various stages of its formation and development, and the simple discovery of one of its elements, including the sequence or partial sequence of a gene, cannot constitute patentable inventions. Only an invention constituting a technical application of a function of an element of the human body may be protected by a patent. This protection shall cover the element of the human body only to the extent necessary to the realization and the exploitation of this particular use. Such use must be disclosed in the patent application in a concrete and precise manner. The following, in particular, shall be considered unpatentable: a) processes for cloning of human beings; b) processes for modifying the germ line genetic identity of human beings; c) uses of human embryos for industrial or commercial purposes; d) total or partial sequences of a gene as such."* Article L611-19 (Act No. 2004-800 of 6 August 2004, Article 17 a II, Official Journal of 7 August 2004) (Act No. 2004-1338 of 8 December 2004, Article 2, Official Journal of 9 December 2004)*: "I - The following shall be unpatentable:1º animal varieties; 2º plant varieties as defined in Article 5 of Regulation (EC) No. 873/2004 introducing new rules governing intellectual property*

Utility Model Law.[75] The details of what can and cannot be protected in these countries are discussed below.

It appears that China and Italy have the most restricted *overall* scope of what can be patented as a utility model. China restricts technical solutions that can be protected by utility models to those relating to the shape, structure, or combination thereof, of a product.[76] Italy restricts utility model patents to solutions apt to provide particular efficacy or convenience of application or use for machines, or parts thereof, instruments, tools or functional objects in general.[77] Austria, the Czech Republic, Finland, France, and Germany do not have such broad overall limitations on utility models.

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ownership of Community plant variety rights; 3º essentially biological processes for the production of plants and animals. A process that consists entirely of natural phenomena such as crossing or selection shall be regarded as biological process. 4º processes for modifying the genetic identity of animals which are likely to cause them suffering without substantial medical benefit to man or animal, and also animals resulting from such processes. II - Notwithstanding the provisions of (I) above, inventions which concern plants or animals shall be patentable if the technical feasibility of the invention is not confined to a particular plant or animal variety. III - The provisions of I (3°) shall be without prejudice to the patentability of inventions which concern a technical process, in particular a microbiological one, or a product obtained by means of such a process; any process involving or resulting in or performed upon a microbiological material shall be regarded as microbiological process."

[75] Austria Utility Model Law (2009), see Section/Article 1: "*(1) On request, utility models shall be granted for inventions in all fields of technology, provided they are new (section 3), based on an inventive step and susceptible of industrial application. (2) The program logic on which programs for data processing systems are based shall also be regarded as an invention as defined by subsection 1. (3) The following in particular shall not be regarded as inventions as defined by subsection 1: 1. discoveries as well as scientific theories and mathematical methods; 2. aesthetic creations; 3. schemes, rules and methods for performing mental acts, playing games or doing business and programs for computers; 4. presentations of information. (4) Subsection 3 shall exclude the protection as utility models of the subject matter or activities referred to therein only to the extent to which protection is sought to such subject matter or activities as such." S*ee Section/Article 2: *"The following shall not be protected as utility models: 1. inventions the publication or exploitation of which would be contrary to "ordre public" or morality; such violation shall not be deemed to be so contrary merely because the exploitation of the invention is prohibited by law; 2. methods for the treatment of humans by surgery or therapy and diagnostic methods practiced on humans; this provision shall not apply to products, in particular substances or compositions, for use in any of these methods; 3. plants, animals and biologic material as well as processes for their production."* See Section/Article 3(3)*"…The protectability of substances or compositions comprised in the state of the art shall not be excluded by subsections 1 and 2, provided that they are intended for the use in a method referred to in section 2 no. 2 or in such a method for animals and their use for any such method is not comprised in the state of the art. Subsection 1 and 2 shall also not exclude the protectability of the aforementioned substances or compositions for any specific use…"* For scope of protection for processes, see Section/Article 4: *"(1) The utility model shall entitle the utility model owner to exclude others from industrially producing the subject matter of the invention, putting it on the market, offering it for sale or using it or importing or possessing it for the said purposes. In case of a process it shall be effective to the products directly obtained by such process. The effect of the utility model shall not extend to studies and trials as well as to the consequential practical requirements, as far as they are necessary to obtain a permission, authorization or registration for putting on the market pharmaceutical products….. (3) The effect of a utility model does not extend to vehicles and accessories of vehicles which enter Austria only temporarily in the course of their use in traffic….."*

[76] Patent Law of China (2008): Article 2: "*For the purposes of this Law, invention-creations mean inventions, utility models and designs. Inventions mean new technical solutions proposed for a product, a process or the improvement thereof. Utility models mean new technical solutions proposed for the shape and structure of a product, or the combination thereof, which are fit for practical use…*." For some further restrictions on patentable subject matter for all patents in China, see Article 5: "*Patent rights shall not be granted for invention-creations that violate the law or social ethics, or harm public interests. Patent rights shall not be granted for inventions that are accomplished by relying on genetic resources which are obtained or used in violation of the provisions of laws and administrative regulations*." Article 25: *"Patent rights shall not be granted for any of the following: (1) scientific discoveries; (2) rules and methods for intellectual activities; (3) methods for the diagnosis or treatment of diseases; (4) animal or plant varieties; (5) substances obtained by means of nuclear transformation; and (6) designs that are mainly used for marking the pattern, color or the combination of the two of prints. The patent right may, in accordance with the provisions of this Law, be granted for the production methods of the products specified in Subparagraph (4) of the preceding paragraph."*

[77] Italian Code of Industrial Property (2012), Article 82: *"1. Patent for utility models may be granted for new models apt to provide particular efficacy or convenience of application or use for machines, or parts thereof, instruments, tools or functional objects in general, such as new models consisting of particular conformations, arrangements, configurations or combinations of*

Processes can be protected by utility models in some countries surveyed but not in others. Processes cannot be protected by utility models in China,[78] the Czech Republic,[79] Finland,[80] Germany,[81] and Italy[82];

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parts. 2. A patent for machines as a whole does not include protection of the individual parts. 3. The effects of a patent for utility model extent to the models that achieve the same utility, provided that they use the same innovative concept."
The section devoted exclusively to utility models in the Italian Code of Industrial Property is quite short – see Section V, Utility Models, Articles 82-86, and beyond Article 82 does not provide a detailed list of exclusions from patentability; however, the exclusions listed for invention patents also apply to utility models. Article 45 finds*: "Object of a patent 1. New inventions implying an inventive step and suitable for industrial application may constitute the object of an invention patent. 2. The following shall not be considered as inventions pursuant to art 1 in particular: a) discoveries, scientific theories and mathematical methods; b) plans, principles and methods for intellectual activity, games or commercial activity and computer software; c) presentations of information. 3. The provisions set forth in paragraph 2 exclude the patentability of the items there mentioned only to the extent that a patent application or patent concerns discoveries, theories, plans, principles, methods, programs and presentations of information considered as such. 4. Methods for surgical or therapeutic treatment of the human or animal body and methods for diagnosis applied to the human or animal body are not considered as inventions under paragraph 1. This provision does not apply to products, particularly to substances or mixtures of substances, for the realization of one of the named methods. 5. Races of animals, and essentially biological procedures aimed at obtaining the same may not constitute the object of a patent. This provision does not apply to microbiological procedures and to products obtained through such procedures."* Article 50, regarding inventions, finds "*Lawfulness 1. Inventions, the realization of which violates public policy or accepted principles of morality may not be the object of an invention patent. 2. The realization of an invention cannot be considered as violating public policy or accepted principles of morality for the sole reason of being forbidden by a law or an administrative provision."* Article 68, not limited to utility models, lists several limitations to patent rights. Article 91, not limited to utility models, sets out limitations to patentability of matter pertaining to typographies of semiconductor products. See Article 5, among others, for restrictions on plant varieties.

[78] Article 2, Patent Law China (2008)

[79] Section/Article 3, Czech Republic Utility Model Law (2006): *"The following shall not be protected as utility models: a) technical solutions contrary to public interest, particularly the principles of humanity and public morality; b) plant or animal varieties and biological reproductive materials; c) production processes or work activities."* In terms of other exclusions, see Section/Article 2, Czech Republic Utility Model Law (2006): "*The following in particular shall not be deemed technical solutions: a) discoveries, scientific theories and mathematical methods; b) the mere appearance of products; c) schemes, rules and methods for performing mental acts; d) computer programs; e) the mere presentation of information."* Also see the Czech Patent Law (2007), Section/Article 3: *"(2) The following in particular shall not be regarded as inventions: (a) discoveries, scientific theories and mathematical methods; b) aesthetic creations; (c) schemes, rules and methods for performing mental acts, playing games or doing business and programs for computers; (d) presentation of information.(3) The patentability of the subject-matter or activities referred to in Subsection (2) is excluded only to the extent to which an application or a patent relates to such subject-matter or activities as such. 4) Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body shall not be regarded as inventions which are susceptible of industrial application within the meaning of Subsection (1). This provision shall not apply to products, in particular substances or compositions, for use in these methods for treatment and these diagnostic methods."* And see Section/Article 4 of the Czech Patent Law (2007): *"…(b) plant or animal varieties or essentially biological processes for the production of plants or animals; this provision shall not apply to microbiological processes and the products thereof."*

[80] Section/Article 1, Finnish Act on Utility Model Rights (2013): *"Anyone who has made an invention, or his successor in title, shall be entitled, on application, to a utility model right to his invention, and thereby to the exclusive right to exploit the invention commercially, in accordance with the provisions of this Act. For the purposes of this Act, "invention" shall mean a technical solution that is commercially exploitable. The following, as such, shall not be regarded as inventions: (1) discoveries, scientific theories and mathematical methods; (2) aesthetic creations: (3) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; and (4) presentations of information. Utility model rights shall not be granted for: (1) inventions the exploitation of which would be contrary to morality or public policy; (2) plant or animal varieties; or (3) processes."*

[81] German Utility Model Law (2013), Section/Article 1*"…1.2 The following, in particular, shall not be regarded as the subject matter of a utility model within the meaning of subsection (1): discoveries, scientific theories and mathematical methods; aesthetic creations; schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; presentations of information; biotechnological inventions (according to §1 section 2 of the Patent Act)* (*3) Subsection (2) shall oppose utility model protection only to the extent to which protection is sought for the above-mentioned subject matter or activities as such."* Section/Article 2: *"Utility model protection shall not be granted in respect of: inventions the publication or exploitation of which would be contrary to public policy or morality, provided that the exploitation shall not be deemed to be so contrary merely because it is prohibited by law or regulation.; plant or animal varieties; processes."* To be read alongside the

however, processes are patentable by invention patents in those countries. Processes can be protected by utility certificates in France[83] and by utility model patents in Austria.[84]

The countries surveyed all exclude "essentially biological" processes from patentability by utility models. Essentially biological processes are explicitly excluded from patentability by utility models in Austria,[85] the Czech Republic,[86] Finland,[87] and in Germany.[88] In Italy[89] and China,[90] as mentioned, the overall scope of subject matter is limited, which in effect excludes essentially biological processes.

In contrast, certain forms of biological materials are protectable by utility models in some countries studied. Microbiological products and biological reproductive materials can be protected by utility models in Finland.[91] Microbiological products can be protected in the Czech Republic.[92] Out of the countries studied, France appears to allow the widest breadth of patentable utility certificate subject matter in the fields of biology and microbiology, allowing protection of microbiological inventions as

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German Patent Law (2013), see Section/Article 2a *"(1) Patents shall not be granted for 1. plant or animal varieties or for essentially biological processes for breeding plants or animals; 2. methods for the surgical or therapeutic treatment of the human or animal body or for diagnostic methods used on the human or animal body. This shall not apply to products, in particular substances or substance mixtures, for use in one of the above-mentioned methods. (2) Patents can be granted for inventions 1. having as subject matter plants or animals if the technical realization of the invention is not restricted to a particular plant or animal variety; 2. having as subject matter a microbiological or other technical process or a product obtained by means of such a process, unless a plant or animal variety is concerned…"*

[82] Article 82 of Italian Code of Industrial Property (2012)

[83] Written correspondence from Jean-Baptiste Barbier, INPI, May 2014

[84] Written correspondence from Dr. Johannes Werner, APO, May 2014; see Section/Article 4 of Austrian Utility Model Law (2009)

[85] Section/Article 2 of Austrian Utility Model Law (2009)

[86] Section/Article 3 of the Czech Republic Utility Model Law (2006)

[87] Section/Article 6 of the Finnish Utility Model Law (2013): *"….Where the invention relates to a biological material or involves the use of biological material when being carried out, section 8a and section 22(6) and (8) of the Patents Act shall apply mutatis mutandis."* Article/Section 1 of the Finnish Patent Law (2013): "*…Methods for surgical or therapeutic treatment or diagnostic methods, practiced on humans or animals, shall not be regarded as inventions. This provision shall not, however, preclude the grant of patents for products, including substances and compositions, for use in any of these methods. Patents shall not be granted for plant or animal varieties. Inventions which concern plants or animals shall nevertheless be patentable if the technical feasibility of the invention is not confined to a particular plant or animal variety. The concept of plant variety within the meaning of this Act is defined by Article 5 of Council Regulation (EC) No 2100/94 on Community plant variety rights. Patents shall not be granted for essentially biological processes for the production of plants or animals. For the purposes of this Act a process for the production of plants or animals shall be considered essentially biological if it consists entirely of natural phenomena such as crossing or selection. What is said above shall be without prejudice to the patentability of inventions which concern a microbiological or other technical process or a product obtained by means of such a process. For the purposes of this Act 'microbiological process' means any process involving or performed upon or resulting in microbiological material. Inventions shall be patentable even if they concern a product consisting of or containing biological material or a process by means of which biological material is produced, processed or used. Biological material which is isolated from its natural environment or produced by means of a technical process may be the subject of an invention even if it previously occurred in nature. For the purposes of this Act 'biological material' means any material containing genetic information and capable of reproducing itself or being reproduced in a biological system."*

[88] Section/Article 1.2, Germany Utility Model Law (2013)

[89] Article 82, Italian Industrial Property Code (2012). Note: Articles 45 and 81 of Italian Industrial Property Code (2012) exclude essentially biological processes from patentability by patents.

[90] Article 2, Patent Law of China (2008); Patent Examination Guidelines of China (2013), Part 2, Chapter 1, Section 4.4

[91] Section/Article 1, Finnish Patent Law (2013). Written correspondence from Hanna Aho, PRH, September 17th 2014 suggests that as a result of revision to the Finnish system in 1995, which changed the requirement that utility models could only protect "concrete objects", chemical compounds, medicines, and foodstuffs can now also be protected by utility models in Finland.

[92] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

well as biological material and processes by which biological material is produced, processed or used.[93] Austria,[94] China,[95] Germany,[96] and Italy[97] do not allow protection of biological or microbiological processes or products by utility models.

Computer programs cannot be protected by utility models in China, the Czech Republic, Germany, or Italy. Although "programs for computers" are also excluded from patentability by utility models in Austria, "program logic on which programs for data processing systems are based" (not in terms of source codes but in terms of the verbalised algorithm of a software) can be protected by utility models.[98] In France, computer-implemented inventions are patentable by utility certificates if they are new, inventive and are industrially applicable; and the patentability by utility certificates of program logic on which programs for data processing systems are based depends on the claims, whereby although technical methods are patentable, intellectual methods, even if implemented in a computer, are not patentable.[99]

Austria stands out as a country that affords utility model protection to certain types of solutions that may be considered to have an inventive step on par with what is expected from an invention patent, but cannot be protected by invention patents. Specifically, methods for surgery or therapy for animals, diagnostic methods practiced on animals, and, as mentioned, program logic for data processing, can be protected by utility models but not by invention patents in Austria.[100]

Some countries studied are unique or particularly restrictive among the group in their exclusion of certain subject matter for patentability by utility models. China is the only country to exclude substances obtained by means of nuclear transformation from patentability by utility models.[101] China and Italy are the only countries out of those studied that exclude the following from protection by utility models: compositions containing microorganisms, and nucleic acids[102]; the microstructure of a substance (e.g., crystalline structure of substance, nano-structure) that is part of a technical solution[103]; and substances like liquids and compositions and components of substances.[104]

Beyond these areas, there is other subject matter the countries studied exclude or allow as patentable by utility models. Table 2 below provides a non-exhaustive inter-country comparison of previously mentioned and other allowable and excluded subject matter.

[93] Intellectual Property Code of France (2014), see Article L611-10, Article L611-16, Article L611-17, Article L611-18, and Article L611-19

[94] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014

[95] Article 2 of China's Patent Law (2008) excludes processes from patentability by utility models. As microbiological products have no shape or structure, they cannot be protected by utility models according to this article.

[96] Utility Model Law of Germany (2013), Section/Article 1, 2; Patent Law of Germany (2013), Section/Article 2; written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014

[97] Italian Industrial Property Code (2012), Article 82

[98] Written correspondence from Dr. Johannes Werner, APO, May 2014. See Austrian Utility Model Law (2009), Section/Article 1 (2)

[99] Written correspondence from Emilie Gallois, INPI, September 19th 2014

[100] Consultations with Dr. Johannes Werner, APO, May 21st 2014

[101] Patent Law of China (2008), Article 25

[102] Patent Law of China (2008), Article 2; Industrial Property Code of Italy (2012), Article 82

[103] Patent Law of China (2008), Article 2, Patent Examination Guidelines of China (2013), Part 1.2.6.2; and written correspondence from Loredana Guglielmetti, IPTO, August 7th 2014 and September 17th 2014

[104] Ibid

Table 2: Utility model subject matter in seven countries surveyed (non-exhaustive comparison)

Subject matter for utility models	Country excludes (Section/Article)*	Country allows (Section/Article)*
Processes (in general)	China (PL2); Czech Republic (3); Finland (1); Germany (2); Italy (IC82)	Austria(4); France
Inventions inconsistent with the public interest, order, policy and/or morality	Austria (2); China (PL5); Czech Republic (3); Finland (1); France (L611-17); Germany (2); Italy (IC50)	
Schemes, rules and methods for mental/intellectual activities	Austria (1); China (PL25); Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Schemes, rules and methods for playing games	Austria (1); China (PL2±, PE2.1.4.2); Czech Republic (3); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Substances obtained by means of nuclear transformation	China (PL25)	Austria; Czech Republic; Finland (1); France (L611-19)±; Germany; Italy (IC)±
Scientific theories	Austria (1); China (PL25)±; Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Scientific discoveries	Austria (1); China (PL25); Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Mathematical methods	Austria (1); China (PL25)±; Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Aesthetic creations	Austria (1); China (PL3,25)±; Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC82)±	
Schemes, rules and methods for doing business	Austria (1); China (PL2±,PL25±); Czech Republic (3, PL3)±; Finland (1); France (L611-10); Germany (1); Italy (IC82, 45)±	
Presentations of information	Austria (1); China (PL2±, PE2.1.4.2); Czech Republic (2); Finland (1); France (L611-10); Germany (1); Italy (IC45)	
Schemes, rules and methods for programs for computers	Austria (1); China (PL2±, PE1.2.6.1); Czech Republic (2); Finland (1); France (L611-10)†; Germany (1); Italy (IC82, 45)±	
Program logic on which programs for data processing systems are based (the verbalised algorithm of a software)	China (PL2, PE 1.2.6.1)±; Czech Republic(2)±; Finland (1); France††; Germany (1); Italy (IC82) ±	Austria (1)
Certain methods for treatment of the human body by surgery or therapy (as distinct from	Austria (2); China (PL25)±; Czech Republic (PL3); Finland (PL1); France (L611-16); Germany (PL2); Italy (IC45)	

products, including substances and compositions, for use in any of these methods)		
Certain methods for treatment of animals by surgery or therapy (as distinct from products, including substances and compositions, for use in any of these methods)	China (PL25)±; Czech Republic (PL3); Finland (PL1); France (L611-16); Germany (PL2); Italy (IC45)	Austria±
Diagnostic methods practiced on humans (as distinct from products, including substances and compositions, for use in any of these methods)	Austria (2); China (PL25)±; Czech Republic (PL3); Finland (PL1); France (L611-16); Germany (PL2); Italy (IC45)	
Diagnostic methods practiced on animals (as distinct from products, including substances and compositions, for use in any of these methods)	China (PL25)±; Czech Republic (PL3); Finland (PL1); France (L611-16); Germany (PL2); Italy (IC45)	Austria±
Microbiological processes	Austria; China (PL2)±; Czech Republic (3); Finland (1)±; Germany (2, PL2)±; Italy (IC82)	France (L611-19)
Microbiological products	Austria; China (PL2)±; Germany (1)±; Italy (IC82)	Czech Republic; Finland (PL1)±; France (L611-19)
Compositions containing microorganisms; nucleic acids	China (PL2)±; Italy (IC82)±	Austria; Czech Republic; Finland; France; Germany
"Essentially" biological processes for the production of plants and animals	Austria (2); China (PL2±, PE2.1.4.4); Czech Republic (3,PL4); Finland (1); France (L611-19); Germany (1, PL2); Italy (IC45, 81)	
Certain plant varieties	Austria (2); China (PL2±, PL25); Czech Republic (3); Finland (1); France (L611-19); Germany (2); Italy (IC5 etc.)	But different rules allow protection of some plant varieties
Animal varieties	Austria (2); China (PL25); Czech Republic (3); Finland (1); France (L611-19); Germany (2); Italy (IC45)	
Microstructure of a substance (e.g., crystalline structure of substance, nano-structure) that is part of a technical solution	China (PL2±, PE1.2.6.2); Italy	Austria; Czech Republic; Germany; Finland; France
Design of an apartment, campus planning or the residential district planning, and the design of an overpass	Austria; China (PL2,PE); Czech Republic (2)±; Finland; France; Germany (1); Italy (IC45) ±	
Certain substances like liquids and compositions and components of substances under certain conditions	China (PL2)±; Italy	Austria; Czech Republic; Finland; France (IC); Germany;
Certain sets of equipment or	-	Austria; China

complex systems with multiple devices		(PL)±; Czech Republic; Finland; France; Germany; Italy

Source: Author's review of the utility model, patent and industrial property codes of each country, and consultations with respective patent offices.[105]

(10) Novelty, grace period

Germany has a relative novelty standard for utility models, which means publications from all over the world comprise the state of the art as does usage (available to the public) in Germany (i.e. usage only outside of Germany does not destroy the novelty of the utility model).[106] In contrast, Austria,[107] China,[108] the Czech Republic,[109] Finland,[110] France,[111] and Italy[112] have absolute novelty for their utility models (and for invention patents).[113] (To be sure, none of the countries studied have merely a "local" novelty standard, meaning the state of the art is only formed from publications within the country.)

Austria, the Czech Republic, and Germany have a six month grace period during which, if an invention is publically disclosed, a utility model application for such invention can still be filed without the earlier disclosure being considered prior art that destroys the novelty of the utility model application.[114] China also has a six month grace period for utility models. Finland, France, and Italy do not have a grace period

[105] Note 1:*Numbers pertain to the according article from the according countries' relevant legislation, whereby utility model laws have no alphabetical abbreviation, patent law is abbreviated as "PL", wider industrial property codes are abbreviated with "IC", and patent examination guidelines are abbreviated with "PE" (whereby the numerical citation therein is in the form of part, chapter, section [e.g. PE2.1.4.2 indicates Part 2, Chapter 1, Section 4.2]). Entries without an article referenced are taken from the author's correspondence between April-September 2014 with the relevant patent office. Note 2: "±" indicates that although relevant law does not explicitly state that the subject matter as worded in the above table is excluded or allowed, it appears reasonable to assume from the wording in the cited article that the matter should be classified as it is in the above table. Note 3: † In France, *computer-implemented inventions* are patentable by utility certificates if they are new, inventive and are industrially applicable. Note 4: †† The patentability of program logic on which programs for data processing systems are based by utility certificates in France depends on the claims, whereby although technical methods are patentable, intellectual methods, even if implemented in a computer, are not patentable (source: written correspondence from Emilie Gallois, INPI, September 19th 2014).

[106] DPMA – Utility Models FAQ, Retrieved on August 25th 2014 from <http://dpma.de/english/utility_models/faq/index.html>. Note: Absolute novelty is required for invention patents in Germany.

[107] Section/Article 3, Austrian Utility Model Law (2009); Sonn & Partner, Intellectual Property Questions & Answers, Retrieved on August 17th from < http://www.sonn.at/patentanwalt.php?l=e&m=info&t=frage_antwort_03>

[108] Article 22, Patent Law of China (2008). Note: prior to the 2008 revision to the Patent Law, which came into effect on October 1st 2009, prior use of prior knowledge outside of China did not constitute novelty-destroying prior art for utility models (or for invention patents).

[109] Section/Article 4, Czech Republic Utility Model Law (2006); Engelova Pavkova, J., 2013. Possibilities for Protection of Technical Solutions in the Czech Republic. Roundtable on Providing Access to Grey Literature, Czech Republic, pp 1-8

[110] Finnish Patent Consulting FPC, Essential IPR concepts and term definitions, Retrieved on August 26th 2014 from <http://www.sci.fi/~reki/en/IPR_terms_glossary.htm>

[111] Intellectual Property Code of France (2014), Article L611-11

[112] Societa Italiana Brevetti, Intellectual Property Consultants, Utility models, Retrieved on August 25th 2014 from < http://www.sib.it/en/areas-of-practice/inventions/utility-models.html>

[113] Consultations with patent office representatives, May 2014

[114] Mewburn Ellis LLP, 2012. Grace periods for disclosure of an invention before applying for a patent. Retrieved on August 25th 2014 from <http://www.mewburn.com/library/information-sheets/grace-periods-for-disclosure-of-an-invention-before-applying-for-a-patent>

for utility models.[115] By way of comparison, none of the EU countries studied have a grace period for invention patents,[116] although China has a grace period of six months for its invention patents.[117]

(11) Search Report and Examination

Preliminary Examinations and Search Reports

None of the countries studied required a full Substantive Examination of utility models.[118] However, all conduct a preliminary/formal (hereafter referred to interchangeably for simplicity) examination on the formalities within utility model applications. Some countries also assess certain substantive matters in their preliminary examination of utility models.

In China, the Preliminary Examination assesses both "obvious" substantive defects and formal requirements. In terms of substantive requirements, it assesses if the application "obviously" is in non-conformity with novelty, industrial applicability, and patentable subject matter requirements for utility models.[119] Building on the assessment of novelty in particular, China's September 16th 2013 revision to its Patent Examination Guidelines requires in the Preliminary Examination phase that SIPO examiners shall judge if utility model applications "obviously" lack novelty, which includes a requirement that the examiner shall determine, based on the reference documents obtained through search or information obtained through other channels, if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed obviously lack novelty.[120] Preliminary Examinations for utility models in China also

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[115] AIPPI, 2013. Question Q233 <Retrieved on August 25th 2013 from <https://www.aippi.org/download/commitees/233/GR233china.pdf>

[116] Mewburn Ellis LLP (2012)

[117] AIPPI (2013)

[118] Although not having a Substantive Examination is typically thought of as a core component of the utility model system, according to data in Richards (2010), as of 2010, it appears quite a few economies/regions, like the Andean Community, Argentina, Brazil, Bulgaria, Chile, Guatemala, Indonesia, Malaysia, Mexico, Philippines, Poland, Portugal, South Korea, Thailand, and Vietnam in fact require Substantive Examinations before grating utility models. (Note: Richards (2010) also lists Taiwan as requiring a Substantive Examination before granting utility models, but that system has since been revised according to Chen, C., 2012. Utility models under the new [Taiwan] Patent Act. World Intellectual Property Review. Retrieved on August 5th 2014 from <http://www.worldipreview.com/article/utility-models-under-the-new-patent-act>

[119] Article 44, Implementation Regulations of Patent Law of China (2010)

[120] SIPO's Decision on Amending the Patent Examination Guidelines (September 16th 2013) Article 1: *"Section 11, Chapter 2 of Part I is revised as following: 11. Examination in Accordance with Article 22.2 of the Patent Law: In the preliminary examination, the examiner shall judge whether a patent application for utility model is obviously lacking novelty. The examiner may examine whether a patent application for a utility model is obviously lacking novelty based on information he/she obtained concerning prior art or conflicting application. Where a patent application for a utility model might be involved with an abnormal application, such as an obvious copy of prior art or a repeated submission of patent applications with substantially identical content, the examiner shall judge whether the patent application for the utility model is obviously lacking novelty based on the reference documents obtained through search or information obtained through other channels. With regard to the examination of novelty, the provisions in Chapter 3 of Part II of these Guidelines shall apply*." Article 2*: "Chapter 2 Section 13 of Part I is revised as following: 13. Examination in Accordance with Article 9 of the Patent Law: According to the Article 9.1 of the Patent Law, only one patent right can be granted for the same invention. According to the Article 9.2 of the Patent Law, if two or more applicants apply for a patent for the same invention separately, the patent right shall be granted to the applicant who files first. In the preliminary examination, the examiner may examine whether a patent application for utility model meets requirements of Article 9 of the Patent Law according to the patent application for the same invention-creation he/she obtained. With regard to the handling of identical invention-creations, the provisions in Chapter 3 Section 6 of Part II of these Guidelines shall apply."* (Note: this builds on the stipulation to assess obvious substantive defects regarding novelty stipulated in Article 44(2) of the Implementing Regulations of the Patent Law of China (2010) (referring to Article 22 of the Patent Law of China (2008)).

assess formality issues like the clarity and completeness, and enablement, of the description within the application; ensure the drawings on the shape and/or the structure of the product are clear and concise, follow the unity principle, and are supported in the description; and considers the issue of amendments and divisional applications (namely, to ensure that these do not cause the claims to cover something not disclosed in the original application).[121]

In Austria, the Preliminary Examination for utility models assesses both substantive and formal requirements. While the APO in Austria technically does not examine novelty of a utility model in the Preliminary Examination phase, it has a unique system amongst the countries studied of conducting a mandatory Search Report for all utility models. If there are no objections to the publication and registration of a utility model, APO then publishes its Search Report on the utility model,[122] although this Search Report is not actually incorporated into the examination process for the utility model (i.e. it is not actually substantively considered by APO when granting the utility model).[123] In the Preliminary Examination phase, the APO examines what it calls "irreparable deficiencies", namely disclosure, technical character, and patentable subject matter exceptions according to the law – though it does not examine industrial applicability.[124] The APO also assesses formalities like the form of the description, form of figures, form of claims (including their unity), and form of the abstract in the application.[125]

The Preliminary Examination for utility models in Finland requires an assessment of formalities as well as substantive aspects. In Finland, the Preliminary Examination for utility model applications includes an assessment on certain substantive issues, namely if the claims only cover subject matter patentable by utility models, the industrial applicability of the solution, and the issue of amendments. It also includes an assessment of formalities like the clarity and conciseness of claims, sufficiency of disclosure, and unity of claims.[126]

Like in China, the Preliminary Examination procedure for utility models in the Czech Republic assesses "obvious" substantive defects as well as a range of formalities. Specifically, IPO CZ's Preliminary Examination assesses obvious non-conformity with subject matter patentable by utility models[127] and obvious non-conformity with requirements on industrially applicability of inventions in utility model

[121] For one source giving an overview of the procedure, see "Utility Model in China" Presentation by SIPO at conference in Malaysia (September 2012), slide 20 <Retrieved on June 16th 2014 from http://www.wipo.int/edocs/mdocs/aspac/en/wipo_ip_kul_12/wipo_ip_kul_12_ref_t3d.pdf>

[122] Austria Utility Model Law (2009), Section/Article 19 *"(1) If there are no objections against the publication and the registration of the utility model, the Patent Office will provide the search report, which will indicate the documents determined by the Patent Office at the time the search report is provided that can be taken into account to assess novelty and inventive step. (2) The search report shall be based on the claims. Section 4 (2) sentence 2 and 3 shall be applied mutatis mutandis. If possible, the search report shall be provided within six months from the filing date. (3) Unless the applicant files a request for accelerated publication and registration (section 27), the search report shall be served to the applicant with the request to pay the publication fee within a time limit of two months from service of the report and to duly prove the payment. Upon justified request the time limit shall be extended…"*

[123] Consultations with Dr. Johannes Werner, APO, May 21st 2014 roundtable. Note: Theoretically, this could result in a situation where the office produces a Search Report that indicates a utility model is in fact not novel, although the utility model is still granted.

[124] Presentation by Dr. Johannes Werner, APO, May 21st 2014 roundtable

[125] Ibid

[126] Written correspondence from Hanna Aho, PRH, September 17th 2014

[127] Section/Article 11 (1) of the Utility Model Law of the Czech Republic (2006) (referring to Sections/Articles 2 and 3)

applications.[128] It also assesses formalities like clarity of the claims, unity of the claims, and compliance of amendments and divisional applications.[129]

France and Italy require an assessment of formalities and the patentability of subject matter in the claims. In France, the formality examination conducted for utility model applications is the same as for invention patents, which includes assessing the adequacy of support for the claims in the specification, clarity and unity of claims, and if the claimed invention constitutes patentable subject matter.[130] In Italy, the Preliminary Examination of utility models assesses the formalities of the clarity and conciseness of claims, among some other formal elements examined in other countries studied; [131] as well as the patentable nature of subject matter in the claims.[132]

The Preliminary Examination for utility models in Germany assesses formalities and one substantive issue. It assesses clarity and completeness of claims and the descriptions, and the usability of drawings for publication. The only substantive element examined in the Preliminary Examination phase is if the invention in a utility model application has a technical background.[133]

Although not a mandatory part of the pre-grant phase for utility models, some countries provide Search Reports ad hoc for a fee. Outside of mandatory Search Reports conducted for all utility models in Austria, the APO provides Search Reports to any entity upon request for a fee.[134] In France, if an applicant has transformed a patent application into a utility certificate application and after a Preliminary Examination report is conducted on the application but before its publication, a Search Report can be conducted at the written request of the applicant for a fee.[135] DPMA offers search reports on granted utility models to any entity at request for a fee, and to the applicant for a utility model prior to the publication of the utility model at request for a fee; and these reports can be accessed by the public.[136] Finland has a

[128] Section/Article 11 (4) of the Utility Model Law of the Czech Republic (2006) (referring to Section/Article 5)
[129] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014
[130] Cabinent Beau de Lomenie, "The French Patent System," retrieved on October 4th 2014 from <http://www.bdl-ip.com/upload/Etudes/uk/bdl_the-french-patent-system.pdf>
[131] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014
[132] Article 170 of the Italian Industrial Property Code (2012) (referring to Articles 45, 50 and 82)
[133] Article/Section 8 (1) of the German Utility Model Law (2013) finds that: *"Where an application complies with the requirements of Section 4, the Patent Office shall order registration in the Utility Model Register. No examination of the subject matter of the application as to novelty, inventive step or industrial applicability shall be carried out. Section 49(2) of the Patent Law shall apply mutatis mutandis."* Beyond this article, which via referencing Article/Section 4 clearly allows examination of formalities in utility model applications, there are no provisions in the German Utility Model Law (2013) that provide exact guidance about the full extent of the Preliminary Examination allowable for utility models. A 1996 decision by the Federal Patent Court affirmed that novelty can only be assessed in the cancellation procedure and has to be examined by a person skilled in the art (see case 5 W (pat) 437/96 (sec. 38)). In 2009, the Federal Patent Court decided that those skilled in the art at the Utility Model Section of DPMA have the right to assess the existence of a technical rule in the application procedure for utility models (see case 35 (W) pat 46/09 (sec. 22)). The assessment on if an invention in a utility model application has a technical background can result in matter like (for example) working plans for a gardener being rejected (source: Written correspondence from Dr. Johannes Holzer, DPMA, October 31st 2014). Note: a range of substantive elements in a utility model are examined if challenged in an invalidation/cancellation procedure at DPMA.
[134] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014
[135] Written correspondence from Emilie Gallois, INPI, September 19th 2014
[136] A Search Report for a utility model can be requested in Germany for a fee, and in fact about 40-50% of applicants request this report; however, if the Search Report is negative (showing that the invention in the application is not novel), this does not necessarily prohibit the utility model from being granted. In Germany, applications for Search Reports, and the fact that a Search Report has been conducted, are made public. Although the Search Report itself is not published, after the utility model on which it was conducted is granted, any entity can access records relevant to the utility model, including the Search Report. (Source: written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014).

broadly similar system to DPMA.[137] IPO CZ does not offer Search Reports for utility models, although can provide a service to requestors that lists relevant prior art documents within a narrow technical scope, and these findings are not made public.[138] In China, only Search Reports are available for utility models granted before October 1st 2009, but if a utility model has been granted after October 1st 2009, a "Patent Evaluation Report" is provided at request;[139] and there are restrictions on the circumstances in which either a Search Report or Patent Evaluation Report can be provided (see Patent Evaluation Report section below for more details). IPTO does not provide Search Reports for utility models.[140]

In summary, the different countries surveyed require varying levels of depth in their preliminary examinations of utility models. China is unique among the countries studied in that SIPO's Preliminary Examination for utility models requires assessing if the invention in the application "obviously" lacks novelty, which includes determining if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed obviously lack novelty. Austria is unique among the countries studied because it requires that a full, publically available Search Report accompanies all utility model applications, although the results of this are not actually incorporated into the Preliminary Examination. Finland requires an assessment of industrial applicability of utility models in the Preliminary Examination stage, and China and the Czech Republic require assessing if utility models "obviously" lack industrial applicability. Preliminary Examinations of utility model applications in Austria, the Czech Republic, China, Finland, France, and Italy assess the patentability of subject matter therein in some form, in terms of obvious non-conformity or otherwise. The only substantive element examined in the Preliminary Examination of a utility model in Germany is if the invention in the application has a technical background. Several offices studied offer formal Search Reports or some form of report listing prior art relevant to utility model applications prior to publication of the application to the applicant upon request and for a fee; and some offices also offer such reports to any entity at any time for a fee after a utility model is granted, and make these available to the public. All countries require examination of a number of formalities in their preliminary examinations of utility models, for example, the clarity and completeness of claims and descriptions.

Re-examination

Re-examination is allowed in some countries studied and therein procedures differ. In Germany, re-examination of a utility model is only allowed in the cancellation procedure, where it takes the form of a Substantive Examination of protectable subjects (including the existence of a technical activity/technical

[137] PRH's report does not include X, Y, and A category prior art references. The report does not actually make an assessment on the novelty of a utility model, rather is just a list of relevant documents and comments on their contents; these rules apply because the report is not intended to be a direct basis for invalidation. In Finland, if the utility model is registered, the report is also published in PRH's database along with the other application documents. (Source: Written correspondence from Hanna Aho, PRH, May 2014 and September 17th 2014)

[138] IPO CZ does not offer Search Reports for utility models. However, IPO CZ does offer a type of search service for the public. This service does not produce a patent/utility model Search Report but rather provides a list of documents which are from the same field as the subject specified at the beginning of the search. These documents may be relevant to applicants seeking to draft their own claims. The specification of the subject to be investigated must be quite precise, much narrower than is usual in claims. Because there is no assessment of relevancy, no X, Y, or A category indications are given. The results are provided directly to the requestor, and are not published. (Source: written correspondence from Šimon Bednář, IPO CZ, October 13th 2014)

[139] This arrangement is made given amendments to the Chinese Patent Law (2008), which came into effect on October 1st 2009. (Source: Jingjing, C. (2014) Dual enforcement system, in: Luginbuehl, S., Ganea, P. (eds), Patent Law in Greater China. Elgar Intellectual Property Law and Practice, UK, Cheltenham, p 201)

[140] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014

background for the invention), novelty, inventiveness, and industrial applicability.[141] In China, re-examination, encompassing a formality examination, interlocutory examination, and collegiate examination is available for utility models.[142] A board of appeal hears appeals against the final decision of the Italian patent office on a single procedure for granting utility models; and the appeal can be presented by the applicant or his/her representative within two months after the receiving of the final act of refusal.[143] Any party can request re-examination of a utility model in Finland, and therein a type of Search Report will be issued and, if requested, a comment on cited references will be provided; however, no definite opinion on patentability is provided through this re-examination procedure.[144] In Austria, no re-examination of utility models is provided because the Search Report is already provided when granting all utility models.[145] There is no re-examination of utility models in the Czech Republic or France.[146]

(12) Patent Evaluation Reports

China appears to be unique out of the countries studied in terms of the exact type of "Patent Evaluation Report" it allows for utility models. This report, which is not to be confused with a Search Report, Preliminary Examination, or Substantive Examination, is conducted by SIPO and evaluates a utility model across eleven areas including the patentability of subject matter, novelty, inventive step, practical applicability, and formalities.[147] The report, which is technically not an "administrative decision" from SIPO, is primarily used by the Court or administrative authority for patent affairs adjudicating a patent infringement dispute in determining whether to stay/suspend relevant proceedings until the administrative decision on validity is issued by SIPO.[148] Either of the aforementioned entities can request that the patentee or any other interested party in the dispute to furnish such a report.[149] Additionally, sources suggest that a patent holder or a "materially interested party" can request the Evaluation Report from SIPO after the utility model has been published in the gazette.[150] While, as mentioned, some of the European countries studied provide Search Reports or a report listing prior art relevant to utility model applications to requestors for a fee, these reports are not of a level of substantiveness on par with China's Patent Evaluation Report.[151]

[141] Written correspondence from Dr. Johannes Holzer, DPMA, May 2014
[142] Written correspondence from Xie Qingyi, SIPO, May 2014
[143] Written correspondence from Loredana Guglielmetti, IPTO, August 7th 2014
[144] Written correspondence from Hanna Aho, PRH, May 2014
[145] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014
[146] Consultations with representatives of each patent office, May 2014
[147] Part V, Chapter 10, Article 3.2.1, Patent Examination Guidelines of China (2013)
[148] Part V, Chapter 10, Article 61.2 and Rule 56.1 Patent Examination Guidelines of China (2013)
[149] Ibid
[150] According to Article 56 of the Implementation Regulations of the Patent Law, a patentee or a "materially interested party" can request the Evaluation Report from SIPO after the utility model has been published in the gazette. "Materially interested party" refers to those entities, according to Article 60 of the Patent Law, that are entitled to institute legal proceedings in the people's court, or request the administrative authority for patent affairs to handle the relevant matter -- for example, such parties can include the licensee of an exclusive patent licensing contract and the licensee of a common patent licensing contract authorised by a patentee (see Part 5, Chapter 10, Article 2.2/Rule 56.1, the Patent Examination Guidelines (2013)). Written correspondence from SIPO to the author indicates that "this request [for a Patent Evaluation Report] is not limited to be raised only when the infringement litigation is being pursued" (Source: written correspondence from Wang Jianjian, SIPO, September 30th 2014)
[151] Written correspondence with patent offices, September 2014

(13) Third Party Observations

France has a formal procedure for third party observations for utility certificates.[152] At the date of publication of the application for the utility certificate (which, as mentioned is approximately eighteen months from the filing date), up until the time of payment of the fee for granting and printing of the specification of the certificate (which, as mentioned, can be 21 months or longer), any party may submit observations to INPI on the patentability of the invention.[153]

Although there is no formal third party observation mechanism established in the Italian Industrial Property Code (2012) for utility models, third parties in Italy may submit petitions/observations during the examination procedure, for example indicating the existence of relevant prior art.[154] (As mentioned, in Italy, utility model applications are typically published eighteen months from the filing date and are typically granted about 23 months after filing.) These submissions are often made public before the utility model is granted, but are sometimes also made public after the utility model is granted. They do not, however, serve as a legal basis for IPTO to not grant a utility model (i.e. even if the submissions show the utility model lacks novelty, it will still be granted).[155]

The other countries studied have different systems. In Austria, as mentioned, there is a Search Report mechanism provided for all utility models, and while there is no formal mechanism to collect third party observations, if third parties provide APO with their observations they will be considered prior to the publication of the Search Report.[156] In the Czech Republic,[157] Finland[158] and Germany[159] there is no formal third party observations mechanism in the application procedure for utility models. In China, there is also no formal third party observations mechanism in the application procedure for utility models because utility models are only published when they are granted.[160]

(14) Amendments

All offices studied allow amendments to be made to utility model applications. For most countries studied, these must be made before granting of the utility model and should stay within the content of the original application.[161]

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[152] See L. 612-13 3° Industrial Property Code of France (2014)

[153] Written correspondence from Jean-Baptiste Barbier, INPI, May 2014

[154] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014. Note: The Italian Industrial Property Code (2012) only establishes specific rules for third party observations before granting for trademarks and plant varieties (not for invention patents or for utility models).

[155] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014

[156] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014

[157] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

[158] Written correspondence from Hanna Aho, PRH, September 17th 2014

[159] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014

[160] Article 40 of the Patent Law of China (2008). However, under special circumstances third parties may submit observations to SIPO. For example, if the International Search Report or International Preliminary Report on patentability of a utility model filed via the PCT enters into the national phase in China and lists documents which refer to the novelty of the application, or interested parties submit information referring to the utility model's application to SIPO (in the form of Search Reports, prior art or conflicting applications) – SIPO's "examiners would consider this relevant information during the examination procedure or the process of making an Evaluation Report of a utility model patent. The results handled by examiners would not be made public to third parties submitting information." (Source: Written correspondence from Wang Jianjian, SIPO, on September 30th 2014)

[161] Written correspondence with members from each patent office, May 2014

(15) Inventive step

Statutory requirements

Within statute, some of the countries studied have differing inventive step requirements for utility models as compared to invention patents. In China, the inventive step threshold is lower for utility models than invention patents, whereby invention patents should possess "prominent substantive features" and represent "notable progress" but utility models only need to possess "substantive features" and represent "progress."[162] In the Czech Republic, the solutions patentable as utility models must "exceed the framework of mere professional skill" whereby those patentable as invention patents must be "not obvious to a person skilled in the art".[163] In Finland, solutions must be "new in relation to what was known before the filing date" and must "differ essentially" for the prior art to be protected by an invention patent, but only "differ distinctly" from the prior art to be protected by a utility model.[164] In Italy, although there is no specific statutory definition of inventive step for utility models, given the restrictive definitions in statute on what subject matter they can protect, as mentioned, utility models in Italy have a notably different inventiveness requirement than for invention patents (this being said, solutions in both invention patents and utility models must meet the requirement that they are "not obviously included in the prior art for a person-expert in the field").[165]

Germany and Austria follow similar statutory approaches regarding inventive step. Although the Germany Utility Model Law (2013) stipulates utility models must have inventive step, it does not provide a definition for inventiveness. In the German Patent Law (2013), inventiveness for patents is determined

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162 Article 22 of the Patent Law of China (2008): *"…Inventiveness means that, as compared with the prior art, the invention has prominent substantive features and represents a notable progress, and that the utility model has substantive features and represents progress…"* (An alternative translation reads: *"…Creativity means that compared with the existing technologies the invention possesses prominent substantive features and indicates remarkable advancements, and the utility model possesses substantive features and indicates advancements.")*

163 Czech Republic's Utility Model Law (2006), Section/Article 1: *"Technical solutions which are new, exceed the framework of mere professional skill and are industrially applicable shall be protected as utility models."* Section/Article 6 of the Czech Republic's Patent Act (2007): *"An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art..."*

164 Section/Article 2 of the Finnish Utility Model Act (2013): *"An invention must be new in relation to what was known before the filing date of the utility model right application and must differ essentially therefrom. The prior art shall be held to comprise everything made available to the public by means of a written or oral description, by use or in any other way. Additionally, the content of utility model right, patent and design applications as filed in this country prior to the above-mentioned filing date, shall be regarded as included in the prior art if such applications are made available to the public under section 18 of this Act, section 22 of the Patents Act (550/1967) or section 19 of the Registered Designs Act (221/1971). However, in such cases, the requirement set out in subsection 1, that the invention must differ distinctly from the prior art known before the filing date of the application for a utility model right, shall not apply…."* Section/Article 2 in the Finnish Patents Act (2013): *"Patents may only be granted for inventions which are new in relation to what was known before the date of filing of the patent application and which also differ essentially from them (18.11.2005/896)….The condition in subsection (1) that the invention must differ essentially from what was known before the filing date of the patent application, does not, however*, apply in respect *of the contents of such patent of utility model applications."*

165 Italian Industrial Property Code (2012), Article 82.1 sets forth the inventive step threshold for utility models: *"New models capable of conferring a particular effectiveness or ease of application or of use, to machines, or part of the same, to instruments, tools or objects of general use such as new models consisting in particular conformations, dispositions, configurations or combinations of parts, may constitute the object of utility model patents. …"* Article 48 of the Italian Code of Industrial Property (2012): "*An invention is deemed to imply an inventive step if such invention is not obviously included in the prior art for a person-expert in the field. If the prior art includes the documents mentioned under paragraph 3 of Article 46, such documents are not taken into consideration for the evaluation of the inventive step."* Loredana Guglielmetti, IPTO, notes that the inventive step requirement in Article 48 applies both to utility model and invention patents (Source: written correspondence from Loredana Guglielmetti, IPTO, August 2014)

as being "not obvious to a person skilled in the art from the state of the art."[166] Similarly, The Austrian Utility Model Law (2009) does not clearly distinguish a different inventive step requirement for utility models, although requires inventive step; and the Austrian Patent Act (1994) defines the inventive step requirement for invention patents in the same way as Germany's Patent Law (2013), namely as being for inventions that are "not obvious to the person skilled in the art from the state of the art".[167]

The situation in Germany is distinct from the other countries studied in that a court decision changed the way inventive step was assessed for invention patents vs. utility models. In 2006, the German Supreme Court decided that the inventive step of a utility model should be equivalent to the inventive step of invention patents.[168] Previously, the Supreme Court of the German Reich (from 1908 onwards) and the Federal Supreme Court in Germany (until 2006), required a lesser degree of inventive step for utility models than invention patents.[169]

In contrast to Germany, in 2006, for the first time since the promulgation of the Austrian Utility Model Law in 1994, the Austrian Supreme Court formally decided that the inventive step requirement for utility models was lower than for invention patents. Specifically, it decided that the inventiveness for utility models need not be measured as non-obvious to the person skilled in the art given non-obviousness is only a requirement in the Austrian Patent Law. Instead, it was ruled that inventive step for utility models only needs to meet the threshold that the solution in question is not just the result of routine work.[170]

France differs from the countries studied in its statutory treatment of inventive step for utility certificates. The inventive step requirement for utility certificates and invention patents in France is the same, namely the solutions in question should be "not obvious to a person skilled in the art".[171]

Procedures for determining inventive step

Differences in wording in the inventive step requirements in statute for utility models vs. invention patents are translated into practice through various means among the countries studied. Out of the

[166] The German Patent Law (2013), Section/Article 4 defines the inventive step for invention patents as: *"An invention shall be deemed to involve an inventive step if it is not obvious to a person skilled in the art from the state of the art. Should the state of the art also include documents within the terms of Section 3(2), these documents shall not be considered when assessing the inventive step."* (The only mentions of the term "inventive" in the German Utility Model Law (2013), are in Section/Article 1.1: "*Utility model protection shall be afforded to inventions that are new, involve an inventive step and are susceptible of industrial application";* and Section/Article 8.1: "*Where an application complies with the requirements of Section 4, the Patent Office shall order registration in the Utility Model Register. No examination of the subject matter of the application as to novelty, inventive step or industrial applicability shall be carried out. Section 49(2) of the Patent Law shall apply mutatis mutandis."*)

[167] Austrian Patent Act (2009), Section/Article 1(1): "*Patents shall be granted, on request, for inventions that are new (Section 3), are not obvious, having regard to the state of the art, to a person skilled in the art and are susceptible of industrial application."* Austrian Utility Model Law (2009), Section/Article 1(1) *"On request, patents shall be granted for inventions in all fields of technology, provided that they are new (section 3), not obvious to the person skilled in the art from the state of the art, and susceptible of industrial application…."* Austria Utility Model Law (2009) mentions the term "inventive" in Section/Article 1(1) *("On request, utility models shall be granted for inventions in all fields of technology, provided they are new (section3), based on an inventive step and susceptible of industrial application…"*), as well as in Section/Articles 3, 13, 18, and 19.

[168] Decision of the Demonstrationsschrank, German Federal Supreme Court, X ZB 27/05, June 20th 2006

[169] Written correspondence from Dr. Johannes Holzer, DPMA, June 2014

[170] Decision of the Austrian Supreme Court, No. 4 Ob 3/06d, July 12th 2006

[171] Article L611-14 of the Intellectual Property Code of France (2014): **"***An invention shall be considered to involve an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art. If the state of the art also includes documents referred to in the third paragraph of Article L611-11, such documents shall not be considered in deciding whether there has been an inventive step."* Written correspondence with Jean-Baptiste Barbier, INPI, May 2014, confirmed that inventive step requirement in France is the same for utility certificates and invention patents.

countries studied, China appears to use the most standardised (given they are written) rule-based procedures on how to enforce the required differences in inventiveness for utility models vs. invention patents. Given there is no Substantive Examination for utility models before grant in China, the inventive step of a utility model is not considered before granting but is determined during the invalidation procedure (see "Invalidation" section below for more details).

The first difference in protocol for determining the inventive step of utility models vs. invention patents in China, as specified by China's Patent Examination Guidelines (2013), is according to the number of prior art references that SIPO's PRB examiners are instructed to cite in making their assessment. Specifically, for a utility model, "normally, one or two prior art references are cited" in determining inventiveness (although, according to the circumstances of the case, more prior art references may be referenced). [172] In contrast, for an invention patent normally "one, two, or any other number of prior art references may be cited". [173]

According to China's Patent Examination Guidelines (2013), the second difference in protocol for determining the inventive step requirement for a utility model vs. invention patent is the breadth of technical fields which PRB examiners consider. Specifically, for a utility model, examiners typically focus only on the technical field to which the utility model directly belongs, and only when there is a clear technical teaching, for example, an explicit description in the prior art, to prompt a person skilled in the art to seek technical solutions in a similar or relevant technical field, the examiner may consider such a similar or relevant technical field.[174]

In the Czech Republic, the inventive step of a utility model is assessed in the invalidation procedure, and there are no written rules for limitations on technical fields or pieces of prior art to be considered during this procedure, although some common approaches regarding considerations of prior art guide the procedure. Given there is no Substantive Examination for utility models before grant in the Czech Republic, the inventive step of a utility model is not considered before granting but is determined during the invalidation procedure (see "Invalidation" section below for more details). Despite differences in wording in statute, in practice the inventive step of utility models in the Czech Republic is said to be effectively assessed in the same way as for invention patents.[175] When assessing the inventive step of a utility model, more than one piece of prior art can be used by examiners at IPO CZ; this being said, although the number of pieces of prior art is not limited by any rules internally or otherwise, in practice usually no more than two documents are combined.[176]

In Finland, the inventive step of a utility model is assessed in the invalidation procedure and there are no court decisions advising how to distinguish inventive step between invention patents and utility models. Given that there is no Substantive Examination for utility models before grant in Finland, the inventive step of a utility model is not considered before granting but is determined during the invalidation procedure (see "Invalidation" section below for more details). When interpreting the statutory requirement that utility models should be "new in relation to what was known before the filing date", the PRH follows the standard that the invention "must not be obvious to an average person skilled in the art," which is the same requirement applied to invention patents. Although, as explained, the wording in statute for inventive step for utility models (i.e. "differ distinctly") and invention patents (i.e. "differ

[172] Part IV, Chapter 6, Section 4(2), Patent Examination Guidelines of China (2013)
[173] Ibid
[174] Part IV, Chapter 6, Section 4(1), Patent Examination Guidelines of China (2013)
[175] Consultations with Šimon Bednář, IPO CZ, May 21st 2014 roundtable
[176] Ibid

essentially") is different, indicating a lower inventive step threshold for utility models, there do not appear to be any Finnish court decisions about the actual difference between these expressions.[177]

There are some spoken best practices in Finland regarding consideration of prior art when determining inventive step of utility models in the invalidation procedure. There are no written rules in Finland on how many prior art references can be used to determine inventiveness of utility models; however, in practice, PRH's recommended maximum is two, although the examiner can also combine three or more documents in special cases (e.g. when the solution in question is a collection of several independent features).[178] There are no rules limiting technical fields considered when determining inventive step of utility models. The ability to distinguish differences in inventive step between utility models and invention patents is learned by younger examiners who are trained by more senior examiners with experience in making this distinction.[179]

In Germany, the inventive step of a utility model is assessed in the invalidation procedure according to the rules of the Court. Given there is no Substantive Examination for utility models before grant, inventiveness plays no role in the registration procedure of DPMA, and the inventiveness assessment first occurs in the invalidation/cancellation procedure (see "Invalidation" section below for more details). The examiners in the Cancellation Chamber of DPMA consider the question of inventiveness according to their examination and the decisions of the Federal Patent Court and the Federal Supreme Court (including the 2006 decision previously discussed). There are no rules concerning the number of prior art references or limitations on technical fields to be considered during invalidation procedures when examining inventive step of utility models in Germany.[180]

In Austria, the inventive step of a utility model is assessed in the invalidation procedure according to the rules of the Court. Given there is no Substantive Examination for utility models before grant, inventiveness plays no role in the registration procedure of APO, and the inventiveness assessment first occurs in the invalidation/nullity procedure (see "Invalidation" section below for more details). The Nullity Department of APO considers inventiveness according to relevant court decisions, including the 2006 one previously discussed. Although the 2006 Austrian Supreme Court decision mandated a lower inventive step for utility models when compared to invention patents, consultations with the APO suggest that the "decision prevents the need to make the inventiveness of utility models arbitrarily small" and that in practice the inventive step for utility models is "more or less the same" as for invention patents in Austria.[181] There are no rules concerning the number of prior art references or limitations on technical fields to be considered during invalidation procedures when assessing inventive step of utility models in Austria.[182]

In Italy, inventive step is assessed in invalidation proceedings by the court (see "Invalidation" section below for more details). As mentioned, although the non-obviousness requirement is the same for invention patents and utility models in Italy, the inventive step requirement for utility models is lower given the restricted matter to which it pertains. And the court, not the IPTO, decides on these matters.[183]

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[177] Written correspondence from Hanna Aho, PRH, June 2014

[178] Ibid

[179] Consultations with Hanna Aho, PRH, May 21st 2014

[180] Assuming the examination is performed on matter that can be patented by utility models. Written correspondence from Dr. Johannes Holzer, DPMA, June 13th 2014

[181] Written correspondence from Dr. Johannes Werner, APO, June 24th 2014

[182] Assuming the examination is performed on matter that can be patented by utility models. Written correspondence from Dr. Johannes Werner, APO, September 15th 2014

[183] Written correspondence from Loredana Guglielmetti, IPTO, August 7th 2014

In France, inventive step is assessed in invalidation proceedings by the court (see "Invalidation" section below for more details). As mentioned, the non-obviousness requirement is the same for invention patents and utility certificates in France. The court, not INPI, assesses inventive step. The courts do not have any written or unwritten rules limiting technical fields or pieces of prior art to be considered when assessing the inventiveness of utility certificates.[184]

(16) Parallel filings and double-granting

A patentee can file an invention patent and related utility model in parallel in all countries studied: in Germany,[185] Austria,[186] the Czech Republic,[187] China,[188] Finland,[189] Italy,[190] and France[191] parallel filing is possible. It is worth noting that in Germany, the required time frame for "branching-off" (an allowance similar to but beyond parallel filing that enables an applicant to spin-off a utility model from a patent application) is not restricted to the same day of filing a utility model and invention patent.[192] In contrast, in China for example, parallel filings of utility model patents and invention patents both must be filed on the same day.[193]

In Austria,[194] the Czech Republic,[195] Finland,[196] and Germany[197] double-granting is possible.[198] In France, double-granting is theoretically not allowed.[199] In Italy[200] and in China, [201] double granting is not allowed.

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[184] Written correspondence from Patrice Vidon, Vidon IP Law Group, September 19th 2014; written correspondence from Emilie Gallois, INPI, September 19th 2014

[185] Section/Article 5, Utility Model Law of Germany (2013)

[186] Section/Article 15, Utility Model Act of Austria (2009)

[187] Section/Article 10, Utility Model Law of the Czech Republic (2006)

[188] Article 9, Patent Law of China (2008)

[189] Written correspondence from Hanna Aho, PRH, September 17th 2014

[190] Article 84, Italian Code of Industrial Property (2012): *"Alternative patenting 1. A person applying for an industrial invention patent, pursuant to this code, may also contemporaneously file an application for a utility model patent, the validity of which is conditioned upon the application being rejected or being accepted only in part. 2. If an application has as its object a model instead of an invention or viceversa, the Italian Patents and Trademarks office shall invite the interested party, granting him a time limit, to modify its application. However, the application shall produce effect as of the original filing date…"*

[191] Though as of December 2008 (according to R616-3 of the Intellectual Property Code of France (2014)) a utility model patent cannot be converted into an invention patent. (Source: written correspondence from Emilie Gallois, INPI, September 19th 2014)

[192] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014. Note: A branched-off utility model can be filed up until the second month after the end of the month during which the parent patent application is finalised or (as relevant) opposition proceedings are ended; and it must be filed at latest by the end of the tenth year after the filing date of the parent patent application. See: The German Utility Model. MBP. Retrieved from <http://www.mbp.de/uploads/media/Utility_Model_Brochure_2014.pdf>

[193] Article 9, Patent Law of China (2008): *"Only one patent can be granted for the same invention. However, where the same applicant applies for a utility model patent and an invention patent with regard to the same invention on the same day, if the utility model patent acquired earlier is not terminated yet and the applicant declares his waiver of the same, the invention patent may be granted. If two or more applicants apply for a patent for the same invention separately, the patent right shall be granted to the first applicant."*

[194] Written correspondence from Dr. Johannes Werner, APO, June 24th 2014

[195] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

[196] Written correspondence from Hanna Aho, PRH, September 17th 2014

[197] Written correspondence from Dr. Johannes Holzer, DPMA, June 13th 2014

[198] Double-granting herein is defined as parallel filing or branching-off of a utility model from invention patent and, if granted, both remain valid independently.

[199] Although the reality depends on if the patent application and utility certificate were applied for on the same day. (Source: Written correspondence from Emilie Gallois, INPI, September 19th 2014).

[200] Article 84, Italian Code of Industrial Property (2012)

[201] Article 9, Patent Law of China (2008)

(17) Invalidation

In Germany, in 1936, jurisdiction for invalidating/cancelling utility models was transferred from the civil courts to DPMA.[202] The Cancellation Chamber of DPMA assesses the inventiveness of utility models according to the decisions of the Federal Supreme Court and the Federal Patent Court.[203] Invalidation decisions of the Cancellation Chamber can be appealed to the Federal Patent Court and, under certain circumstances, further appealed to the Federal High Court.[204] Judges in the courts are well trained in law, and two out of three judges in the utility model chamber of the Federal Patent Court are technically trained to be able to review utility models[205]. (For more on how inventive step is determined during invalidation procedures in Germany, see the "Procedures for determining inventive step" section above.)

In Germany, invalidation proceedings are limited to assessing granted claims of the utility model. Partial invalidations are allowed.[206] There are about 160 cancellation procedures initiated every year on utility models in Germany.[207]

In Finland, the PRH is the first instance entity for invalidation requests for utility models. The decision of the PRH can be appealed to the Market Court, which is composed of judges and Market Court engineers. Decisions of the Market Court can, under certain circumstances, be appealed to the Supreme Court of Finland.[208] (For more on how inventive step is determined during invalidation procedures in Finland, see the "Procedures for determining inventive step" section above.)

In Finland, only independent claims are assessed in utility model invalidation proceedings. This is because the procedure assesses the claims configuration as a whole; if the applicant provides optional claim configurations, they are assessed separately.[209] In Finland, five utility models were invalidated in 2010; six were invalidated in 2011; ten were invalided in 2012; and five were invalidated in 2013.

In the Czech Republic, IPO CZ is responsible for the invalidation/cancellation of utility models. The decision can be appealed to the court, and under certain circumstances, further appealed to the Supreme Administrative Court. There are no restrictions on the scope of the invalidation proceedings in terms of types of claims assessed. Partial invalidations of utility models are allowed. In the Czech Republic, there were 47 cancellation requests for utility models in 2009; 25 requests in 2010; 33 requests in 2011; 32 requests in 2012; and 16 requests in 2013.[210] (For more on how inventive step is determined during invalidation procedures in the Czech Republic, see the "Procedures for determining inventive step" section above.)

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[202] Since 1961, the Federal Patent Court has jurisdiction for invalidating/cancelling invention patents.
[203] Written correspondence from Dr. Johannes Holzer, DPMA, June 13th 2014
[204] Ibid
[205] Written correspondence from Dr. Johannes Holzer, DPMA, October 30th 2014. See Article/Section 18(2) of the German Utility Model Law (2013).
[206] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014
[207] Ibid
[208] Written correspondence from Hanna Aho, PRH, June 26th 2014. Note: For patents, there is an opposition period of nine months after grant during which the invalidation request can be filed to the PRH, and therein the PRH's decision of the opposition can also be appealed against in the Market Court; after the opposition period, all invalidation requests are filed with the Market Court.
[209] Written correspondence from Hanna Aho, PRH, September 17th 2014
[210] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

In Italy, specific judicial sections present in 21 civil courts (called "Enterprise Courts"), in which the judges are technically and legally trained, preside over utility model invalidation proceedings. Cases can be appealed to higher instance courts.[211] Partial invalidations of utility models are allowed in Italy.[212]

The court in Italy can appoint a technical expert to produce an expert opinion as to the validity of a utility model and/or the existence of infringement. IPTO is not required to provide a Search Report for utility models. The judge in the invalidation proceedings is not bound by the evidence provided by the aforementioned technical expert; however, if the judge does not agree with the expert, he/she must justify the reasoning for such a decision.[213]

In France, invalidation proceedings for utility certificates are, like for utility models in Italy, handled directly by the courts, and cases can be appealed to higher instance courts. Partial invalidations are allowed; and there are no restrictions, for example on the types of claims, which can be considered in the invalidation proceedings.[214] (For more on how inventive step is determined during invalidation procedures in France, see the "Procedures for determining inventive step" section above.)

In Austria, the Nullity Department of APO hears invalidation/nullity proceedings. Decisions of the Nullity Department can be appealed to the courts, where technically trained judges preside. Cases in first instance courts can be appealed to higher instance courts. Partial invalidation of utility models is allowed. In Austria, there were eight utility model invalidation proceedings in 2009, nine in 2010, three in 2011, one in 2012, and two in 2013. (For more on how inventive step is determined during invalidation procedures in Austria, see the "Procedures for determining inventive step" section above.)

In China, the PRB hears first instance invalidation requests. The decision of the PRB can be appealed to the Intermediate People's Court, and can be further appealed to the People's High Court, and as a last resort to the Supreme People's Court.[215] In China, there were 1,078 resolved utility model invalidation requests in 2009,[216] 984 in 2010,[217] 1,245 in 2011,[218] 1,224 in 2012,[219] and 1,107 in 2013.[220] (For more on how inventive step is determined during invalidation procedures in China, see the "Procedures for determining inventive step" section above.)

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[211] Written correspondence from Loredana Guglielmetti, IPTO, August 7th 2014

[212] Ibid. Note: Data not available on numbers of invalidations of utility models in Italy.

[213] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014

[214] Written correspondence from Emilie Gallois, INPI, September 19th 2014. Note: Limited-to-no data is available on invalidations of utility certificates in France.

[215] For one overview of the utility model invalidation (and infringement enforcement) process in China see Bird, R., July 2013. China: A guide to patent litigation. Freshfields Bruckhaus Deringer LLP, <Retrieved from on September 12th 2014: <http://www.freshfields.com/uploadedFiles/SiteWide/Knowledge/A%20Guide%20to%20Patent%20Litigation%20in%20the%20PRC.PDF>

[216] 2009 SIPO Annual Report, p 51, retrieved on October 22nd 2014 from <http://english.sipo.gov.cn/laws/annualreports/AnnualReport2009/201008/P020100813570264954057.pdf>

[217] 2010 SIPO Annual Report, p 48, retrieved on October 22nd 2014 from <http://english.sipo.gov.cn/laws/annualreports/2010/201104/P020110420372588586402.pdf>

[218] 2011 SIPO Annual Report, p 70, retrieved on October 22nd 2014 from <http://english.sipo.gov.cn/laws/annualreports/2011/201207/P020120731383147261128.pdf>

[219] 2012 SIPO Annual Report, p 68, retrieved on October 22nd 2014 from <http://english.sipo.gov.cn/laws/annualreports/2012/201403/P020140331576202619285.pdf>

[220] 2013 SIPO Annual Report, p 51, retrieved on October 22nd 2014 from <http://english.sipo.gov.cn/laws/annualreports/2013/201406/P020140609541140094313.pdf>

(18) Infringement proceedings[221]

In the Czech Republic, the Municipal Court in Prague oversees infringement proceedings concerning industrial property rights, utility models included. Infringement cases can be appealed from first instance courts to higher instance courts. Outside of the longer statutory allowance for duration of protection for invention patents, utility models in the Czech Republic provide the same judicial protection as invention patents (including no distinction in statute regarding compensation amounts for infringement).[222] There are no procedures requiring staying of an infringement procedure at the court to wait for a validity assessment from IPO CZ before proceeding with the case.[223]

In Italy, the Enterprise Courts have jurisdiction over infringement proceedings, just as they do for invalidation proceedings. Outside of the longer statutory allowance for duration of protection for invention patents, utility models in Italy provide the same judicial protection and procedures as invention patents (including no distinction in statute regarding compensation amounts for infringement).[224] The court can appoint a technical expert to produce an expert opinion as to the validity of the utility model and/or the existence of infringement. IPTO is not required to provide a Search Report for the proceedings. The judge in the proceedings is not bound by the evidence of this technical expert, but may consider it; however, if the judge does not agree with the expert, he/she must justify the reasoning for such a decision.[225]

In France, the courts hear utility certificate infringement cases. Although there is longer statutory protection for invention patents, there are no differences in terms of limitations on damages in infringement cases for utility models vs. invention patent cases.[226] The courts stay infringement proceedings to wait for a Search Report or validity assessment before proceeding in certain cases.[227] As mentioned, a Search Report for the utility certificate in an infringement case can be made at the request of the applicant for a fee.[228]

In Finland, as of September 1st 2013, the Market Court hears all civil infringement cases for both utility models and patents. If a criminal act is involved, cases are heard at the District Court. Decisions of the Market Court can be appealed to the Supreme Court of Finland. Outside of the longer statutory allowance for duration of protection for invention patents, utility models provide the same judicial protection as patents in Finland (including no distinction in statute regarding compensation amounts for infringement).[229] The Market Court can request a statement from PRH assessing the validity of the utility model before hearing the infringement case, and the court can set a deadline for the defendant to make an invalidation request if they have not done so previously. If such a request has been made or is the

[221] In line with the scope of this paper, as mentioned in the methodology, this section is kept intentionally brief. More detailed comparisons could look at the numerous different rules governing infringement proceedings in the different countries, including those for determining literal vs. doctrine of equivalents-based infringement; infringement analysis, including approaches to burden of proof, interpretation of claims construction, among other aspects; defenses to infringement; rules for what types of infringement constitute criminal offenses; rules for granting injunctions; etc.
[222] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014
[223] Ibid
[224] Written correspondence from Loredana Guglielmetti, IPTO, August 7th 2014
[225] Written correspondence from Loredana Guglielmetti, IPTO, September 17th 2014
[226] Written correspondence from Patrice Vidon, Vidon IP Law Group, September 19th 2014
[227] Ibid
[228] Written correspondence from Emilie Gallois, INPI, September 19th 2014
[229] Written correspondence from Hanna Aho, PRH, June 26th 2014

process of being made, the court can decide to wait for the decision from the PRH, and while they are not required to do so, they usually do this in practice.[230]

In Germany, protection against the infringement of utility models (and patents) is sought before the civil courts. Cases can be appealed from the District Court to the High Court, and under certain circumstances to the Federal High Court. Outside of the longer statutory allowance for duration of protection of invention patents and the requirement of commercial applicability for an invention patent, utility models provide the same judicial protection as patents in Germany.[231] This being said, although there is no difference in statute as to compensation in infringement cases for the two types of rights, the amounts of compensation in utility model infringement proceedings are generally lower in practice than for invention patents.[232] The civil courts have their own code of civil procedure, and if evidence of validity is necessary during the infringement proceeding, technical experts from outside of DPMA are consulted instead of requesting a Search Report/opinion from DPMA.[233]

In Austria, the Commercial Court is responsible for hearing utility model infringement proceedings. Contradictions are avoided between APO rulings on invalidation issues and decisions of the court because the court, although not required by law to do so, always stays its proceedings to wait for an intermediate decision on validity of the utility model from the Nullity Department of APO, which the court then takes into account.[234] Outside of the longer statutory allowance for duration of protection and the requirement of commercial applicability for an invention patent, maintained utility models are given the same judicial protection as invention patents in Austria.[235]

In China, the courts hear utility model infringement proceedings. First instance cases are heard at the Intermediate People's Court, decisions from which can be appealed to the Higher People's Court, and as a last resort to the Supreme People's Court. Although the court often may request and wait for the completion of a Patent Evaluation Report by SIPO before deciding whether to stay an infringement proceeding until the administrative decision on validity of the utility model in question is issued by SIPO, the court is not mandated to do so. Additionally, in the instance that a Patent Evaluation Report has been requested by a party in the infringement proceeding, is issued, and is considered by the court, the courts are only required to treat it as evidence rather than necessarily as a binding decision.[236] Outside of pursuing a patent infringement case in court, entities may seek enforcement of their patents through administrative authorities, namely the local city-level IP bureaus, and in some cases, the IP bureaus at

[230] Written correspondence from Hanna Aho, PRH, September 17th 2014

[231] Written correspondence from Dr. Johannes Holzer, DPMA, June 13th 2014. Note 1: This being said, Dr. Holzer's notes that the comparatively faster speed and simplicity of the procedures for granting utility models in the first place indicates there is some difference in the "legal consistency of rights" for utility models vs. invention patents. Note 2: In contrast to patent protection, utility model protection in Germany does not depend on the commercial applicability of the invention.

[232] Ibid

[233] As such, the Search Report from DPMA plays no substantive role in determining validity of utility models in infringement proceedings in Germany. (Source: Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014)

[234] Written correspondence from Dr. Johannes Werner, APO, September 15th 2014. Note: decisions can be considered "intermediate" rather than "final" when they can still be appealed.

[235] Ibid. Note: there are different requirements in Austria for using patents commercially.

[236] Article 61 of the Patent Law of China and Part V, Chapter 10, Patent Examination Guidelines of China (2013) discuss procedures surrounding the Patent Evaluation Report. Stay of the proceedings is considered according to the four conditions stipulated in Article 9 of the Guidelines on the Application of the Law Regarding Patent Disputes (first issued by the SPC on June 19th 2001 and amended on April 15th 2013). Draft revisions to Article 8 and Article 9 were proposed by the SPC and opened for public comment until August 15th 2014 that more specifically define the requirement to request and consider the contents of a Patent Evaluation Report, although the language in that draft does appear as if it would significantly alter current practice therein.

the provincial/municipal level.[237] Outside of the longer statutory allowance for duration of protection for invention patents, utility models provide the same judicial protection as invention patents in China (including no distinction in statute regarding compensation amounts for infringement). [238]

(19) Internal quality control[239]

All the patent offices studied indicated they had institutionalised systems for ensuring the quality of their internal processes.[240] Some of the offices mentioned the importance of learning from best practices used in patent offices in other European Union member states, the EPO, as well as ISO 9001 and other standards. This represented a continuing process of improving on and revising internal quality control procedures. The offices use supervision checks, consider errors when conducting performance reviews, and have developed organisational and other methods to ensure internal quality control in examination, re-examination, and/or invalidation procedures for utility models.

3.2 Main factors explaining composition of and revisions to the systems

In addition to providing a comparative analysis of the substantive, procedural, and institutional frameworks governing utility model systems in the seven countries studied, this paper aims to provide an overview of the main factors explaining the composition of and revisions to the systems. This section provides a typology of such factors.[241]

Historical – One factor explaining the composition of and *lack* of revisions to certain utility model systems lies in historical justifications for constructing a utility model system as is at present. For example, although the idea has been proposed and considered, Germany has not yet allowed processes to be matter patentable by utility models because the system is said to have worked well as originally designed without such protection.[242]

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[237] Article 60, Patent Law of China (2008). Also see SIPO's Measures for the Administrative Enforcement of Patents (December 29th 2010), which stipulate that a patent holder can submit an infringement dispute to the relevant local IP bureau but cannot do this if they have already brought an infringement dispute before a civil court. These sub-central-level IP bureaus are coordinated by the central-level SIPO.

[238] Among other provisions, see Article 59, Patent Law of China (2008)

[239] This section is kept intentionally brief, although further research could dramatically expand upon its contents.

[240] Source: Presentations and discussion with the patent office representatives during the May 22nd 2014 roundtable. Note: The internal quality management processes of SIPO provide a useful example of some quality control mechanisms a patent office may institute. SIPO has (1) established a three-level examination quality management system to strengthen internal management such as target management and process control; (2) reinforced the crack-down on abnormal patent applications that plagiarise prior art and are repetitive, and strengthened the examination for low-quality utility model patent applications which obviously lack novelty or belong to repetitive patenting; (3) implemented an endorsement system of the division director of the examination department; and (4) set-up an external patent examination quality feedback system. See SIPO, 2013. Development of China's Utility Model System. Retrieved on May 6th 2014 from <http://english.sipo.gov.cn/news/official/201301/t20130105_782325.html>

[241] The typology is not necessarily exhaustive and is intentionally kept brief. It uses what are deemed to be the most illustrative examples from the different countries to reflect distinctions in the typology rather than attempting to provide examples from all countries for each part of the typology.

[242] Consultations with Dr. Johannes Holzer, DPMA, May 21st 2014 roundtable. Note: This being said, currently, proposals from industry and the Federal Ministry of Justice and Consumer Protection (in coordination with DPMA) are being considered to allow utility models to protect processes in Germany (Source: Written correspondence from Dr. Johannes Holzer, DPMA, October 30th 2014).

Policy diffusion/legal transplant – The theory of policy diffusion, or "legal transplant" when applied specifically to laws, is useful in explaining the composition and revisions to different utility model systems. Policy diffusion is generally explained by one to three concepts: "learning", where policies in one area are impacted by consequences of similar policies in other areas; "emulation", where the socially-constructed nature of the policies make them more attractive than others regardless of whether they are effective in meeting their aims; and "competition", where units react to one another in order to attract or retain resources.[243] In some other literature, including work focusing on legal transplant related to IP rights systems specifically, "coercion" and other mechanisms can explain international legal transplantation.[244]

There are multiple examples of how legal transplant theory can explain the construction of utility model systems in different countries. For example, the Czech Republic has learned from Germany, adopting much of the same approach as Germany in determining the scope of much of its patentable subject matter for utility models, directly following some of the language establishing the German system.[245] There are inevitably numerous other examples of how legal transplant/policy diffusion can explain the composition of and revisions to certain utility model systems.[246]

Interpretational – Over time, certain institutions have created their own interpretations of statutes and procedures for utility model systems in a way that notably changes how these elements are approached. One of the clearest examples of this is the 2006 decision of the German Supreme Court that the inventive step of a utility model is equivalent to the inventive step of patents. This decision diverged from the practice in the past – which was supported by the Supreme Court of the German Reich (from 1908 onwards) and the Federal Supreme Court (until 2006), as well as relevant literature on the topic – requiring a lesser degree of inventive step for utility models than invention patents. However, it is useful to note this interpretational change was not without controversy: in fact, the Supreme Court decision was widely criticized in a range of literature and some experts suggested returning to the old interpretation of the Supreme Court of the German Reich.[247] Further, it appears that the decision has at least somewhat contributed to the potentially problematic economic phenomenon that filing of utility models by German entities is decreasing at a time where utility models are being strategically used by entities from other countries to compete against German firms.[248]

Values – Different values on ethical, moral, security, economic, among other issues appear to be another explanatory factor behind differences in utility model systems. Some common values are reflected in all seven countries studied via their exclusion of the following subject matter from

[243] Simmons, B., Dobbin, F. and Garrett, G., 2006. Introduction: The International Diffusion of Liberalism. International Organization 60, 781-810; Braun, D., Gilardi, F., 2006. Taking `Galton's Problem' Seriously: Towards a Theory of Policy Diffusion. Journal of Theoretical Politics 18, 298-322; Graham, E., Shipan, C., Volden, C., 2013. The Diffusion of Policy Diffusion Research in Political Science. British Journal of Political Science 43, 673-701.

[244] Morin, JF., Gold, R., forthcoming. An integrated model of legal transplantation: the diffusion of intellectual property law in developing countries. International Studies Quarterly. Draft version retrieved on August 15th 2014 from <http://www.researchgate.net/publication/259203702_An_Integrated_Model_of_Legal_Transplantation_The_Diffusion_of_Intellectual_Property_Law_in_Developing_Countries_Draft_version>

[245] Consultations with Šimon Bednář, IPO CZ, May 21st 2014 roundtable

[246] For example, although not an issue investigated in-depth for this paper, it is worth researching how these diffusion mechanisms may have played into the 2008 decision in the Netherlands to abolish its short-term patent system and the 2009 decision in Belgium to abolish its small/petite patent system.

[247] Written correspondence from Dr. Johannes Holzer, DPMA, June 2014

[248] Consultations with Dr. Johannes Holzer, DPMA, and Elliot Papageorgiou, Chair of EU Chamber's IPR Working Group, May 21st 2014.

patentability by utility models: inventions inconsistent with the public interest, order, policy and morality; certain methods for treatment of the human body by surgery or therapy; diagnostic methods practiced on humans; "essentially" biological processes for production of plants and animals; animal varieties; and certain plant varieties.[249] In contrast, one example of differences in values is reflected in Austria's unique (among the countries studied) allowance of utility model protection of diagnostic methods practiced on animals, and methods of treating animals by surgery or therapy.[250] This reflects an arguably more liberal attitude in Austria towards using the IP system to protect such methods.

Technological – The emergence of new technologies, and with them, new technological trajectories, is another factor explaining differences in utility model systems. A telling example of this is Austria's unique allowance (among the countries surveyed) that the program logic on which programs for data processing systems are based can be patented by utility models. One of the reasons for this approach appears to be that the drafters of the Austrian Utility Model Law (which is the youngest out of the countries studied, introduced in 1994) were particularly in-tune with the evolving nature of computer program and internet-related technological trajectories.[251] Additionally, the rationale behind this allowance is to provide a cheap and fast IP protection tool with a shorter duration of protection than for invention patents given the lifecycle of such computer program inventions can be relatively short.[252]

By way of another example, Finland substantially expanded the scope of subject matter patentable by utility models two years after its utility model law was enacted. Specifically, as a result of revision to the Finnish system in 1995, which changed the requirement that utility models could only protect "concrete objects", chemical compounds, medicines, and foodstuffs can now also be protected by utility models in Finland.[253]

Implementation of innovation and IP policies – Innovation and IP policies can impact the makeup of utility model systems. For example, in response to EU-wide directives to better stimulate innovation and usage of the patent system, the Italian government instituted certain subsidies for fees associated with developing patents (which while not specifically designated for utility models, as described in the section on monetary incentives, it is possible in limited cases to in-effect obtain such support for utility model filings).[254] By way of another example, in China, for years now, in reaction to a number of central-level and sub-central-level policies meant to promote innovation and IP awareness, government bodies

[249] Other subject matter commonly excluded across all the countries studied includes schemes, rules and methods for programs for computers; schemes rules and methods for mental/intellectual activities; schemes, rules and methods for playing games; scientific discoveries; scientific theories; mathematical methods; aesthetic creations; schemes, rules and methods for doing business; presentations of information; and the design of an apartment, the campus planning or the residential district planning.

[250] Note: subject matter for utility models is not governed by the same rules as for invention patents in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs Agreement), and thus even for countries that have ratified that agreement there is notable flexibility for them to differ in their protection of different subject matter by utility models. (For one source providing a comparison of the international agreements governing utility model systems among a range of countries see Grosse Ruse-Khan, H., 2012. The international legal framework for the protection of utility models. Max Planck Institute for Intellectual Property & Competition Law Research Paper No. 12-10.)

[251] The next youngest utility model systems are the Finnish system, introduced in 1993, and the Czech system, introduced in 1992.

[252] Written correspondence from Dr. Johannes Werner, APO, June 13th 2014

[253] Written correspondence from Hanna Aho, PRH, September 17th 2014

[254] Consultations with Giovanni de Sanctis, IPTO, May 22nd 2014 roundtable

across China have provided subsidies for official filing fees and other costs associated with filing utility model applications.[255]

Accommodation – One factor explaining the composition of different utility model systems is the type of accommodation that their creators seek to provide for patentees. For example, all countries studied allow parallel filings of utility models and invention patents, which can be useful to provide comparatively quicker enforceable protection with a utility model, and then later protection with an invention patent.[256] Further, the allowance found in Germany that an invention patent and utility model do not necessarily have to be filed on the exact same day in order for the utility model to be branched-off from the invention patent is said to be accommodating to both applicants and the patent office, whereby some indicate this is helpful to allow applicants the choice to only file a branched-off utility model if/when it is really needed.[257]

By way of another example, Germany, as well as Austria, the Czech Republic, and Finland, allow not only parallel filings but also double-granting of a utility model and invention patent. In Germany, this approach, while not often used in practice by many patentees, is intended to accommodate the needs of inventors by allowing quick and cheap protection of the invention and the possibility to create an IP rights portfolio that contains several utility models which may, for example, only be part of a larger invention. (However, it is also important to note that at least one negative aspect of this approach is the necessity of paying patent attorneys fees in cases where double-protection of the invention as an invention patent and utility model is actually not needed.) [258]

Simplification – Some countries have revised aspects of their utility model systems to make them more simplistic and practical. For example, Germany used to require submission of physical models of the inventions to be protected by a utility model, but this is no longer a requirement. This change was made to allow a simplified and uniform approach, and therein the same extent of protection, for fighting infringement of products whether protected by utility models or invention patents or topographies.[259]

Efficiency – One factor explaining the composition of and revisions to utility model systems is the level of efficiency they seek to foster. For example, all countries studied allow for electronic filing (and Finland, France, Germany, and Italy provide reduced fees for electronic utility model applications) in an attempt to try to stimulate this method of filing, which can enable more organised and otherwise efficient processing of utility model applications. In the case of Germany, whose utility model system was established in 1891, far before the Internet, this shows how utility model systems are revised with the advent of modern technology in order to improve the efficiency of the system.

Global-reach -- One factor explaining the composition of and revisions to utility model systems is the extent to which legislators find it optimal to reflect the global nature of IP rights. All of the countries

[255] However, as mentioned, this system is set to undergo notable reforms. See Several Opinions of the State Intellectual Property Office on Further Improving Quality of Patent Applications (issued December 18th 2013).
[256] For one source describing the usefulness of parallel filings, see: China IPR SME Helpdesk. Focus on: Utility Model Patents. Retrieved on November 30th 2014 from <http://www.insme.org/insme-newsletter/2012/file-e-allegati/newsletter_documents/Focus_on_Chinese_Utility_Model_Patents.pdf>
[257] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014. Additionally, for one source describing the usefulness of branching-off in Austria see: Sonn & Partner. Utility models in Austria. Retrieved on August 20th 2014 at <http://www.sonn.at/patentanwalt.php?l=e&t=gebrauchsmuster&m=info>
[258] Written correspondence from Dr. Johannes Holzer, DPMA, June 13th 2014
[259] Written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014

surveyed except Germany require an absolute novelty standard for utility models.[260] China moved to the absolute novelty standard as a result of the 2008 revision to its Patent Law (which came into effect on October 1st 2009). The absolute novelty standard provides a higher threshold by which to prove novelty, which inferably is viewed by the countries with such standard as useful in an increasingly interconnected world where knowledge diffuses more fluidly than in the past.[261]

Substantiveness – One factor explaining the composition of utility model systems is the level of substantiveness believed necessary to incorporate in the examination phase. Although none of the countries studied for this paper require a full Substantive Examination for utility models before grant, the countries have varying degrees of substantiveness in their Preliminary Examinations (and all check a number of formalities in this phase). For example, China has required a type of novelty assessment, albeit relatively narrow, in its Preliminary Examination phase. Finland requires a determination of industrial applicability of utility models in the Preliminary Examination stage, and China and the Czech Republic require assessing if a utility model "obviously" lacks industrial applicability. Preliminary Examinations in Austria, the Czech Republic, China, Finland, France, and Italy assess the patentability, in terms of obvious non-conformity or otherwise, of subject matter in utility model applications. Preliminary Examination of utility models in Germany consider if the invention in the application has a technical background.

Speed – In-line with the purported benefits of a utility model system described in existing literature reviewed in the introduction of this study, one factor explaining the composition of utility model systems is the speed they seek to foster in the granting process. For this reason, none of the countries studied required a full Substantive Examination before granting utility models, and utility models are granted much faster than invention patents (and particularly quickly in some countries studied). And in effect, the quicker time to grant utility models when compared to invention patents is meant to be one mechanism to enable quickly enforceable protection of an invention, which is particularly important to protect technologies with relatively short lifecycles; to enable start-ups to raise capital; and can be useful for other reasons.

Cost – In line with the purported benefits of a utility model system described in the existing literature reviewed in the introduction of this study, one factor explaining the composition of utility model systems is the cost effectiveness they seek to promote. For this reason, utility model patents are cheaper to obtain in all the countries studied when compared to invention patents in those countries.
Further, by way of example, the Czech Republic's particularly low official costs (along with the quick grant time of about four months) are said to likely be one of the key factors encouraging more utility models to be filed than invention patents in the Czech Republic each year.[262]

Some countries provide reduced costs for specific entities for filing utility models. For example, the Czech Republic provides reduced fees for individual inventors. IPO CZ has not noticed negative impacts on patent quality or the Czech Republic's innovation trajectory resulting from such incentives.[263]

[260] Some view the relative novelty standard for utility models in Germany as "compensation" for the shorter protection time of the utility model compared to the invention patent. (Source: written correspondence from Dr. Johannes Holzer, DPMA, September 10th 2014).
[261] In the sense that information and knowledge is increasingly accessible across international borders, and electronic translation tools have enabled easier diffusion of public patent information.
[262] Consultations with Šimon Bednář, IPO CZ, May 22nd 2014 roundtable
[263] Consultations with Šimon Bednář, IPO CZ, May 21st 2014 and May 22nd 2014 roundtable

In Italy, subsidies continue to be provided to cover costs associated with patents, and in some cases utility model patents. Empirical studies on these programs have found that they do not significantly stimulate low-quality patents, although also do not stimulate quality patents.[264]

In China, subsidies and other state-provided incentives have likely stimulated annual filings of utility models to a level that outpaced invention patents and in this process stimulated some low-quality filings. In reaction to these trends, SIPO has recently undertaken significant efforts, for example as embodied in the Several Opinions of the State Intellectual Property Office on Further Improving Quality of Patent Applications (2013), to rehaul the system of IP subsidies and other incentives/state support for IP employed in China, including for utility models.

Target groups -- In line with the purported benefits of a utility model system described in the existing literature reviewed in the introduction of this study, one factor explaining the composition of utility model systems is the support they provide specifically to SMEs and individual inventors. Beyond the already low price of utility models when compared to invention patents, China and the Czech Republic provide reduced costs for utility model filings for individual inventors. Additionally, utility model systems are geared towards inventors of more incremental inventions for which it is not economically appropriate to grant a monopoly right for as long as for invention patents.

Quality – Quality control is an important factor explaining the composition and revisions to utility model systems. There are several methods used to ensure quality of utility models in an economy.

One method is to try and deter low-quality utility models from being filed in the first place. An example of this approach is the Several Opinions of SIPO on Further Improving Quality of Patent Applications (2013), which recommends adjusting patent targets and performance evaluations, subsidies and other awards for patents, among other mechanisms to promote quality patents in China, utility models included.[265]

Another method is to develop mechanisms to try and prevent low-quality utility models, after being filed, from being granted. By way of example, in order to mitigate fears of a rising stock of low-quality utility models, Austria requires a full Search Report be conducted and provided alongside all utility model applications. The published Search Report serves as information for the public and can be a powerful tool for invalidating/nullifying a utility model if the applicant does not adapt its claims in accordance with the novelty information present in the report. [266]

Other Preliminary Examination-phase measures have been taken to ensure the quality of utility models. For example, SIPO's 2013 revision of the Patent Examination Guidelines require that in the Preliminary Examination phase that SIPO examiners shall judge if utility model applications "obviously" lack novelty, which includes using a method to determine if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed "obviously" lack novelty.[267] (By way of juxtaposition, some patent offices in Europe surveyed noted that even if their examiners knew that the same solution for a utility model has been already described in the prior art, they are prohibited from conducting any novelty assessment

[264] Munari and Liang (2012), p 16

[265] See Several Opinions of the State Intellectual Property Office on Further Improving Quality of Patent Applications (issued December 18th 2013)

[266] Consultations with Dr. Johannes Werner, APO, May 21st 2014 roundtable

[267] Consultations with SIPO representatives, May 21st 2014 roundtable

during the Preliminary Examination phase, meaning that the examiners must still register the utility model.[268])

Another Preliminary Examination-phase tool to ensure the quality of utility models is the requirement to assess their industrial applicability. Finland requires an assessment of industrial applicability of utility models in the Preliminary Examination stage, and China and the Czech Republic[269] require assessing if utility models "obviously" lack industrial applicability.

Yet another Preliminary Examination-phase tool to ensure quality of patents is to assess the patentability of subject matter in the utility model application. Preliminary Examinations of utility model applications in Austria, the Czech Republic, China, Finland, France, and Italy assess the patentability of subject matter therein in some form, in terms of obvious non-conformity or otherwise. Preliminary Examination of utility models in Germany consider if the invention in the application has a technical background.

Mechanisms allowing third parties to submit observations about the patentability of a utility model are also intended to ensure patent quality. A formal third party observation mechanism is used by INPI in France to gather and consider possible novelty-destroying prior art before utility certificates are granted.[270] In Italy, the allowance of third parties to submit observations regarding the existence of relevant prior art, which are made public prior to the granting of the utility model and sometimes afterwards, can be a useful quality oversight mechanism enabling third parties and the owner of the utility model to consider the observations and the possibility of invalidation proceedings (even though they do not serve as a legal basis for the IPTO to not grant a utility model).[271] In Austria, while there is no formal mechanism to collect third party observations, if third parties provide APO with their observations they will be considered prior to the publication of the Search Report.[272]

None of the countries surveyed provided penalties for non-compliance with rules that applicants should submit known prior art references in their utility model applications (a duty of candor requirement). However, when proposed by the author, some offices indicated that this may be useful mechanism to ensure patent quality.[273]

Another important method to ensure quality of utility models is to ensure efficient and effective procedures for invalidating low-quality utility models. All of the patent offices surveyed noted that this is an important quality control mechanism (even though in some of the countries, for example in Austria and Finland, very few utility models are invalidated every year).[274]

[268] Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014

[269] Note: this assessment is performed in the Czech Republic so as to avoid registration of utility models protecting a perpetual motion machine which are not otherwise excluded from patentable subject matter restrictions (Source: Written correspondence from Šimon Bednář, IPO CZ, September 2nd 2014).

[270] Consultations with Jean-Baptiste Barbier, INPI, May 21st 2014 roundtable. Among some of the other patent offices surveyed, opinions differed as to if the third party observation mechanism would be useful to introduce to their system – whereby some saw the value of the mechanism limiting low quality patents, but at the same time noted the need to ensure their utility model system still enabled fast grants.

[271] Written correspondence from Loredana Guglielmetti, IPTO, September 29th 2014

[272] Written correspondence from Dr. Johannes Werner, September 15th 2014

[273] Written correspondence from Dr. Johannes Werner, September 15th 2014

[274] Consultations with patent office representatives at May 21st 2014 and May 22nd 2014 roundtable

The more "internal" quality control mechanisms used at patent offices cross-cut the aforementioned approaches to quality. The patent offices studied have used various supervision checks, considered errors when conducting performance reviews, and developed and revised organisational and other methods to ensure internal quality control in examination, re-examination, and/or invalidation of utility model patents.

3.3 Usage of systems

This section provides a snapshot of how the utility model systems in the countries studied are being used by patentees in recent years.[275] As illustrated in Table 3, there is a wide range of difference in how much applicants utilise the utility model systems in the different countries. China by far had the highest number of utility model applications, and filings have sharply risen year-on-year in recent years. Within Europe, Germany had by far the highest number of filings, although, in line with a continuing trend in Germany, the number of annual filings continues to drop. Both Finland and France saw the second lowest number of utility model filings, at a rough average rate of 500 applications per year since 2009. Austria has maintained a similar rate of filings as experienced in 2013 for the last several years. The number of utility model filings in Italy and the Czech Republic have risen year-on-year over the last several years. In all countries studied, domestic entities filed more utility model applications than foreign entities.

Table 3: Annual number of utility model applications (2013)

Country	Utility models±	Notes
Austria	763	More domestic than foreign
China	892,362	More domestic than foreign; more than invention patents
Czech Republic	1,731	More domestic than foreign; more than invention patents
Finland	480	More domestic than foreign
France	503	More domestic than foreign
Germany	15,472	More domestic than foreign
Italy	2,699	More domestic than foreign

Source: Data from respective patent offices.

All the patent offices noted that small-scale inventors were important users of utility models in their countries. Additionally, in China, it was noted that some large state-owned enterprises (SOEs) also make use of their utility model system.[276]

The situation in France reflects why a utility model system may lose some of its appeal, at least in developed countries. The grants of utility certificates in France have fallen over the last several years, from 508 grants in 2005 to 166 grants in 2012.[277] According to INPI, the lower cost and easier procedure for obtaining a utility model currently does not always provide a particularly strong incentive for filing utility certificates.[278] In fact, the attractiveness of these elements appears to often be offset by the

[275] It is beyond the scope of this paper to provide a more exhaustive collection of statistics, although providing this would be a useful exercise for future research.
[276] Consultations with SIPO representatives, May 22nd 2014 roundtable
[277] Written correspondence from Emilie Gallois, INPI, September 19th 2014. Note: although statistics provided by INPI show a similar annual rate of utility certificate filings since 2009, as mentioned above, INPI suggests that grants have fallen over the last decade and in general over the last decade or more utility certificates are becoming less attractive.
[278] Consultations with Jean-Baptiste Barbier, INPI, May 21st and May 22nd 2014 roundtable

uncertainty inherent in the right. Namely, no written opinion on full patentability of utility certificates is provided by INPI, and thus the full patentability of the right can only be determined in a court proceeding.[279] Further, for many, this uncertainty does not offset the fact that utility certificates can only be maintained for a maximum of six years. In contrast, the certainty and length of the right in France's invention patent system are said to be important to patentees that file abroad or want to commercialise technology with reasonable assurance that they will not be infringing on others' technology.[280]

The cases of China and the Czech Republic also warrant special attention, given that, unlike in the other countries studied, their domestic filings of utility models annually outnumber their domestic filings of invention patents. As mentioned, one main reason for this ratio appears to be the very low costs (or no costs, when fully subsidised) of filing utility models. However, the Czech Republic and China appear to rightly view this ratio in different ways. In China, there is indication that this ratio, which persisted for an extended period of time up till 2004 and resumed from 2010-2013 (see Chart 3), is seen as representative of a less than optimal trajectory, and as a result SIPO has recently targeted a ratio of more invention patents than utility models.[281] In contrast, this ratio, which has persisted in the Czech Republic (which is a high income country) since 2005 (see Chart 4), does not appear to be particularly concerning to IPO CZ.[282]

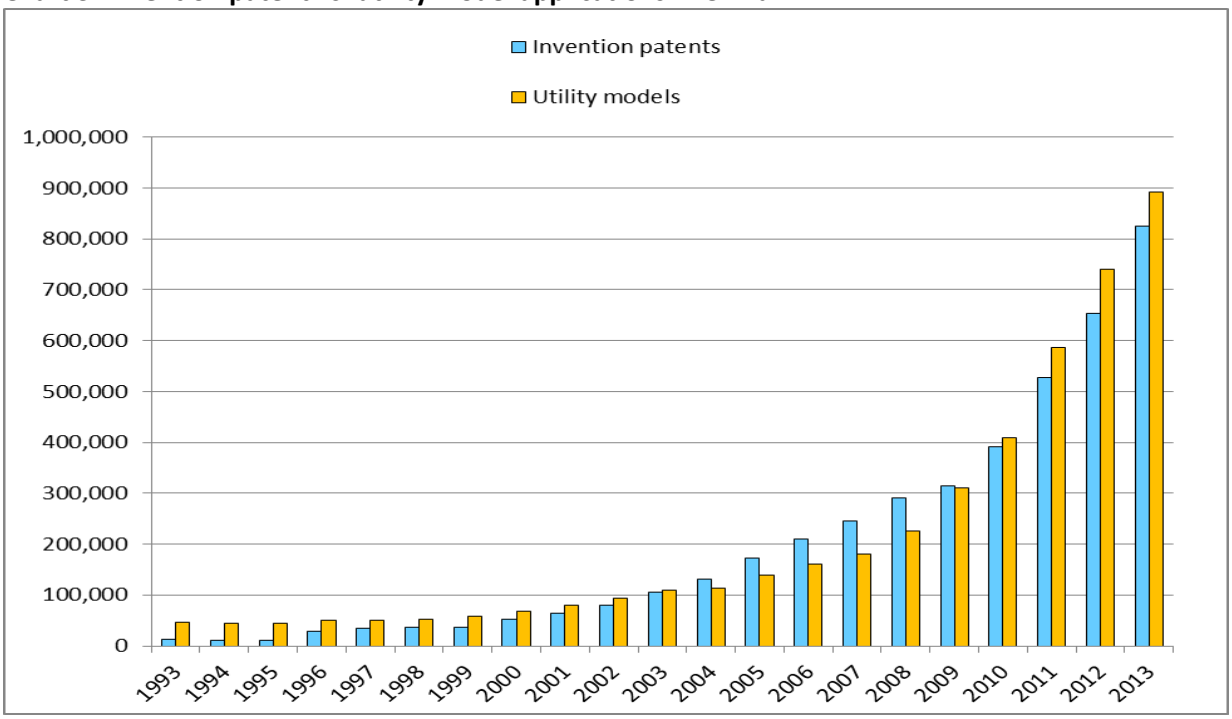
[279] Ibid

[280] Ibid

[281] For more on usage of such a metric see: Xinhua, 22 April 2014. China sees larger proportion of invention patent applications. Retrieved on April 24th 2014 from <http://news.xinhuanet.com/english/china/2014-04/22/c_133281638.htm>; and Xinhua, 24 April 2014. China eyes quality patent amid application surge. Retrieved on April 24th 2014. from <http://www.chinaipr.gov.cn/newsarticle/news/government/201404/1810614_1.html> . Note: The ratio of invention patents to utility models is mentioned in Lee and Lim (2010), who suggest that catch-up of filings of invention patents with utility model/petite patents in an economy (in addition to resident patenting catching up with non-resident patenting in the host country, and corporate patenting catching up with individual inventor patenting in the host country) is a way to gauge technological catch-up. All of these conditions were satisfied by Japan, Korea and Taiwan in the past on their way to technological catch-up with technology leaders in the West (Source: Lee, K. and Kim, Y.K. (2010). IPR and technological catch-up in Korea, in: Odagiri, H., Goto, A., Sunami, A. Nelson, R. (eds) Intellectual property rights, development, and catch-up: an international comparative study, Oxford University Press, UK, pp 133-62).

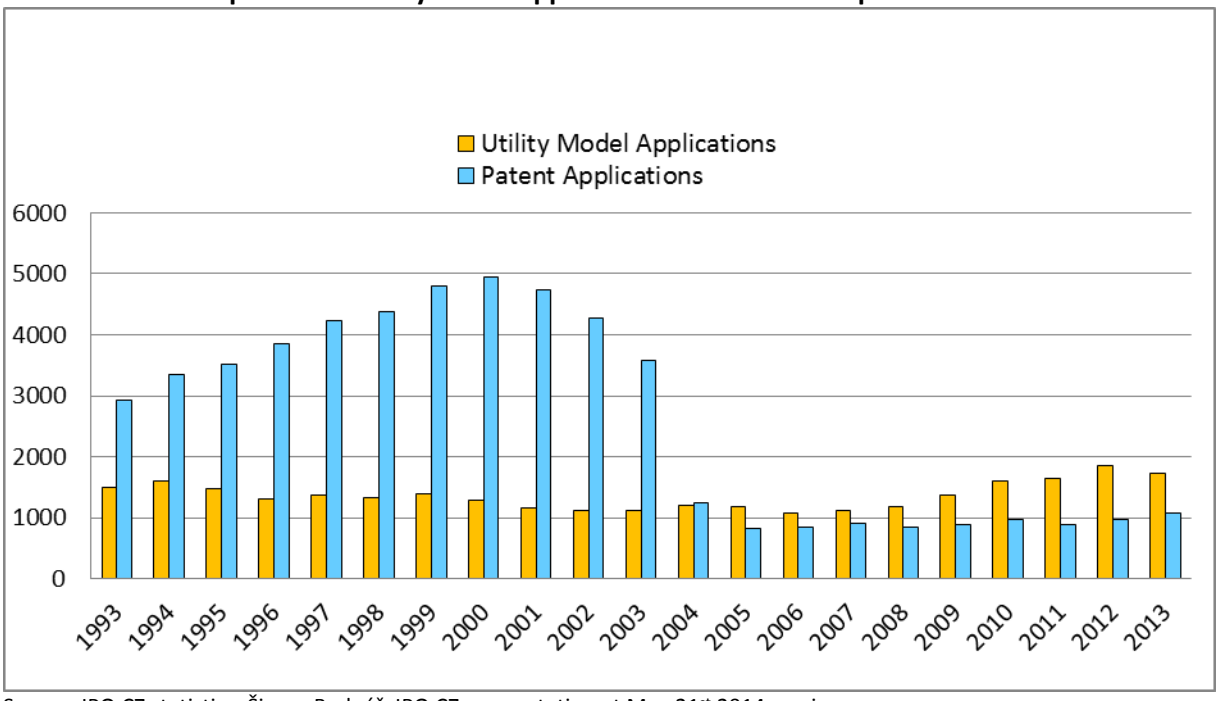
[282] Consultations with Šimon Bednář, IPO CZ, at May 21st 2014 and May 22nd 2014 roundtable. Note: In light of the findings in the above footnote citing Lee and Lim (2010), it is worth noting that the Czech Republic currently has a per capita income of roughly EUR 21,000 (USD 27,200) in 2013 according to IMF data.

Chart 3: Invention patent vs. utility model applications in China



Source: SIPO statistics

Chart 4: Invention patent vs. utility model applications in the Czech Republic



Source: IPO CZ statistics; Šimon Bednář, IPO CZ, presentation at May 21st 2014 seminar

3.4 Implications for countries revising or creating a new utility model system

This section draws on the findings in the previous sections of this paper in an attempt to identify key implications for countries revising their utility model system or countries considering newly creating a utility model system. It divides these into cross-cutting findings relevant to utility model systems as a whole, and experiences with specific statutory, procedural, and institutional instruments.

Key cross-cutting findings:

Some countries benefit from having a utility model system. Theoretical and empirical economic research supports the idea that utility model systems in at least some developing countries can be useful tools to stimulate technological diffusion, learning, absorption, and, in turn, incremental innovation which in the longer-term can lead to more advanced innovation. As gauged by current usage rates of the utility model systems, it also appears that utility model systems are viewed as useful tools to protect inventions and enable competitiveness for at least some entities in some developed countries.

Despite the aforementioned findings, utility model systems in some developed countries can be of limited value or even create notable negative aspects. As noted in the Introduction to this paper, small/petite patents in Belgium and short-term patents in the Netherlands were viewed as perpetuating a notable amount of legal uncertainty in their IP systems given there was no prior art search conducted on these patents before they were granted. Given these negative aspects, and because it was determined that the systems did not provide significant benefits to outweigh these aspects, Belgium abolished its small/petite patent system in 2009 and the Netherlands abolished its short-term patent system in 2008.

By way of another example, although the system has not been abolished, consultations with INPI suggest that the utility certificate system in France is not particularly popular. The attractiveness of the lower cost and easier procedure for obtaining a utility certificate in France is often offset by the uncertainty inherent in the right. Namely, no written opinion on full patentability of utility certificates is provided by INPI, and thus the full patentability of the right can only be determined in a court proceeding. Further, for many, this uncertainty does not offset the fact that utility certificates can only be maintained for a maximum of six years. In contrast, the certainty and length of the right in France's invention patent system are said to be important to patentees that file abroad or want to commercialise technology with reasonable assurance that they will not be infringing on others' technology.

The usage of utility models relative to invention patents may be a useful indicator of the optimality of the technological trajectory of some countries, but not necessarily all countries. Some economic research suggests that as developing countries increase technological development and according economic development and move to being a high income economy that has mastered advanced technologies, there is less need for a utility model system and naturally entities will prefer invention patents. As such, the higher ratio of invention patents to utility model patents is a proxy indicator of the technological catch-up/advancement of such countries. Seeking to shift its performance on this indicator, China is attempting to move from a trend which existed prior to 2004 and has resumed from 2010-2013 where utility models filings outnumber invention patent filings to a situation where invention patents outnumber utility models.

However, not all countries are concerned about the composition of their patent stocks in terms of the ratio of utility models to inventions patents. The strong filings of utility model patents since 2005 in the Czech Republic, a high income country, do not appear to be raising red flags at IPO CZ as to patent quality or the innovation trajectory in the Czech Republic. The ratio is viewed largely as the product of a not necessarily concerning preference of entities in the Czech Republic for utility models given they are quite cheap and can be obtained quickly.

Various factors explain the composition of utility model systems. Although not necessarily an exhaustive list, the main factors identified as explaining the composition of a utility model system are:

- historical, whereby once an element is engrained in the system and there does not appear to be a convincing enough reason to change it, it will remain in the system;
- policy diffusion/legal transplant, whereby, working through a process of learning, emulation, competition, and/or a number of other dynamics, legal mechanisms from one country may find their way into another country;
- interpretational, whereby different institutions provide new views on how the utility model system should function;
- values, whereby views on ethical, moral, security, economic, among other issues determine how different utility model systems are constructed;
- technological, whereby some utility model systems may be designed to protect newly emerging and shorter lifecycle technologies;
- implementation of innovation and IP policies, whereby utility model systems can be designed to meet the objectives in such policies;
- simplification, whereby utility model systems are revised to be more practical and align with other aspects of the IP system;
- accommodation, whereby utility model systems are designed to cater to the needs of entities using the system;
- efficiency, whereby methods are developed to facilitate smoother working of the patent office;
- global-reach, whereby utility model systems can be calibrated to reflect the global nature of IP rights;
- substantiveness, whereby differing levels of depth in the examination phase for utility models reflect different perceptions of the optimality of such approaches;
- speed, whereby fast granting procedures are a key aspect of utility model systems;
- costs, whereby low costs are key components of utility model systems;
- target groups, whereby utility model systems can be designed to meet the needs of small-scale inventors and inventors in industries where technological lifecycles are shorter than ten years; and
- quality, whereby utility model systems are designed to maintain and/or improve the quality of utility model applications, granted utility models, and to ensure effective and efficient procedures for invalidating and otherwise enforcing against low-quality utility models.

Revisions have been made to different utility model systems over time and will inevitably be considered in the future. It is natural for countries to make revisions to their utility model systems. Some of the main reasons identified for doing this, which are the same as some of the aforementioned factors explaining the composition of utility model systems, include interpretational factors; new methods to improve the efficiency of the work of the patent office; implementation of overarching innovation and IP policies; and, importantly, new ways to improve the quality of utility model

applications, utility models granted, and the effectiveness and efficiency of procedures for invalidating and otherwise enforcing against low-quality utility models.

Key findings about statutory, procedural, and institutional instruments:

The shorter **duration of protection** for a utility model compared to an invention patent is one classic component of a utility model system. Utility model systems are geared towards more incremental inventions for which it is not economically appropriate to grant a monopoly right for as long as for an invention patent, and thus utility models are often used for shorter lifecycle technologies. Austria, China, the Czech Republic, Finland, Germany, and Italy provide protection for their utility models for up to ten years from the date of filing. France provides protection for its utility certificate for six years from the date of filing (although there is some indication that this may not be an optimal duration). Fees must be paid at different periods within this time period in order to maintain the validity of the utility model. By way of comparison, the duration of protection for an invention patent in the seven countries studied is twenty years from the filing date. It appears that ten years is a reasonable maximum duration for a utility model patent, although there may also be a reasonable rationale for somewhat different durations.

Relatively low **official costs** are another classic component of a utility model system, at least costs lower than those associated with invention patents. This is meant to reflect the often less-substantive nature of the examination process for utility models when compared to invention patents; and in effect, the lower costs themselves are meant to be one mechanism to enable small-scale inventors, who typically have limited money to protect their inventions, to obtain patent protection. Among the countries studied in this paper, the (non-subsidised/otherwise reduced) official costs associated with utility models are the lowest in the Czech Republic, and this was one main reason cited by IPO CZ for the attractiveness of the utility model system to inventors in the Czech Republic. It is beyond the scope of this paper to propose optimal official costs for utility models, although it appears these should be carefully calibrated and revised over time to reflect a range of dynamic factors.

Special reductions of costs and subsidising costs for official filing fees and other expenses associated with utility models can stimulate filings beyond what would occur in absence of such schemes. This does not necessarily create problems for patent quality or the technological trajectory of economies: for example, the reduced fees for individual inventors provided in the Czech Republic are not identified by the IPO CZ to be causing such problems. By way of another example, available evidence shows that subsidies for patents in Italy, which in some cases (e.g. when distributed by provincial and local level entities) can go to utility models, do not significantly hurt patent quality; however, they also do not appear to do much to improve patent quality. However, in the case of China, at least some provincial/municipal and local subsidies for utility models appear to have the effect of encouraging low-quality utility models – thus, in reaction to this, SIPO is currently working with IP bureaus and other departments across China to modify patent subsidy approaches.

Allowing **electronic filing** of utility models appears to be useful to stimulate this method of filing, which allows more organised and otherwise efficient processing of utility model applications. This approach is used in all of the countries studied. And reduced costs for this method of filing are provided in Finland, France, Germany, and Italy.

Requiring **translation of application documents** for utility models, at least after a certain time period from filing, into the local language(s) of a patent office is commonplace in the countries studied.

Requiring penalties for non-compliance with rules that applicants should submit known prior art references in their utility model applications (a so-called **duty of candor** requirement) is not universal to utility model systems, although may have value.

The shorter **time to grant** utility models when compared to invention patents is another classic component of a utility model system. This is meant to reflect the often less-substantive nature of the examination process for utility models when compared to invention patents. And, in effect, the quicker time to grant is meant to be one mechanism to enable quickly enforceable protection of an invention, which is particularly important for technologies with relatively short lifecycles; to enable inventors to raise start-up capital; and can be useful for other reasons. The time to grant utility models varies among countries studied, from a few months (or few days, when expedited) to just under two years. It appears that utility models should be granted faster than invention patents.

It appears reasonable for **patentable subject matter** for utility models to at a minimum be restricted in a number of areas. These areas can include inventions inconsistent with public interest, order, policy and morality; schemes, rules and methods for programs for computers; certain methods for treatment of the human body by surgery or therapy; diagnostic methods practiced on humans; “essentially” biological processes for production of plants and animals; certain animal varieties; certain plant varieties; schemes rules and methods for mental/intellectual activities; schemes, rules and methods for playing games; scientific discoveries; scientific theories; mathematical methods; aesthetic creations; schemes, rules and methods for doing business; presentations of information; and the design of an apartment, the campus planning or the residential district planning.

However, depending on the values of a country and if checked appropriately by other mechanisms in the utility model system, it appears reasonable for there to be differences in patentable subject matter among countries. For example, although excluded in many countries, processes are protected by utility models in Austria and by utility certificates in France. Despite being excluded from protection in the other countries studied, Austria provides utility model protection to diagnostic methods practiced on animals, and methods of treating animals by surgery or therapy. Out of the countries studied, Austria is unique in its utility model protection of program logic for data processing systems. Despite being excluded from protection in the other countries surveyed, France allows protection of microbiological processes by utility models. Despite being excluded from protection in the other countries surveyed, the Czech Republic, Finland, and France allow patentability of microbiological products by utility models. Most of the countries surveyed, except for China and Italy, allow utility models to patent compositions containing microorganisms, and nucleic acids; certain substances like liquids and compositions and components of substances under certain conditions; and the microstructure of a substance that is part of a technical solution. China is the only country out of those studied that excludes substances obtained by means of nuclear transformation from patentability by utility models.

Not all countries have absolute **novelty** for their utility models, although most of those studied do. Germany only has relatively novelty for its utility models, whereby the other countries currently have an absolute novelty standard for utility models. The absolute novelty standard is inferably viewed by the countries with such standard as useful in an increasingly interconnected world.

None of the countries studied require a full **Substantive Examination** for utility models. The lack of this requirement is said to allow utility models to be granted much quicker and cheaper than invention patents which undergo such an examination (this being said, it is worth noting that multiple countries around the world do require substantive examinations for utility models).

Requiring examiners in the **Preliminary Examination** phase to judge if utility model applications lack novelty appears to be a useful method for some countries to ensure quality of utility models. China is unique among the countries studied in that SIPO's Preliminary Examination for utility models assesses if the invention in the application "obviously" lacks novelty, which includes determining if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed obviously lack novelty.

Preliminary Examinations should examine formalities, and in some countries also examine substantive elements outside of novelty. All countries studied require examination of a number of formalities in their preliminary examinations of utility models, for example, the clarity and completeness of claims and descriptions. Finland requires an assessment of industrial applicability of utility models in the Preliminary Examination stage, and China and the Czech Republic require assessing if utility models "obviously" lack industrial applicability. Preliminary Examinations of utility model applications in Austria, the Czech Republic, China, Finland, France, and Italy assess the patentability of subject matter therein in some form, in terms of obvious non-conformity or otherwise. The only substantive element examined in the Preliminary Examination of a utility model in Germany is if the invention in the application has a technical background.

Requiring a **Search Report** prior to grant, even if not necessarily incorporated into the actual examination procedure but simply presented alongside the utility model before granting, can be a useful method for ensuring the quality of utility models. The costs of such a procedure may not be insignificant, but can be included in the price for filing the utility model. This approach is mandatory in Austria.

Some offices studied offer Search Reports or a type of report listing prior art relevant to utility model applications prior to publication of the application to the applicant upon request and for a fee. They also offer such reports to any entity at any time after a utility model is granted for a fee, and such reports are available to the public. This appears to provide the requestor improved certainty regarding the legitimacy of the utility model.

Patent Evaluation Reports are primarily intended to help courts to decide whether to stay a utility model infringement proceeding until the administrative decision on validity is issued by the patent office. Among the countries studied, this type of report is unique to China. The report evaluates a utility model across areas including the patentability of subject matter, novelty, inventive step, practical applicability, and formalities. It is not to be confused with a Search Report, Preliminary Examination, or Substantive Examination, nor does it constitute an "administrative decision" from the patent office.

A **third party observation mechanism**, via which utility models are published for a certain time period during which any third party can submit novelty-destroying prior art or other relevant information about the patentability of the utility model, can be a useful tool to ensure quality utility models are granted and poor quality ones are not granted. The mechanism should be constructed in a way that still allows speedy granting of utility models. A third party observation mechanism is used for utility certificates in France. And although not technically considered a formal third party observation mechanism, third parties in Italy can submit petitions on utility models during the examination procedure, although they

do not have any legal effect per se (i.e. are not a basis for IPTO to not grant a utility model). In Austria, while there is no formal mechanism to collect third party observations, if third parties provide APO with their observations they will be considered prior to the publication of the Search Report (which, as mentioned, is provided for all utility models).

Some countries have the same **inventive step requirement for utility models** as for invention patents, although evidence is mixed as to if this is optimal**.** The experience of Germany provides one of the best case studies into the workings and impact of this requirement. A 2006 decision from the German Supreme Court changed the prior way of interpreting inventive step for utility models as lower than for invention patents to require that the inventive step requirement be the same for both rights. This decision was criticised by a range of experts based on legal grounds, and has been scrutinised on economic grounds given such a decision appears to have somewhat discouraged filing of utility models by German entities at a time when filing for such rights could be helpful to improve the competitiveness of such entities.

The other countries studied have varying experiences regarding inventive step requirements for utility models relative to invention patents. France has consistently maintained the same inventive step requirement for utility certificates and invention patents. In 2006, the Austrian Supreme Court ruled what the inventive step threshold should be for utility models vs. invention patents, and found, conversely to the German court, that it should continue to be lower for utility models than invention patents; however, in practice inventive step for the two rights is said to be assessed similarly. China, Finland, and Italy have lower inventive step thresholds in statute for utility models than invention patents. The Czech Republic has lower inventive step thresholds in statute for utility models than invention patents, although in practice the inventive step requirement is said to be considered basically the same.

Different countries use different **methods to determine inventiveness** of utility models. China is unique among the countries studied in its written guidelines on narrowing prior art (to one or two pieces) and technical fields when assessing the inventive step of utility models in "normal" cases. However, in practice, the patent offices in the Czech Republic and Finland also generally use no more than one or two pieces of prior art to determine the validity of a utility model (although there are no written rules requiring this and, like in China, there is flexibility to use more pieces of prior art as necessary). Austria, Germany and Italy have no such restrictions in practice or otherwise. Inventiveness of utility models in Italy and utility certificates in France is determined by the courts through a proceeding removed from the purview of the patent office, and in which external technical experts can be involved. Drawing from these findings, it is unclear what constitutes a "best practice" to determine inventiveness of a utility model, although appears that some flexibility in relevant procedures and involvement of technical experts in doing so is useful.

It appears that it is useful to allow **amendments** to be made to utility model applications**.** All patent offices studied in this paper allow amendments to be made to utility model applications; however, such amendments are often required to be made before granting of the utility model and their scope is required to stay within the content of the original application.

Allowing **parallel filings** of utility models and invention patents can be a useful method to optimise patent protection. Parallel filings of utility models and invention patents can enable comparatively quicker enforceable protection with a utility model, and then later protection with an invention patent. All countries studied allow parallel filings.

Double-granting of invention patents and utility models is allowed in some countries, although has been reported to have mixed impacts. Austria, the Czech Republic, Finland, and Germany allow double-granting. By way of example, in Germany, this approach, while not often used in practice by many patentees, is intended to accommodate the needs of inventors by allowing quick and cheap protection of solutions and the possibility to create an IP portfolio that contains several utility models that may only cover parts of a larger invention. However, at least one negative aspect of this system is the necessity of paying patent attorneys fees in cases where double-protection of the solution as an invention patent and utility model is not actually needed.

Different countries use different institutional and procedural mechanisms for **invalidation procedures**. Some invalidation cases go directly to courts without involvement of patent offices, as in France and Italy. In the other countries studied, their patent offices serve as at least a first instance reviewer in a procedure that can then be appealed to the courts. Although it is beyond the scope of this paper to fully assess the merits of these two different approaches, it appears that regardless of who is making a validity judgment as part of the proceeding, whether it be the courts or the patent office, it is useful to ensure the decision-makers are, collectively at least, experts in the field capable of assessing both the legal and technical elements of the case. (For other findings related to invalidation procedures, see the "methods to determine inventiveness" section above.)

Different countries use different institutional and procedural approaches to utility model **infringement proceedings,** although there are some core similarities in the countries studied. First, all countries studied provide the same judicial protection (outside of the longer duration of protection provided to invention patents and possible differences in rules surrounding commercialisation of patents) for utility models as they do for inventions patents. Second, when patent offices are involved in the infringement proceedings (not all countries studied involve patent offices in infringement proceedings) given questions of invalidity, the courts consider, to some extent, relevant opinions of the patent office, even if they are not mandated by law to stay infringement proceedings to wait for the opinion of the patent office.

Solid **internal quality control procedures** are important to ensure high quality examinations and efficiency within utility model systems. All countries studied for this paper employed organisational and other methods to ensure internal quality control in examination, re-examination, and/or invalidation of utility models.

4. CONCLUSIONS

This study provides a comparative analysis of the composition of utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy; reasons behind the composition, including any revisions to, the systems; usage of the systems; and resulting implications of these elements. It also briefly discusses relevant experiences of Belgium and the Netherlands. The study's cross-cutting findings as well as those relating to statutory and procedural instruments are summarised below.

Key cross-cutting findings:

- Theoretical and empirical economic research supports the idea that utility model systems, in at least some developing countries, can be useful tools to stimulate technological diffusion, learning, absorption, and, in turn, incremental innovation which in the longer term can lead to more advanced innovation. Additionally, as gauged by current usage rates of the utility model systems mentioned in this paper, it also appears that utility model systems are viewed as useful tools to protect inventions and enable competitiveness for at least some entities in some developed countries.

- Despite the aforementioned findings, a utility model system can grow to be of limited value in some developed countries. Utility certificates in France are said to be relatively unattractive to patentees given the legal uncertainty inherent in the unexamined right. In the Netherlands, similar legal uncertainty in their short-term patent system (treated as equivalent to a utility model system in this study) was deemed significant enough to outweigh positive aspects of the system, and led to its abolition in 2008. Similarly, due to such dynamics, Belgium abolished its petite/small patent system (treated as equivalent to a utility model system in this study) in 2009.

- The usage of utility models relative to invention patents may be a useful indicator of the optimality of the technological trajectory of many countries, including China – but not necessarily all countries. For example, the strong filings of utility model patents since 2005 in the Czech Republic appear to be an outlier to this trend.

- Although not necessarily an exhaustive list, the main factors identified as explaining the composition of a utility model system are:
    - historical, whereby once an element is engrained in the system and there does not appear to be a convincing enough reason to change it, it will remain in the system;
    - policy diffusion/legal transplant, whereby, working through a process of learning, emulation, competition, and/or a number of other dynamics, legal mechanisms from one country may find their way into another country;
    - interpretational, whereby different institutions provide new views on how the utility model system should function;
    - values, whereby views on ethical, moral, security, economic, among other issues determine how different utility model systems are constructed;
    - technological, whereby some utility model systems may be designed to protect newly emerging and shorter lifecycle technologies;
    - implementation of innovation and IP policies, whereby utility model systems can be designed to meet the objectives in such policies;

- simplification, whereby utility model systems are revised to be more practical and align with other aspects of the IP system;
- accommodation, whereby utility model systems are designed to cater to the needs of entities using the system;
- efficiency, whereby methods are developed to facilitate smoother working of the patent office;
- global-reach, whereby utility model systems can be calibrated to reflect the global nature of IP rights;
- substantiveness, whereby differing levels of depth in the examination phase for utility models reflect different perceptions of the optimality of such approaches;
- speed, whereby fast granting procedures are a key aspect of utility model systems;
- costs, whereby low costs are key components of utility model systems;
- target groups, whereby utility model systems can be designed to meet the needs of small-scale inventors and inventors in industries where technological lifecycles are shorter than ten years; and
- quality, whereby utility model systems are designed to maintain and/or improve the quality of utility model applications, granted utility models, and to ensure effective and efficient procedures for invalidating and otherwise enforcing against low-quality utility models.

- Revisions have been made to different utility model systems over time and will inevitably be considered in the future. Some of the main reasons identified for doing this, which are the same as some of the aforementioned factors explaining the composition of utility model systems, include interpretational factors; new methods to improve the efficiency of the work of the patent office; implementation of overarching innovation and IP policies; and, importantly, new ways to improve the quality of utility model applications, utility models granted, and the effectiveness and efficiency of procedures for invalidating and otherwise enforcing against low-quality utility models.

Key findings relating to statutory, procedural, and institutional instruments:

- **Duration**: It is reasonable for the maximum duration of utility models to be ten years, although there may also be a reasonable rationale for somewhat different durations
- **Official costs:** Official costs for utility models should be lower than for invention patents
- **Reductions in and subsidies for official costs**: Schemes to reduce utility model costs for specific entities and subsidise costs may yield some benefits, although should be approached cautiously as they can also create negative impacts on patent quality and innovation or at a minimum not optimally use government resources
- **Electronic filing**: Electronic filing for utility models can be a useful mechanism to facilitate patent office efficiency
- **Translation**: Offices can require translation of utility model application documents into local language(s)
- **Duty of candor**: Requiring a duty of candor accompanied by penalties for non-compliance may have value but is not a universal aspect of utility model systems
- **Granting speed**: Utility models are ideally granted faster than invention patents
- **Patentable subject matter:** It is reasonable for patentable subject matter for utility models to at a minimum be restricted in a number of areas (for example, inventions inconsistent with public interest, order, policy and morality; schemes, rules and methods for programs for computers;

certain methods for treatment of the human body by surgery or therapy; diagnostic methods practiced on humans; "essentially" biological processes for production of plants and animals; certain animal varieties; certain plant varieties; schemes rules and methods for mental/intellectual activities; schemes, rules and methods for playing games; scientific discoveries; scientific theories; mathematical methods; aesthetic creations; schemes, rules and methods for doing business; presentations of information; and the design of an apartment, the campus planning or the residential district planning). However, if checked appropriately by other mechanisms in a country's utility model system, it appears reasonable for there to be differences in subject matter protectable by utility models among countries (for example, in terms of protecting processes; program logic for data processing systems; diagnostic methods practiced on animals; methods of treating animals by surgery or therapy; microbiological processes; microbiological products; compositions containing microorganisms, and nucleic acids; certain substances like liquids and compositions and components of substances under certain conditions; the microstructure of a substance that is part of a technical solution; and substances obtained by means of nuclear transformation).

- **Novelty**: Novelty should of course be mandatory for utility models, and there may be benefits of an absolute novelty standard for some countries
- **Substantive Examination**: Substantive Examination of utility models does not need to be mandatory for all countries
- **Preliminary Examination**: Preliminary Examinations for utility models should at a minimum include an assessment of formalities, like clarity and completeness of claims and descriptions. Additionally, Preliminary Examinations can assess if the application "obviously" lacks novelty, which includes using a method to determine if "abnormal" utility model applications (such as applications that obviously copy prior art or are repeatedly filed with substantially identical content to another application) indeed obviously lack novelty – which is a useful method to ensure patent quality. It also appears useful for some countries to assess the patentability of subject matter in the claims and/or the industrial applicability of the solution in the application, even if such assessments only cover "obvious" non-conformity with these requirements.

- **Search Reports in the Preliminary Examination stage**: Including a Search Report for utility models alongside their Preliminary Examination can be a useful method for some countries to ensure quality of utility models
- **Search Reports or other novelty reports**: Offering Search Reports or another form of report listing prior art relevant to a utility model application prior to publication of the application to the applicant upon request and for a fee and/or offering such a report to any entity at any time after the utility model is granted for a fee, and making such a report available to the public, can provide more certainty to an otherwise often notably uncertain IP right
- **Patent Evaluation Reports**: Patent Evaluation Reports are primarily intended to help courts decide whether to stay a utility model infringement proceeding until the administrative decision on validity is issued by the patent office
- **Third party observation mechanism**: A third party observation mechanism can be a useful tool for some countries to ensure poor quality utility models are not granted. Another less formal

mechanism, under which utility models are published and via which third parties can submit petitions/observations to the patent office, even if not legally binding per se on the granting of the utility model, can be a useful mechanism for quality oversight in some countries.

- **Inventive step requirements**: There does not appear to be strong evidence that utility models must have the same inventive step requirement as invention patents, although in statute and/or in practice some countries have this requirement
- **Methods to determine inventiveness**: It is unclear exactly what constitutes best internal practice to determine inventiveness for utility models (e.g. via restricting pieces of prior art reviewed and/or restricting technical fields reviewed), although there appears to be benefits in allowing a flexible approach to doing so
- **Amendments**: It is reasonable to allow amendments to utility model applications under certain conditions
- **Parallel filings**: Allowing parallel filings of utility models and invention patents in certain circumstances can be a useful method to optimise patent protection
- **Double-granting**: Double-granting of invention patents and utility models is allowed in some countries, although has been reported in some countries to have mixed impacts
- **Invalidation proceedings**: Different countries use different institutional (courts vs. patent offices) and procedural mechanisms for invalidation proceedings, but regardless of who is making a validity judgment as part of the proceeding, it appears necessary to ensure the decision-makers are collectively experts in the field, capable of assessing both the legal and technical elements of the case
- **Infringement proceedings**: Different countries use different institutional (some involve the patent offices, some do not) and procedural mechanisms for infringement procedures. In countries where patent offices are involved in infringement proceedings, it is useful to require the courts to consider relevant opinions of the patent office. A range of countries provide the same judicial protection (outside of the longer duration of protection provided to invention patents and possible differences in rules surrounding commercialisation of patents) for utility models as they do for inventions patents.
- **Internal quality control**: Solid internal quality control procedures are important to ensure a certain level of quality in examination, re-examination, and/or invalidation procedures, and ensure the overall efficiency of the utility model system

Although focusing specifically on the utility model systems in Austria, China, the Czech Republic, Finland, France, Germany, and Italy, this study reveals a range of findings that should be applicable across a wide range of countries. Although it is difficult to create an optimal "model" of the exact types of every aspect that should go into every country's utility model system, this paper illustrates that it is possible to create a useful legal, policy, and institutional framework based upon an understanding of the composition of utility model systems in several different countries; reasons behind the composition, including any revisions to, the systems; and usage of the systems. This is particularly useful for countries responding to challenges in their own systems or those considering instituting a utility model system for the first time. It should also, more generally, be useful for other government officials and scholars involved in IP, S&T, and innovation policymaking; and for businesspeople and IP professionals interested in learning more about the workings and functioning of utility model systems around the world. The

framework could be further developed via a similar comparative assessment of other countries' utility model systems not analysed in this paper.

5. ANNEX

Experience-Sharing Roundtable on Utility Model Systems in Europe and China

May 21st – 22nd 2014
SIPO Headquarters, Beijing, China

中欧实用新型体系经验分享研讨会

2014 年 5 月 21 日-22 日
中国北京国家知识产权局

Objective: The purpose of this one-and-a-half day roundtable is to provide participants an improved understanding of how utility model systems in several countries in Europe and China work and why, including insights into why and how certain systems have changed over time. The roundtable will cover substantive legal and procedural aspects behind utility model systems, as well as certain economic aspects underpinning the systems. A group of six EU Member States with utility model systems are invited to join SIPO at the roundtable.

目标：一天半的研讨会将让参与者深入了解实用新型体系在一些欧洲国家和在中国的作用，包括一些体系是为何演变、如何演变的。该研讨会将涵盖实用新型体系法律和政策方面的实质性内容，也会涉及支撑这些体系的经济方面的内容。

Participants:
Main speakers:

- Up to 15 representatives from the State Intellectual Property Office of P.R. China (SIPO)
- Hanna Aho, Finnish Patent and Registration Office (PRH)
- Jean-Baptiste Barbier, French National Industrial Property Institute (INPI) (French IP Office)
- Šimon Bednář, Industrial Property Office of the Czech Republic (IPOCZ)
- Giovanni de Sanctis, Italian Patent and Trademark Office (UIBM) (IPTO hereafter)
- Dr. Johannes Holzer, German Patent and Trade Mark Office (DPMA)
- Dr. Johannes Werner, Austrian Patent Office (APO)

参与者：
主要发言人：

- 来自中国国家知识产权局的 15 位专家
- Hanna Aho，芬兰专利注册局（PRH）

- 白金，法国国家工业产权局（INPI，即法国知识产权局）
- Šimon Bednář，捷克工业产权局（IPOCZ）
- Giovanni de Sanctis，意大利专利商标局（UIBM，下称 IPTO）
- Johannes Holzer 博士，德国专利商标局（DPMA）
- Johannes Werner，奥地利专利局（APO）

Opening remarks, closing remarks, and moderation:

- Dan Prud'homme, IP Key Project implemented by the Office for Harmonization in the Internal Market (OHIM) and European Patent Office (EPO) (IP Key)

开场致辞，结束之词及会议主持（根据实际需要）：

- 濮东丹，欧洲内部市场协调局（OHIM）与欧洲专利局（EPO）合作实施的 IP Key 项目

Observers (listen):

- Elliot Papageorgiou, Co-Chair of IPR Working Group, EU Chamber of Commerce in China
- Alfred Radauer, Technopolis (representing Directorate General for Internal Market and Services study team on utility models in Europe)

观众（旁听）：

- 潘安略，中国欧盟商会知识产权工作组联合主席
- Alfred Radauer，技术领域代表（代表欧洲内部市场与服务总司实用新型研究组）

AGENDA

May 21st 2014: Roundtable Day 1

SIPO Headquarters: 6 Xituchenglu, Beijing, 100088, China

日程安排

2014 年 5 月 21 日：研讨会第一天

国家知识产权局：中国北京市西土城 6 号，100088

Time 时间	Topic 主题	Speaker 发言人
8:30 – 9:00	Registration 签到	N/A
9:00 – 9:15	Opening remarks 开场致辞	SIPO Representative 国家知识产权局代表 Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
9:15 – 10:30	Session 1 "General overview of utility model systems in each country" 1 环节："各国实用新型体系概览"	Ms. Hanna Aho, PRH (8-10 minutes) Hanna Aho，芬兰专利注册局（8-10 分钟） Mr. Jean-Baptiste Barbier, INPI (8-10

		minutes) 白金，法国国家工业产权局（8-10 分钟） Mr. Šimon Bednář, IPOCZ (8-10 minutes) Šimon Bednář，捷克工业产权局（8-10 分钟） Mr. Giovanni de Sanctis, IPTO (8-10 minutes) Giovanni de Sanctis，意大利专利商标局（8-10 分钟） Dr. Johannes Holzer, DPMA (8-10 minutes) Johannes Holzer 博士，德国专利商标局（8-10 分钟） Dr. Johannes Werner, APO (8-10 minutes) Johannes Werner 博士，奥地利专利局（8-10 分钟） SIPO Representative (8-10 minutes) 国家知识产权局代表（8-10 分钟） Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
10:30 – 10:45	Tea break 茶歇	N/A
10:45 – 11:00	Session 2a: "Patentable subject matter for utility models: the system in the Czech Republic" 环节 2a："实用新型可授予专利事项：捷克的体系"	Mr. Šimon Bednář, IPOCZ Šimon Bednář，捷克工业产权局
11:00 – 12:00	Session 2b: "Discussion (semi-structured) on patentable subject matter for utility models" 环节 2b："讨论（半固定）实用新型可授予专利事项"	Ms. Hanna Aho, PRH Hanna Aho，芬兰专利注册局 Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局 Mr. Šimon Bednář, IPOCZ (to participate as relevant) Šimon Bednář，捷克工业产

		权局（根据实际情况决定是否参与） Mr. Giovanni de Sanctis, IPTO Giovanni de Sanctis，意大利专利商标局 Dr. Johannes Holzer, DPMA Johannes Holzer 博士，德国专利商标局 Dr. Johannes Werner, APO Johannes Werner 博士，奥地利专利局 SIPO Representative 国家知识产权局代表 Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
12:00 – 13:30	Lunch 午餐	N/A
13:30 – 13:45	Session 3a: "Inventive step for utility models: the system in Germany" 3a:环节："实用新型创新：德国的体系"	Dr. Johannes Holzer, DPMA Johannes Holzer 博士，德国专利商标局
13:45 – 14:45	Session 3b: "Discussion (semi-structured) on inventive step for utility models" 3b: 环节："讨论（半固定）实用新型的创新"	Ms. Hanna Aho, PRH Hanna Aho，芬兰专利注册局 Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局 Mr. Šimon Bednář, IPOCZ Šimon Bednář，捷克工业产权局 Mr. Giovanni de Sanctis, IPTO Giovanni de Sanctis，意大利专利商标局 Dr. Johannes Holzer, DPMA (to participate as relevant) Johannes Holzer 博士，德国专利商标局（根据实际情况决定是否参与） Dr. Johannes Werner, APO Johannes Werner 博士，奥地利专利局 SIPO Representative

		国家知识产权局代表 Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
14:45 – 15:00	Session 4a: "Examination and Search Reports for utility models in Austria" 4a: 环节："奥地利实用新型的审查和检索报告"	Dr. Johannes Werner, APO Johannes Werner 博士，奥地利专利局
15:00 – 15:45	Session 4b: "Discussion on examination and provision of Search Reports for utility models" 4b: 环节："讨论实用新型审查和检索报告规定"	Ms. Hanna Aho, PRH Hanna Aho，芬兰专利注册局 Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局 Mr. Šimon Bednář, IPOCZ Šimon Bednář，捷克工业产权局 Mr. Giovanni de Sanctis, IPTO Giovanni de Sanctis，意大利专利商标局 Dr. Johannes Holzer, DPMA Johannes Holzer 博士，德国专利商标局 Dr. Johannes Werner, APO (to participate as relevant) Johannes Werner 博士，奥地利专利局（根据实际情况决定是否参与） SIPO Representative 国家知识产局代表 Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 主持人：濮东丹，IP Key 项目技术专家
15:45 – 16:00	Tea break 茶歇	N/A
16:00 – 16:15	Session 5a: "Invalidation of utility models in Finland, and role of the patent office in utility model infringement proceedings" 5a: 环节："芬兰的实用新型的无效宣告及商标局在实用新型侵权诉讼中的角色"	Ms. Hanna Aho, PRH Hanna Aho，芬兰专利注册局
16:15 – 17:15	Session 5b: "Discussion on invalidation of	Ms. Hanna Aho, PRH (to participate as

	utility models” 5b：“讨论实用新型的无效宣告”	relevant) Hanna Aho，芬兰专利注册局（根据实际情况确定是否参与） Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局 Mr. Šimon Bednář, IPOCZ Šimon Bednář，捷克工业产权局 Mr. Giovanni de Sanctis, IPTO Giovanni de Sanctis，意大利专利商标局 Dr. Johannes Holzer, DPMA Johannes Holzer 博士，德国专利商标局 Dr. Johannes Werner, APO Johannes Werner 博士，奥地利专利局 SIPO Representative 国家知识产局代表 Moderator: Mr. Dan Prud’homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家

May 22nd 2014: Roundtable Day 2
SIPO Headquarters: 6 Xituchenglu, Beijing, 100088, China
2014 年 5 月 22 日：研讨会第二天
国家知识产权局：中国北京市西土城路 6 号

Time 时间	Topic 主题	Speaker 发言人
8:30 – 9:00	Registration 签到	N/A
9:00 – 9:15	Session 6a: “Monetary support for patent filing and related innovation costs in Italy” 6a: 环节：“意大利对专利申请的经济支持和相关创新成本	Mr. Giovanni de Sanctis, IPTO Giovanni de Sanctis，意大利专利商标局
9:15 – 10:00	Session 6b: “Discussion (semi-structured) on monetary incentives to support utility model patent filing and related development costs” 6b: 环节：“讨论（半固定）意大利鼓励实用新型专利申请的金钱激励和相关发展成本”	Ms. Hanna Aho, PRH Hanna Aho，芬兰专利注册局 Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局

		Mr. Šimon Bednář, IPOCZ Šimon Bednář，捷克工业产权局 Mr. Giovanni de Sanctis, IPTO (to participate as relevant) Giovanni de Sanctis，意大利专利商标局（根据实际情况确定是否参与） Dr. Johannes Holzer, DPMA Johannes Holzer 博士，德国专利商标局 Dr. Johannes Werner, APO Johannes Werner 博士，奥地利专利局 Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
10:00 – 10:15	Session 7: "Evolution of the utility model system in France: main reasons why the system is no longer used" 环节 7：“法国实用新型体系的演变：不再使用该体系的主要原因”	Mr. Jean-Baptiste Barbier, INPI 白金，法国国家工业产权局
10:15 – 10:30	Tea break 茶歇	N/A
10:30 – 11:15	Session 8: "Internal quality management system for the examination of utility models in each patent office" 8 环节：“各专利局实用新型审查质量内部管理体系”	Ms. Hanna Aho, PRH (5 minutes) Hanna Aho，芬兰专利注册局（5 分钟） Mr. Jean-Baptiste Barbier, INPI (5 minutes) 白金，法国国家工业产权局（5 分钟） Mr. Giovanni de Sanctis, IPTO (5 minutes) Giovanni de Sanctis，意大利专利商标局（5 分钟） Dr. Johannes Holzer, DPMA (5 minutes) Johannes Holzer 博士，德国专利商标局（5 分钟）

		Mr. Šimon Bednář, IPOCZ (5 minutes) Šimon Bednář，捷克工业产权局（5 分钟） Dr. Johannes Werner, APO (5 minutes) Johannes Werner 博士，奥地利专利局（5 分钟） SIPO Representative (5 minutes) 国家知识产权局代表（5 分钟） Question and answer （包括问答环节） Moderator: Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家
11:15 – 11:30	Closing remarks 结束致辞	SIPO Representative 国家知识产局代表 Mr. Dan Prud'homme, Technical Expert, IP Key Project 濮东丹，IP Key 项目技术专家

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