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Utility Models and Other Forms of Sub-patent Protection*

Jorge L. Contreras, Martin Husovec, and Matthew Rimmer

More than 100 countries around the world offer a form of innovation protection "below" that of patents.[1] These forms of protection are known variously as utility models, technical designs, petty patents, innovation patents, short-term patents, registration patents, and the like.[2] For the sake of convenience, in this book we refer to all such forms of sub-patent innovation protection as "utility models."

While national rules regarding the scope, availability, and issuance of utility models vary from country to country, most utility model regimes offer protection for tangible products, with many, but not all, jurisdictions excluding processes, biological materials, and computer software from the scope of protection. The duration of utility model protection ranges from five to fifteen years, with most countries offering ten years of protection.[3] In most countries, utility model applications are not formally examined and must simply disclose the product in question.

Given the lack of examination, obtaining utility models is generally viewed as faster and cheaper than obtaining patents.[4] This combination of speed and cost, in theory, makes utility models potentially attractive to small and medium enterprises (SMEs) that cannot afford to obtain full patent protection.[5] Similar considerations have also been raised as advantageous to innovators in low-income countries.[6] As one commentator observed of Germany's utility model system, which dates to

* Portions of this chapter are adapted from Jorge L. Contreras and Magnus Buggenhagen, Standards Essential Utility Models, 64 *Jurimetrics Journal* 1 (2024).

1 As of February 2024, WIPO lists 83 different governmental offices that issue utility model registrations including several regional offices. WIPO 2023b.

2 *See* Suthersanen 2019, 4 (discussing nomenclature).

3 *See* Richards 2010, table 1.

4 Prud'homme 2014, 17 Chart 2 (comparing official costs of utility models versus patents in China and various European countries) and 48–49.

5 *See* Prud'homme 2014, 10–11; Suthersanen 2006, 7–8.

6 *See* Prud'homme 2014, 10–11; Suthersanen 2006, 7–8.

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1891, utility models were from the beginning intended to benefit small businesses and innovators who lacked the resources to seek full patent protection:

> A utility model patent is a "little patent," or the "patent of the small business man." Its value lies in the rapid protection of short-lived innovations. It is intended to promote the development or further development of articles of use, articles of mass consumption, for which it has always had special significance . . .[7]

Despite their long history and widespread adoption, utility models remain, as Professor Mark Janis observed more than two decades ago, "a backwater of intellectual property."[8] Compared to the large body of scholarly literature on patents, copyrights and other areas of intellectual property law, there is scant literature concerning utility models, and only a handful of empirical studies that focus on them.[9]

This book seeks to fill that gap with a series of chapters focusing on some of the key jurisdictions in the development of utility model law and regulation, followed by chapters that consider the efficacy and impact of utility models more broadly for innovation, litigation, and economic development.

1.1 ADOPTION OF UTILITY MODEL PROTECTION AROUND THE WORLD

The concept of the utility model was first introduced in Great Britain via an 1843 Act that allowed applicants to register the shape and configuration of useful articles of manufacture – a complement to an 1842 act protecting ornamental product designs.[10] Given a range of perceived conflicts with the patent system and little use by practitioners, the UK statute was formally revoked in 1919.

Germany, in contrast, embraced the concept of utility models during the late nineteenth century as a necessary form of legal protection for "small inventions" – useful improvements of products such as clothing, hand tools, and housewares.[11] Utility models, in the German framework, fit somewhere between existing protections for fashion designs, which were purely aesthetic, and patents, which required a higher showing of novelty. In 1891, the German legislature enacted its first statute protecting the utility model, or *Gebrauchsmuster*.[12]

Japan and Poland followed shortly after Germany in enacting utility model protections on the German model during the early twentieth century,[13] with other

[7] Naumann 1958, 802–803.
[8] Janis 1999, 152.
[9] *See* Chapter 2 (empirical literature).
[10] For a detailed account of this historical development, see Chapter 3 (UK).
[11] For a detailed account of the history of utility model protection in Germany, see Chapter 6 (Germany and Switzerland).
[12] Ibid.
[13] *See* Chapters 8 (Poland) and 12 (Japan).

jurisdictions across Europe, Asia, and Latin America implementing utility model systems throughout the century. Some utility model systems, such as Finland's, were introduced as recently as 1992, and Australia's petty patent system, the first of the twenty-first century, was enacted in 2001 (and has since been dismantled, as discussed below).

Jurisdictions around the world continue to experiment with utility model protection, and proposals for utility model systems have been periodically made in the United States,[14] the European Union,[15] Pakistan,[16] India,[17] and other countries.

At the same time, some countries that once had utility model systems have discontinued them due to perceived conflicts with the general patent system or their failure to achieve desired goals. Thus, the Netherlands, which adopted a "short term patent" system in 1995, eliminated that system in 2008.[18] Belgium abolished its "small patent" system in 2009.[19] Australia established a system of "petty patents" – but then replaced that system with a new model of "innovation patents" in 2001. It formally discontinued that system in 2021 after significant policy debate.[20]

And though major industrial jurisdictions including Germany, France, Italy, Japan, and Korea still offer utility model protection, utility models are utilized most heavily in China, where more than 98 percent of the approximately three million worldwide utility model applications were filed in 2022.[21]

From a comparative perspective, there is a great profusion and diversity of utility models of patent protection. There is ongoing debate as to whether there should be international harmonization in respect of utility models of patent protection.

1.2 UTILITY MODELS UNDER INTERNATIONAL AGREEMENTS

1.2.1 *Paris Convention*

Utility models are expressly contemplated alongside patents by the Paris Convention for the Protection of Industrial Property, which added language concerning utility models in 1911.[22] Yet the Paris Convention does not require that signatory states

[14] *See* Chapter 16 (United States).
[15] *See* Chapter 20 (EU harmonization proposals).
[16] *See* Grosse Ruse-Khan 2012.
[17] *See* Swamy 2022, Sheikh 2022, Sharma and Kumar 2018.
[18] *See* Prud'homme 2014, 11.
[19] *See* Prud'homme 2014, 11–12.
[20] Chapter 10 (Australia).
[21] WIPO 2023a, 62 table A61 (2,950,653 Chinese utility model applications versus worldwide total of 3,010,510 utility model applications).
[22] Paris Convention for the Protection of Industrial Property, Art 1, ¶ 2, July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 ("The protection of industrial property has as its object patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition.")

adopt utility model protection or explicitly delineate the scope of that protection, which is left largely to the discretion of signatory states.

The principal effect of the Paris Convention on utility models is to require that signatories grant national treatment to applicants for these rights, meaning that they may not discriminate between domestic and foreign applicants or among applicants from different countries.[23] This requirement tends to prevent states from making utility model protection available only to national applicants or to small entities – both of which could be argued to foster the policy goals of utility model protection, but which may not be implemented in the face of national treatment obligations.[24]

The Paris Convention also requires that if a party files a utility model application in a signatory state, then other signatory states must give that party the benefit of that original priority date if they file locally within 12 months of their initial filing.[25]

1.2.2 *TRIPS Agreement*

Unlike the Paris Convention, the 1994 World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) does not cover utility models.[26] According to one leading commentator, this omission was intentional.[27] But while utility models are not expressly authorized under the TRIPS Agreement, they are not prohibited by it either. Accordingly, as observed by Uma Suthersanen, WTO members "are free to formulate or reject utility model protection as they see fit," provided, of course, that they comply with national treatment obligations under the Paris Convention, which are incorporated into TRIPS.[28]

1.2.3 *European Union*

In the 1990s, observers in the European Union[29] began to note that the different sets of utility model laws in EU member states could have a negative impact on the integration of the European single market, the free flow of goods within Europe,

[23] Paris Convention, Art 2:1.

[24] *See, e.g.*, Chapter 8 (Poland), Section 8.3 (noting possibility of foreign applicants to "hijack" this IP right intended to benefit local filers).

[25] Paris Convention, Art 4.

[26] Agreement on Trade-Related Aspects of Intellectual Property Rights, April 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299 [TRIPS Agreement].

[27] Gervais 2008, 337–338 (TRIPS Agreement was intended to cover only standard patents and not utility models).

[28] Suthersanen 2019, 6. Utility models have also been recognized in certain bilateral and multilateral trade and investment agreements. *See* Grosse Ruse-Khan 2013, 5–6; Suthersanen 2019, 6–7.

[29] A detailed account of EU efforts to harmonize the law of utility models can be found, with citations, in Chapter 20.

and a reduction of competition among European companies. In 1995, the European Commission published a Green Paper on the possibility of harmonizing European utility model law, and in 1997 issued a proposed Directive on the protection of utility model. The proposal was updated in 1999, but work on the proposal was suspended in 2000 due to disagreements among member states, notably the United Kingdom. The proposed directive was formally withdrawn in 2006 as the Commission focused its attention on the development of a unitary patent system. Yet in 2013, one year after the European Parliament's enactment of regulations on the unitary patent, the Commission again turned its attention to utility models, commissioning a study of the economic impact of utility models on European markets, which was published in 2015.

Utility models are not included in the recent European legislation concerning the Unified Patent and Unified Patent Court (UPC),[30] and several countries that participate in the UPC system also maintain national utility model systems.

1.2.4 *Patent Cooperation Treaty*

Despite the absence of utility models from these substantive international agreements, utility models are covered by the World Intellectual Property Organization (WIPO) procedural Patent Cooperation Treaty, which enables the coordination of filings in various countries offering utility model protection.[31] WIPO also provides guidance to member states in respect of the advantages and disadvantages of utility models.[32] Despite the availability of PCT applications for utility models, filings in many countries remain predominantly local and are made directly through a national filing office.[33] This suggests that many utility models are filed in only the country of origin, and are not the subject of international filing campaigns, as are many patents.

1.2.5 *Bilateral and Regional Trade Agreements*

In addition to the international agreements noted above, several bilateral and regional trade agreements contemplate utility model protection.[34]

1.2.6 *Regional Filings*

Members of three multinational regional alliances may obtain regional utility model protection with a single filing. These alliances include the Andean Community,

[30] *See* Chapter 17 (UPC).
[31] Patent Cooperation Treaty.
[32] *See* WIPO 2024a.
[33] *See* Chapter 8 (Poland), Section 8.2.
[34] *See* Grosse Ruse-Khan 2012, 11–15.

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ARIPO (the African Regional Intellectual Property Organization), and OAPI (the African Intellectual Property Assn).[35] Such regional protection may, in some cases, be obtained in lieu of, or in addition to, protection at the national level.

1.2.7 *Utility Models and Sustainable Development*

The United Nations 2030 Agenda also provides an important context in which to consider utility models of patent protection. SDG 9 of the UN Sustainable Development Goals seeks to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." Target 9.b calls for parties to "support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities."

In this context, there has been consideration of whether utility models may provide better adapted systems of intellectual property for developing countries, least developed countries, small island states, and landlocked countries. There has also been discussion of alternative models of promoting research and development in developing countries. These considerations are discussed in greater detail in Section 1.4.2.

The United Nations Development Programme (UNDP) has been interested in the promotion of grassroots innovation as an inclusive path to development.[36] To this end, the UNDP has set up a network of Accelerator Labs to help crowdsource and distribute sustainable innovation – a project that has led to discussion about what model of intellectual property would be best suited to deal with grassroots innovation.[37] Numerous commentators have suggested that utility models may offer certain advantages in this regard, as discussed below.

1.3 CHARACTERISTICS OF UTILITY MODEL PROTECTION

While utility model protection varies from country to country, utility models share key characteristics. This section highlights some of the similarities and differences of utility model protection in various jurisdictions.

1.3.1 *Eligible Subject Matter*

It is a common perception that utility models are intended to cover relatively simple product design features or "minor improvements" that do not rise to the level of

[35] *See, e.g.*, Chapter 15 (Kenya).
[36] www.undp.org/acceleratorlabs/publications/grassroots-innovation-inclusive-path-development
[37] *See* Sander 2023 ("What surfaces over and over again is the question: how to handle intellectual property? It is a pain point for innovation in UNDP – with no clear solution.")

inventiveness of patents.[38] For example, the original German utility model system was originally directed toward physical products (i.e., those that possessed "spatial form," or *Raumform*).[39] Thus, as recently as 2021, utility models in Germany were registered for inventions such as neck pillows (DE202021001064U1), Christmas tree stands (DE202021000981U1), drinking straws (DE202021103855U1), and a novel "mobile dog waste collection aid" (DE202021003254U1). However, the German spatial form requirement was eliminated in 1990. Germany now permits utility model protection for chemical and electrical, in addition to mechanical, designs, resulting in what Mark Janis refers to as "a scope of eligible subject matter essentially congruent to that of the regular patent regime."[40] Thus, recent German utility models include a "communication control chip" (DE202021106098U1), a "circularly polarized cylindrical two-port MIMO dielectric resonator antenna device for 5G applications" (DE202021105303U1), and a "payment system with the option of transaction-specific rights control" (DE202021000532U1) – inventions that could easily be envisioned as the subjects of ordinary patent protection. This convergence of utility model and patent coverage has occurred in several jurisdictions. Thus, whereas the Danish law as originally enacted in 1992 was aimed at simple devices such as hand tools and kitchen utensils, in its current form the statute covers "any creations," including in "chemistry, pharmaceuticals, mechanical and electrical engineering."[41]

As a result, many utility models today are virtually indistinguishable from patents, at least at a textual level.[42] Yet other jurisdictions continue to limit the subject matter for which utility model may be obtained, often excluding methods and processes, chemical compositions, and software.[43]

1.3.2 *Examination*

One of the key differences between utility models and patents is in the process and substance of their examination. While patents are typically examined by a governmental office that has technical expertise and applies strict patentability criteria to claimed inventions, in many countries utility models are granted on a registration basis, in which no substantive examination is undertaken by the granting authority,

[38] *See* Radauer et al. 2019, 771 ("one of the oldest, means to address the patent cost barrier for SMEs, is the creation of a second-tier patent system by means of introducing a utility model (utility model), i.e., a second layer of IP rights akin to patents, but with less stringent patentability criteria.")

[39] *See* Chapter 6 (Germany and Switzerland).

[40] Janis 1999, 164.

[41] *See* Chapter 4 (Denmark).

[42] *See* Heikkilä and Lorenz 2018, 697 ("there exists a subset of utility model filings linked to inventions that are important enough to pass the threshold for patent protection.")

[43] *See* Productivity Commission (Australia) 2016, 243, table 8.2 (comparing scope of protection in various countries).

or in which an examination assesses only novelty but not nonobviousness.[44] These differences often result in the issuance of utility models in a manner that is more rapid and less expensive than that of patents.[45] Thus, while average prosecution times (the period from filing through issuance) for patents range from two to four years,[46] utility models are often issued in a matter of months.[47] However, the reduced examination given to most utility models could make their validity less certain than patents and might not confer on utility models the presumption of validity that is given to patents in many jurisdictions.[48]

Further complicating the picture, jurisdictions have periodically altered their examination standards for utility models. For example, as noted in Chapter 12, with the improvement of Japanese industry's technological capabilities and other factors, patent applications began to outnumber utility model applications around 1980, and the number of utility model applications declined sharply from 1985 onward. In response, the utility model system was extensively revised in 1993, including the abolition of substantive examinations, with the aim of making the system more attractive by ensuring that the system provides early protection for technologies with short life cycles. And as discussed in Chapter 11, China continues to consider adjustments to its utility model examination procedure and standards in order to reduce the number of "low quality" utility models that are issued.

1.3.3 *Validity Challenges*

Utility models can be subject to validity challenges either in administrative or judicial proceedings. Administrative cancellation proceedings are typically brought before the governmental office that issued the utility model.[49] In some countries, such challenges may not be brought until the utility model is issued (i.e., pre-grant challenges are not available).[50] In court, the validity of a utility model may be challenged as a defense when the utility model is enforced against an alleged infringer.[51]

1.3.4 *Conversion*

While utility model systems in most countries are distinct from the patent systems of those countries, several countries permit the conversion of patents and patent

[44] *See* Productivity Commission (Australia) 2016, 243 table 8.2 (comparing jurisdictions); (Radauer et al. 2019), 777–778.

[45] *See* Radauer et al. 2015, 3; 2019, 771–772 ("The highest benefit for users of the utility model system is, practically across all countries, speed").

[46] *See, e.g.*, Singer 2022 (average U.S. patent pendency in 2022 was 25.7 months); Productivity Commission (Australia) 2016, 242 (average one-month processing time for Australian innovation patent and 6 months to several years for standard patent); Mao and Thomas 2022 (providing estimates of timing for multiple jurisdictions).

[47] *See* Bianchin 2021; Kilpatrick Townsend 2022; Radauer et al. 2015, 148.

[48] Radauer et al. 2015, 148.

[49] *See* World Intellectual Property Organization 2023b.

[50] *See, e.g.*, Productivity Commission (Australia) 2016, 242, table 8.1.

[51] *See* WIPO 2023b.

applications into utility models and vice versa.[52] For example, if a patent application has been rejected on the basis of prior art over which the claimed invention is found to be obvious, the patent application may be converted into a utility model application to obtain the benefit of the lower examination standard.[53] In countries such as Italy, this conversion may be made both to national patents, European patents, and new unified patents.[54] In other countries, such as Germany and Denmark, UMs may be "branched off" from a pending patent application, with the benefit of the first filing's priority date.[55]

1.3.5 *Enforcement*

The ability of holders to enforce utility model varies around the world. In a few jurisdictions, utility models may not be enforced in litigation; rather, the holder must seek a substantive examination or convert them to patents before they are enforced.[56] But in most jurisdictions, utility model may be enforced directly once they are issued.[57]

Some jurisdictions that permit the direct enforcement of utility model impose precursor requirements to enforcement. Japan, for example, requires that the holder of a utility model obtain a technical opinion from the Japanese Patent Office regarding the compliance of the enforced utility model with the requisite statutory requirements,[58] and France requires that the holder of a utility model obtain and provide a search report to the accused infringer.[59]

Even with such requirements, utility models are frequently litigated in some jurisdictions. One Dutch researcher found in 2003 that Dutch "registration patents" – largely equivalent to utility models – were litigated 2.7 times more than ordinary patents.[60]

As with patents, remedies for infringement of utility model may include monetary damages as well as injunctive relief to prevent an infringer from continuing its infringement. The enforcement of utility model has led to significant awards in some cases. For example, in one 2016 case, the owner of a Japanese utility model claiming a "toe support pad" was awarded monetary damages of approximately US$1.2 million.[61] And in a Chinese case that was heard by the Supreme People's Court, the successful enforcer of a utility model claiming the design of a selfie stick obtained a damages award of RMB 1 million, followed by the filing of a "massive number of lawsuits" against other manufacturers of this popular consumer product.[62]

[52] *See, e.g.*, Chapter 5 (France).
[53] *See* Chapters 7 (Italy), and 17 (Unified Patent Court).
[54] *See* Chapter 7 (Italy).
[55] *See* Chapters 4 (Denmark), 6 (Germany and Switzerland), and 17 (Unified Patent Court).
[56] *See, e.g.*, Advisory Council on Intellectual Property (Australia) 2015, 8 (owner of Australian innovation patent can enforce rights only after substantive examination and certification)
[57] See Radauer et al. 2015, 32.
[58] Chapter 11 (Japan); Kilpatrick Townsend 2022.
[59] Chapter 5 (France); Kilpatrick Townsend 2022.
[60] van Engelen 2004, 26–30.
[61] Chapter 12 (Japan).
[62] Chapter 11 (China).

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In some jurisdictions, utility models have been used to tactical advantage in litigation.[63] As discussed above, in Germany, a utility model may be branched off from a pending patent application. As a result, applicants may file utility models strategically in order to obtain quick protection for inventions that are making their way through the slower patent issuance system. Utility models can then be enforced against alleged infringers before the issuance of the corresponding patents, often resulting in the entry of an injunction barring the infringer from continuing to make or sell infringing products.[64] Protection can then be extended for an additional ten years once the corresponding patent issues. Moreover, as explained by one commentator, the scope of utility model claims in Germany may be "tailored" to an infringer's products even after an infringement lawsuit has been filed.[65] That is,

> the owner has the opportunity to file new claims during the infringement proceedings and to adapt or even shift the scope of protection in view of the infringer's defence. The owner of the German utility model can thereby make very specific limitations, which are generally considered to be too restrictive in the framework of patent examination proceedings without the knowledge that the product may be at risk of later attack.
>
> Moreover, these tailored claims are only binding between the parties, as no limitation declaration is required vis-à-vis the public. In other words, the German utility model owner could assert other correspondingly tailored claims against another infringer using the entire disclosure of the utility model.[66]

Given the potential for tactical litigation uses of utility model such as these, some commentators have questioned the usefulness and advisability of utility model systems. The Australian government, for example, noted that Australia's version of utility model, "innovation patents," was frequently "used strategically, either to target alleged infringers of standard patents or to increase uncertainty over the scope of rights for competitors."[67] In fact, the "high level of uncertainty" associated with utility model protection has been cited as a tactical *advantage* for utility model holders seeking to enforce their rights in litigation.[68]

[63] Bianchin 2021 ("One of the main advantages of a German utility model is the various tactical options in its enforcement in infringement proceedings, which make it a highly flexible tool in the IP portfolio.")
[64] Radauer et al. 2015, 32–34.
[65] Bianchin 2021.
[66] Ibid.
[67] Productivity Commission (Australia) 2016, 239, 255.
[68] Bianchin 2021 ("As long as the protectability of the utility model has not been officially examined, it is often difficult for third parties to assess the extent to which the utility model is or could be legally valid without considerable analysis effort of their own. In practice, it has been shown that this hidden effect of a German utility model often leads to a significant competitive advantage for the owner.")

1.4 ASSESSING UTILITY MODEL SYSTEMS

Utility model systems have emerged in a range of countries – large and small, rich and poor – over the past century and more. As noted in Section 1.1, countries have had different experiences with their utility model systems, leading some to modify their systems significantly and some to abolish those systems entirely, all while other jurisdictions consider implementing utility model systems for the first time. As such, it seems important to assess the success of utility model systems in achieving the goals for which they were developed.

1.4.1 *Assessment Tools and Methodologies*

There are few existing empirical methodologies for assessing the performance of utility model systems. The first of these was developed by Dan Prud'homme (2017a), who designed a methodology for assessing both systemic strictness and appropriability for four Asian "latecomer" jurisdictions (China, Japan, South Korea and Taiwan). He found that the strictness of the systems in each of these jurisdictions increased over time, suggesting that these jurisdictions "have pursued a dynamic catch-up strategy of transitioning from imitative to more sophisticated technological development by increasing both strictness and appropriability-strength of utility model regimes in conjunction with increasing knowledge accumulation and, to some extent, technological capabilities."[69] Prud'homme extends this analytical methodology to twenty-five different jurisdictions in Chapter 21, finding evidence of an inverted U-curve between utility model accessibility and usage whereby a moderate amount of accessibility may lead to more filings than a low or high level of accessibility.

In 2023, Jussi Heikkilä introduced a novel key performance indicator (KPI) approach to assess national utility model systems on the basis of numbers of filings, filer characteristics, the interaction between utility model and patent systems, and issuance timelines.[70] He applies this methodology to the case of Finland in Chapter 9.

The remainder of this Section 1.4 briefly outlines some of the interrelated policy drivers that have been used to justify utility model systems: the incentivization of sub-patentable innovation, the support of SMEs, the promotion of local industry, and the bolstering of developing economies.[71] It then considers the implications of utility model protection for intellectual policy more generally.

[69] Prud'homme 2017a, 67.
[70] Heikkilä 2023a, 8–10.
[71] Further discussion of the motivations and rationales for utility model protection can be found throughout this volume. See, e.g., Chapter 9 (Poland), Chapter 20, Section 20.4 (European harmonization), Chapter 22 (low-income countries).

1.4.2 *Protection of Sub-patentable Innovation*

Utility model statutes were originally enacted to offer protection for technical designs and improvements that fall below the level of patentable invention, but which are functional and thereby do not qualify for more traditional design protection. For example, as discussed in Chapter 4, the Danish utility model law was originally enacted in 1992 to cover hand tools, kitchen utensils, and similarly simple products. Without utility model protection (i.e., in jurisdictions that only offer patent protection), these innovations would remain unprotectable. And given that, by some accounts, a large number of welfare-enhancing innovations are cumulative or incremental in nature, the lack of legal protection leaves these innovations vulnerable to appropriation without compensation.[72] This vulnerability, in turn, reduces incentives to produce such innovations, thereby reducing overall social welfare. This, at least, is the theory.

Yet, as noted in Section 1.3.1, the scope of many utility model statutes has expanded beyond the simple product design features that they were originally enacted to protect. Thus, some critics have charged that while utility models may offer firms additional means for protecting product features and litigating with competitors, these benefits are largely additive to existing patent or other forms of protection and may not actually serve to increase innovation at all. In fact, it could be argued that any socially valuable innovations worthy of protection can be protected by ever-expanding patent, copyright, trademark, design,[73] trade secret, plant breeder,[74] and other forms of intellectual property,[75] rendering utility model protection either superfluous (for valuable product features) or excessive (inasmuch as they protect trivial product features that fall below the novelty or inventiveness threshold required for patentability or other forms of protection).

And far from being harmless, the extension of exclusive rights to these minor features withdraws them from the public domain so that they may not be utilized as the basis for further improvements or innovations. Jerry Reichman observed a quarter century ago that, at least in the United States, "property-based rules do not and cannot work" for small-scale innovations because "[t]hey return to the first comer too little or too much, they impede follow-on developments, ignore the significant contributions of the public domain, balkanize the knowledge base, and increase transaction costs."[76] Thus, as Reichman suggests, the protection of these

[72] See Dutfield and Suthersanen, 2007, 35–36; Grosse Ruse-Khan, 2013; Suthersanen 2006, 6.

[73] See Church et al. 2021 (noting 11 EU design rights cases also raising utility model claims in four countries).

[74] The Australian innovation system had certain provisions dealing with potential conflicts with plant breeders' rights.

[75] See Wilkof et al. 2023 (discussing multiple areas of overlapping IP rights including utility models).

[76] Reichman 2000, 1797. See further discussion in Chapter 16 (United States).

product features through exclusionary utility model rights may decrease overall innovation and social welfare.[77] Reichman's solution is to allow the creators of minor innovations to receive compensation for their use, but to remove their ability to exclude others from that use (i.e., a liability rule, rather than a property rule system).[78] Others have similarly argued that utility models, if granted, should be subject to compulsory licensing regimes.[79] But it is not clear that even these limited protection regimes are necessary. As Suthersanen, Dutfield, and Chow have observed, "[n]ot everything created under the sun must be awarded intellectual property protection."[80] In many cases, the judicious refusal of intellectual property protection on minor innovations may ultimately inure to the public benefit. Such may be the case with utility models, at least in some contexts.

1.4.3 *Supporting SMEs*

As discussed in the introduction to this chapter, the German *Gebrauchsmuster* was introduced in the nineteenth century in order to help individuals and small businesses by offering them a quick and inexpensive route to the protection of minor product features and improvements. Many utility model systems since have likewise sought to foster innovation by SMEs that cannot afford the time or expense of seeking patent protection for each of their innovations.[81]

It is clear, as the chapters in Part I illustrate, that utility model protection can be obtained more quickly and cheaply than patent protection. Yet there is little actual evidence that SMEs in countries that offer utility model protection have benefited significantly from that protection, or that these SMEs have engaged in more, or more valuable, innovative activity than SMEs in countries such as the United States and the United Kingdom, which lack utility model protection.[82] As noted in Chapter 16, the United States offers a range of procedural benefits to SME patent filers including reduced fees, which could potentially offer SMEs cost savings comparable to those offered by utility models but with the benefit of stronger patent protection (for those inventions that qualify).

Moreover, as noted in Chapter 2 (Section 2.2.3), in several of the jurisdictions studied in this volume, the primary filers of utility model applications are large

[77] See also Grosse Ruse-Khan 2012, 29 (eliminating utility model protection may "have positive welfare effects in terms of keeping such innovations free in the public domain for everyone to use").

[78] Reichman 2000.

[79] Boztosun 2010, 431.

[80] Suthersanen et al. 2007, 18.

[81] The difficult question of why governments should support patenting and innovation by SMEs is beyond the scope of this chapter.

[82] See Grosse Ruse-Khan 2012, 27 (noting lack of empirical verification of assumptions regarding the usefulness of utility model protection to SMEs).

international firms such as Ford Motor Company and Siemens, rather than SMEs. One notable exception is China, in which the vast majority of utility model filings are made by local entities that do not appear to have significant international operations.

1.4.4 *Promoting Local Industry*

Related to the support of SMEs, utility models are often promoted by policy makers for their potential to foster local and domestic innovation.[83] Moreover, as observed by Grosse Ruse-Khan, "for countries which are net-importers of IP protected goods, encouragement of local industry to produce more IP-protected goods is important to reduce dependency on imports. This would equally reduce a trade deficit in IP-protected goods – and in turn reduce royalty outflows."[84]

As noted in Chapter 2 (Section 2.2.3), the vast majority of utility model filings in most countries are made by domestic entities. Yet, large international firms have also availed themselves of utility model protection in many countries, often emerging as the largest filers for utility model protection. This phenomenon is certainly evident with respect to utility models that are declared as essential to industry standards (see Chapter 18), which are dominated by multinational firms such as Interdigital and Samsung. But foreign utility model filings are not limited to large multinational firms. As noted in Chapter 9 (Section 9.2.1), Finnish firms trading with partners in Germany, Sweden, Russia, China, and other jurisdictions have also taken advantage of utility model filings in these countries.

In some jurisdictions foreign firms have been seen to make the greatest use of sub-patent protection. In Australia, for example, the system of petty patents, and its successor regime of innovation patents, were justified in terms of promoting local innovation by individual inventors and SMEs. However, Australia ultimately determined that the system had outlived its usefulness and was not providing significant benefits to the national economy. It elected in 2021 to discontinue its system entirely.[85]

1.4.5 *Utility Models and Economic Development*

As discussed in Chapter 22 and elsewhere in this volume, utility models, compared to patents, have been viewed as particularly attractive for innovators in low-income

[83] See Grosse Ruse-Khan 2012, 29 (noting connection between goals of supporting SMEs and fostering local innovation), WIPO 2024. Given national treatment obligations under international treaties such as the Paris Convention and the TRIPS Agreement (see Section 2.1), local interests cannot be too explicitly favored by these protection regimes.

[84] Grosse Ruse-Khan 2012, 30.

[85] See Chapter 10 (Australia).

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economies given their lower threshold of originality and modest cost. In 2023, twenty-three of forty-six UN-designated least-developed countries had utility model protection systems.[86]

In 2006, Suthersanen authored a landmark study for the United Nations Conference on Trade and Development (UNCTAD) on the potential benefits of utility model systems for innovators in low-income economies and for low-income countries themselves. Her work (upon which she expands in Chapter 22) has led many commentators to believe that utility model systems can both foster innovation in and attract foreign investment to these countries. As one recent UNCTAD report notes, "[w]ith generally less stringent compliance requirements compared with patents or industrial designs . . ., simpler application procedures and shorter terms of protection, [utility models] present a more accessible form of IP protection that can enhance technological learning in [least-developed countries (LDCs)] with less advanced technologies."[87] Indeed, the report goes on to equate the *absence* of utility model protection as a significant negative factor for least-developed economies:

> Without second-tier IP protection systems like utility models, there are fewer incentives for domestic firms and foreign investors to invest in the development of local product innovations. Since innovation is crucial for production and to develop a local knowledge base, the absence of protection for minor inventions could affect the ability of LDCs to convert knowledge and new ideas into wealth and social benefits.[88]

A 2015 report commissioned by the European Commission also acknowledged the potential benefits of sub-patent protection to developing economies, noting that "in catching up economies, particularly in Japan and also in Korea [i]t has been shown that utility models facilitated the development of local industry, by incentivising small improvements on existing state-of-the-art technologies from developed countries."[89] The report goes on to note, however, that "once the economies matured, the utility model lost much of its supportive function for this inward international technology transfer."[90] Thus, the benefits of utility model systems may be temporary – useful when an economy is at an early stage of development, but dropping off once it achieves a level of maturity.

[86] UNCTAD 2023, 17.
[87] UNCTAD 2024, 7.
[88] UNCTAD 2024, 7
[89] Radauer et al. 2015, 1–2. *See also* Suthersanen 2019, 24 ("when the national economy and its industries reach higher levels of technological capacity, as in Japan and certainly Australia, it does appear that the disadvantages outweigh the perceived advantages").
[90] Radauer et al. 2015, 1–2. *See also* Suthersanen 2019, 24 ("when the national economy and its industries reach higher levels of technological capacity, as in Japan and certainly Australia, it does appear that the disadvantages outweigh the perceived advantages").

1.4.6 *Credibility of Utility Model Systems*

Whatever their intended benefits, utility model systems have been criticized in their implementation. Observers have noted that the lack of examination of utility model applications has led to the registration of spurious "innovations" such as the infamous wheel design in Australia.[91] The lack of examination and low cost of utility model applications has also prompted massive registrations in China, leading to the general view that utility models are "low quality" forms of protection.[92]

In addition, the strategic use of utility models in jurisdictions such as Germany and Denmark, where "branching off" can be used to obtain enforceable rights over inventions that are the subject of pending patent applications,[93] the convertibility of failed patent applications into utility models and vice versa in jurisdictions such as Italy,[94] and the declaration of unexamined utility models as "standards essential patents" as to which royalties may be collected from implementers of technical standards such as Wi-Fi and 5G,[95] lend further support to arguments that utility models are legal constructs that may be used to the tactical advantage of sophisticated firms, but do little to advance the policy goals for which they were created.

For all of these reasons, utility models may be suffering from a crisis of legitimacy – one that may lead additional jurisdictions to abandon this form of protection in favor of more stringent patent protection or domain-specific sub-patent protection.

1.4.7 *Broader Implications for Intellectual Property Policy*

By illuminating aspects of utility model protection across the globe, this volume offers a few lessons for wider intellectual property policy. Unlike nontraditional intellectual property rights in several countries that are directed to the protection of minor innovations in specific industries, such as semiconductor topographies, databases, or vessel hulls,[96] utility model rights have broader application. Paradoxically, this broader application makes the case for harmonization of utility model protection weaker because policymakers around the world struggle to agree upon their exact mission in the economy and society.[97]

From this perspective, the utility model is a curious example in the family of intellectual property rights. Untethered to one predominant justification or clear use case, utility models sometimes aimlessly flow in the river of intellectual property and

[91] See Chapter 10 (Australia).
[92] See Chapter 11 (China).
[93] See Chapter 6 (Germany and Switzerland).
[94] See Chapter 7 (Italy).
[95] See Chapter 18 (standards-essential utility models).
[96] See discussion in Chapter 16 (industry-specific protections in the United States). See also Bambauer 2024.
[97] See Chapters 19 (lack of harmonization and business models), 20 (harmonization efforts in the EU) and 21 (heterogeneity across borders).

yet survive for decades on the books. As such, they appear to lack a clear and motivated constituency of beneficiaries.

Uma Suthersanen sees this as a feature and not a bug. In Chapter 22, she encourages policymakers around the world "to choose existing rationales and/or expand the justifications for [utility model] laws which best suit the local conditions," such as different innovative practices. Yet unlike secondary forms of IP that are not expressly included under the TRIPS Agreement, such as databases, utility models may not be structured explicitly to preference local or national interests given the requirement for national treatment under the Paris Convention (see Section 1.2.1).

The analysis offered by the authors in this volume also invites reconsideration of how we speak about the bigger family of intellectual property policies in general. Behind this broad, unifying term hides a diverse range of sharp and blunt tools. In Europe, for instance, horizontal instruments, such as the IP Enforcement Directive, treat all IP rights equally. For the critical stage of granting remedies, the legislature pretends that all protected subject matter, including national utility models, have the same societal value. This approach, however, seems misguided. The unique raison d'etre and limitations of each IP right should be considered by the judiciary and authorities that extend the power of remedies to any instrument. This problem is not limited to the remedial stage of the design of IP policies.

A failure to appreciate the strength and seriousness of protected innovations can backfire in other tangible ways. For instance, when China adopted a top-down policy to spur innovative activity, it encouraged patents and utility models alike to be widely embedded into social policies, such as secondary education, career advancement, internal migration, and criminal incarceration.[98] Individuals immediately seized this opportunity by exploiting the weaknesses of the utility model system to obtain related rewards without actually innovating. Had the legislature appreciated that strong ex ante screening should be a key precondition for the linkage of social benefits with the award of IP rights, many gaming strategies could have been avoided.[99]

1.5 CONTENTS OF THIS VOLUME

Following the introductory material in this chapter, Chapter 2 offers empirical data regarding utility model filings around the world.

Next, Part I (Chapters 3–16) provides details regarding utility model regulations, filings, and litigation in a number of key jurisdictions around the world. In Europe the United Kingdom's 1843 utility design statute, the world's first utility model

[98] Heng et al. 2024.

[99] As noted in Chapter 11 (China), the Chinese utility model system has been made more stringent in response to critiques like these.

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regime, is of significant historical interest and is addressed in Chapter 3. Chapters 4–9 then address existing utility model systems in a number of small and large European jurisdictions: Denmark, France, Germany (and Switzerland), Italy, Poland, and Finland. In addition, Chapter 9 applies a unique analytical "key performance indicator" framework to the Finnish utility model system. Chapter 10 offers a comprehensive political and legal history of the Australian invention patent system, which was abolished in 2021. Chapter 11 then turns to China, the largest issuer of utility models today, and Chapters 12 and 13 cover Japan and South Korea, two other significant Asian jurisdictions with a long history of utility model issuances. Chapters 14 and 15 then turn to two significant "developing" economies, Brazil and Kenya, and their unique utility model systems. Finally, Chapter 16 turns to the United States, which does not have, and has never had, a general utility model system, but which offers sub-patent protection in several specific vertical markets (semiconductor topographies, boat hull designs, etc.), and in which more general sub-patent protection systems have been debated for decades.

Part II addresses ways that utility models are currently being used in national and international systems. Chapter 17 covers utility models in the new Unified Patent Court in Europe. Chapter 18 explores the characterization of utility models as "standards essential patents" within international standards bodies. Chapter 19 then turns to corporate strategy in utility model filing and enforcement.

Part III takes a broader view and offers syntheses of utility model systems in different contexts. Chapter 20 recounts the long history of efforts to harmonize the law of utility models in the European Union and develops recommendations and predictions regarding the fate of harmonization efforts in the future. In Chapter 21, Dan Prud'homme empirically assesses the accessibility of utility models across twenty-five different jurisdictions. And Chapter 22 concludes with Uma Suthersanen's survey and assessment of the success of utility model systems in fostering innovation and economic development in low-income countries.