# 19

# Navigating Incomplete Harmonization

## *Businesses and the Utility Model Environment*

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In a world of increasing harmonization of intellectual property rights, the "utility model" stands out as a stark outlier. This specialized form of a lesser innovation right is available in only about half of the world's intellectual property systems, and the scope of protection and rules for acquisition can vary widely among offering countries.

This disharmony is surprising as utility models fill a unique niche in the innovation ecosystem. Although a utility model has claims like a standard patent, utility models cover a narrower range of inventive activity, are subject to less governmental scrutiny, and have a significantly shorter life than standard patents. In most respects, utility models provide a simpler route to low-level protection for useful inventions. Intuitively, they should be attractive to a variety of actors, including small firms whose inventive activity does not rise to the level required for standard patents or large firms that wish to more completely blanket the landscape. The disparate embrace of utility models in the world's intellectual property systems, however, means that this option is often unavailable to actors who might benefit from it.

Despite the differential availability of national utility model rights we see no evidence of businesses or policymakers pushing to harmonize in this field. Rather, firms appear to adopt country-specific intellectual property strategies that leverage differential qualities in legal protection and maximize available efficiencies in a manner that would be otherwise unavailable in a fully standardized intellectual property environment.[1]

This chapter draws on empirical research that demonstrates that utility model protection can address differential capture or appropriability[2] needs for a firm's

[*] This chapter is drawn from Cahoy and Oswald, 2021, with permission.

[1] Frischtak 1993.

[2] Ceccagnoli 2009.



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portfolio of inventions in terms of time and cost. We propose that a "zone of appropriability preference" exists when utility models and standard patents overlap, and this zone provides important opportunities to firms with global intellectual property portfolios. Using the European Patent Office's PATSTAT patent data and a novel experimental construct that tracks inventions that are pursued as a utility model instead of a standard patent, we demonstrate that firms appear to seek utility model protection when their overall appropriability needs differ by region. We make the case that a firm may choose standard patent protection in one region and utility model protection in another, even though standard patent protection is available in both settings.

Our analysis suggests that firms exploit utility model disharmony to their benefit, choosing utility models over standard patents in some countries or certain instances in order to better appropriate (i.e., obtain greater economic returns on) their innovations. This behavior, along with the relative indifference of policymakers, firms and commentators to the fractured utility model landscape, indicates that disharmony may provide an important means of addressing differential national and firm-level needs and preferences. In the end, the strategic advantages that utility models provide to firms along with the additional flexibility such systems give countries to tailor and optimize national intellectual property protection schemes raise the counterintuitive possibility that disharmony in this field of intellectual property law may in fact be the best policy.

## 19.1 GLOBAL IP STRATEGY AND THE CHALLENGE OF UTILITY MODEL DISHARMONY

Multinational firms have a strong interest in relatively uniform and predictable legal rules and regulations across countries. More consistency in legal regimes lowers transaction costs and creates efficiencies that can be leveraged as a firm extends its reach in new territories. In addition, because information can be so easily appropriated by competitors, it is extremely important to have the assurance of legal protection for inventive technologies and creative ideas before products and services are globally disseminated. Foreign direct investment also hinges on consistency in intellectual property protection.

However, intellectual property rights are national in character and may vary in availability or enforceability across countries. For that reason, governments have undertaken a purposeful effort to harmonize intellectual property through treaties and other international rights. As a result, a firm can expect to encounter a patent system that is generally nondiscriminatory in its protection,[3] a copyright system that protects computer programs[4] and a common system for registering trademarks in

[3] TRIPS 1994, art. 27.

[4] WIPO Copyright Treaty 1996, art. 4.

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multiple jurisdictions.[5] Even rights that still have significant national differences in scope and nature, such as trade secrets, nonetheless carry an expectation that some level of protection will exist based on treaty obligations.[6] The convergence of intellectual property rules and norms across the world is a legal harmonization success story.

Utility models have been conspicuously absent from the harmonization conversation, despite the important niche they purportedly fill. Policymakers in many countries believe that intellectual property rights serve as an important incentive for small business investment,[7] but that obtaining patent rights is burdensome and expensive for small and medium-sized enterprises.[8] Moreover, development advocates and scholars argue that less-invention-intensive rights could serve a potentially important role for emerging economies.[9]

Despite these policy rationales arguing for utility model systems, harmonization efforts in this field have been very rare. There was, for example, discussion about regional harmonization of utility model systems in the European Union (EU) in the 1990s.[10] The effort eventually resulted in a formal proposal from the European Commission for a utility model "directive," but the effort stalled in the early 2000s when member states decided to instead focus on a standard European patent.[11]

Other countries have eliminated their utility model systems in recent years. For example, citing legal uncertainty and a lack of innovation enhancement, the Netherlands abolished its "short-term" patent system in 2008.[12] Belgium eliminated its "small patent" in 2009 for essentially the same reason.[13] The lost filings in both countries arguably were absorbed by the standard patent system.[14] Australia replaced its 1970s-era "petty patent" right with a new "innovation patent" in 2001, but eliminated the relatively new right just twenty years later,[15] fearing it conveyed few benefits to inventors and created risks of abuse.[16]

Efforts to implement new national utility model systems are even scarcer and typically unsuccessful. A Private Member bill to create such a system was introduced in New Zealand in 2018, but it was not supported by Government; a motion to pass the bill failed at the first reading.[17] In 2011, India issued a discussion paper inviting public commentary on the potential adoption of a utility model system. After

[5] Madrid Agreement Concerning the International Registration of Marks 1891.
[6] TRIPS 1994, art. 39.
[7] Suthersanen 2006.
[8] Suthersanen 2006.
[9] Suthersanen 2006, 7 & 8; Kim et al. 2012; Prud'homme 2017b.
[10] Königer 2009, 19.
[11] Königer 2009.
[12] Janis 1999, 11.
[13] Janis 1999, 11–12; *see also* Radauer et al. 2015, 23–24.
[14] Prud'homme 2014,11 n. 22; *see also* Radauer et al. 2015, 24–27.
[15] *See* IP Australia 2023d.
[16] Productivity Commission (Australia) 2016.
[17] *See* Cox 2018.

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evaluating extensive commentary on draft policies, the IPR Think Tank recommended adoption of such a system in its final report in 2015, but no further action has been taken.[18]

Thus, utility model systems are characterized by profound disharmony at the global level. Moreover, no overarching historical theme dictates whether a country has a utility model system. The developmental status of a country appears to be disconnected from this question, as utility model systems can be found in a selection of countries ranging from major developed economies[19] to least developed countries.[20]

One might assume that, if utility model systems convey advantages to society, efforts to expand their presence are justified and arguably should be the subject of international harmonization. Moreover, if there is a particular set of utility model attributes that are optimal, discordant systems should be brought in line. This has been the global approach in almost every other intellectual property context.

However, our study of the real-world use of utility model systems by firms suggests that a broad harmonization effort would be misplaced. Our findings suggest that the firms and individuals that rely on innovation incentives not only accept the discordant environment of utility models but may even embrace it as a means of achieving optimal protection under different conditions. Additionally, from a policy perspective, our findings further suggest that division creates diversity at the national level that may act as a laboratory for innovation stimulation.

In sum, our investigation of utility model use supports the general notion that harmonization is not always the answer; a nuanced and informed approach to modifying existing protection schemes is more important than is generally acknowledged.

## 19.2 EVIDENCE OF FIRM UTILITY MODEL USE AND STRATEGY

How do users of the intellectual property system respond to utility model regimes? Who is actually obtaining utility models, and what does that say about whether this form of intellectual property law protection is integrated into innovation markets or is an outlier? Recently available data on utility model use is the best starting point to better understand their impact.

[18] *See* IPR Think Tank 2015.

[19] Four countries – France, Germany, Italy and Japan – appear both on the United Nations' 2020 list of "major developed economies," *see* United Nations, Department of Economic and Social Affairs 2020, and on the WIPO list of countries with utility model systems, *see* WIPO 2023a.

[20] Four countries – Lao People's Democratic Republic, Mozambique, Uganda and the United Republic of Tanzania – appear on both the United Nations' list of least developed countries, United Nations, Dept. of Economic and Social Affairs 2020, and on the WIPO list of countries with utility model systems. WIPO 2023a.

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### 19.2.1 *Overall Business Use of Utility Models*

It is difficult to identify which industries make use of utility model protection globally, because the covered subject matter can differ from country to country, skewing the results.[21] For example, a software invention protectable as a utility model in one country may be excluded in another. In addition, surprisingly few studies detail use of utility models by industry, as opposed to the countries targeted or the size of applicants. However, a recent review of several EU countries noted that the "mechanical engineering" sector was dominant across the board, followed closely by "electrical engineering."[22] Even more specifically, the study found the top industries linked to utility models in each country were all manufacturing related, but the order of each specific type can differ.[23]

### 19.2.2 *Existing Assessments of Utility Model Disharmony Impact on Firm Strategy*

Existing assessments on the impact of utility models disharmony on firm intellectual property strategy are limited.[24] A 2015 study conducted by the Technopolis Group, tendered by the European Commission (the "Technopolis Report"), involved a review of the literature and available evidence on the impact of utility models on European states as well as selected non-EU countries that offer the rights.[25] It found that legal uncertainty across systems was a key barrier to more widespread use of utility models by firms.[26] But more importantly for our purposes, the study noted that utility models were used as an auxiliary tool by practitioners to avoid perceived problems in the standard patent system rather than as a primary protection mechanism for "minor inventions by small inventors."[27] It concluded that the evidence on the impact of utility models to support innovation was ambiguous[28] and recommended against a move to harmonize utility models similar to standard patents.[29]

In a similar study funded by the European Commission and the Office for Harmonization of the Internal Market (OHIM), Prud'homme (2014) undertook a

[21] Richards 2010, tbl. II.
[22] Radauer et al. 2015, 65, 74, 83, 92, 102, 113.
[23] The study linked NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) industry classifications to utility model filings and counted the top classifications in Germany, Austria, Denmark, Italy, Poland, Czech Republic, Spain, Finland and France from 1995–1999 and 2007–2011. See generally Radauer et al. 2015.
[24] *See* Radauer et al. 2015, 1. Examples of research addressing utility models at least in part include Maskus and McDaniel (1999); Kumar (2003); Thomã and Bizer (2013); Evenson and Westphal (1995); Kardam (2007); Johnson et al. (2015); Li (2012); Wang (2015).
[25] Radauer et al. 2015, 1 n.1.
[26] Radauer et al. 2015, 3–4.
[27] Radauer et al. 2015, 3.
[28] Radauer et al. 2015, 5.
[29] Radauer et al. 2015, 6.

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more granular analysis by considering the legal details of different utility model systems to determine if a particular iteration has a more positive economic impact. He compared the systems of Austria, China, the Czech Republic, Finland, France, Germany and Italy in terms of qualities such as subject matter, duration, filing costs, examination form and nature, and the potential for double or parallel filing.[30] Prud'homme found that utility models are of some, but limited, use to developing countries.[31] Moreover, there are specific attributes of systems (e.g., electronic filing, subsidies or restricted subject matter) that are clearly more preferable from the perspective of the offering country.[32]

## 19.3 A NEW VIEW ON UTILITY MODELS: THE ZONE OF APPROPRIABILITY PREFERENCE

The existing literature permits few conclusions on the likely impact on innovation from utility model systems. Observers can reasonably disagree on whether this form of intellectual property serves as a complement to standard patents, a competitor, or simply a distinct right with no clear analogy in systems such as the United States. Without more, it is impossible to say anything definitive on the need for harmonization of utility model systems. A deeper dive into firm-level strategic choices for innovation protection is necessary.

### 19.3.1 *"Carve-outs" versus "Add-ons" and the "Zone of Appropriability Preferences"*

A common context for assessing whether utility model systems are advantageous is the understanding that they are "add-ons" to the standard patent system; that is, that utility models protect inventions that would not normally be covered by patents because they are not sufficient advances over existing technology.[33] The evaluation of the contribution of utility models to a country's innovative output necessarily considers whether this separate system actually encourages more inventive activity or simply pulls information out of the public domain to the detriment of the overall environment. The add-on opportunity is how the literature to date has viewed utility models.

However, we posit a novel possible explanation of how utility model systems are used: they provide an important choice to firms by serving as an alternative to standard patents. In some systems, such as China's, firms may have the option to file a utility model and standard patent application on the same invention; in those

[30] Prud'homme 2017b, 14–16.
[31] Prud'homme 2017b, 54.
[32] Prud'homme 2017b, 56–57.
[33] *See, e.g.*, Janis 1999, 178; Suthersanen 2006, 7.

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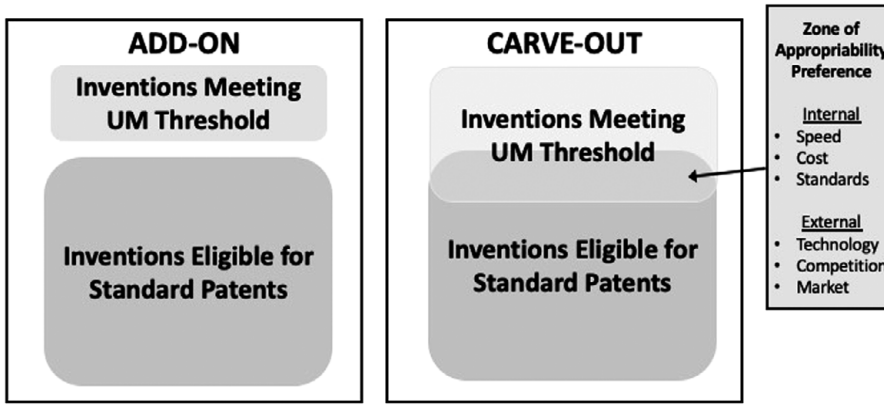



FIGURE 19.1 Role of utility models in a country's IP system

instances, the utility model rights could act less like an add-on regime, and more like a partial "carve-out." In other words, utility models in these systems pull some inventions away from standard patents. The carve-out is not simply a matter of failed attempts at full patenting, but rather a deliberate strategic choice by the applicant to opt for the second-tier right. Importantly, the extent to which a system facilitates a carve-out strategy is highly dependent on the various elements that define its utility model rights. This difference is essentially the result of disharmony.

Why would a firm ever choose a utility model when its invention is eligible for a stronger standard patent? In fact, there are advantages to the generic utility model that may be more important for certain inventions in particular locations. One such advantage is speed. Because utility models generally require no initial examination, they issue quickly, providing a firm with rights that it can assert and license. Additionally, given the possibility of protecting additional pieces or branches of a core invention, it may be possible to blanket a product with rights that essentially create a single-firm thicket that competitors find difficult to avoid. Finally, a firm's operations in a particular location with a particular legal system might be optimally protected by many utility models over a few standard patents.

We define the decision-making process of choosing utility models over standard patents (or vice versa) in those systems that treat utility models as carve-outs as operating in the "zone of appropriability preference" (see Figure 19.1). In this zone, inventors and firms have a choice between protection regimes – standard patents or utility models – and their choice represents a preference among qualities that differ between the two. For example, the choice for speed in securing a utility model over the longer protection period for a slower-to-issue standard patent represents such a preference. The existence of the zone allows a firm to extract optimal appropriability from invention rights and not waste resources on securing protection that is too powerful or too long.

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### 19.3.2 *Data Supporting Optimal Appropriability Strategies*

There is support for the proposition that sufficient knowledge and legal flexibility exist to enable businesses to engage in invention appropriation preference strategies. The 2015 Technopolis Report concluded that in developed economies, utility models can be used "as an auxiliary tool to patenting for a range of specific purposes" and they can help "deal with certain country-specific issues ...."[34] Moreover, according to the report's assessment of firm use, it appears that utility models "are utilised to a considerable extent to overcome specific challenges in the national patent systems ...."[35]

Two studies explicitly connecting patents and utility models – one centered in Europe and one in China – also provide some empirical evidence of the zone of appropriability preference theory. Heikkilä and Verba (2018) considered connections between standard patent and utility model filings in the European Union. Using PATSTAT data, they collected one dataset comprising (1) patent and utility models families filed at any EU patent office offering utility model protection, and another (2) restricting such families to those claiming priority from an EU patent or utility model filed at any EU patent office offering utility model protection.[36]

Heikkilä and Verba found that utility model filings may be used as part of an international filing strategy, belying the idea that utility models only cover minor inventions worthy of protection in the domestic market.[37] However, they also found that inventions with patent priorities are of higher quality than those with utility model priorities.[38] Those quality differences between patent and utility model priorities are less important than other indicators of patent quality, such as citation count, patent family size and whether there is an associated Patent Cooperation Treaty (PCT) filing.[39] Heikkilä and Verba failed to find any clear indication of strategies to obtain quick rights related to utility model priorities.[40]

Cao et al. (2014) considered Chinese patent and utility model applications that served as priority for a U.S. patent application that was subsequently granted. Similar to our construct below, they assumed that any utility model application that was sufficiently inventive to serve as a basis for a U.S. patent must be inventive enough to also qualify for a Chinese patent.[41] Therefore, their study set considered patents of similar quality that are *by choice* filed as either patents or utility models in China. One important finding from Cao et al.'s work is that inventions filed as Chinese

[34] Radauer et al. 2015, 1.
[35] Radauer et al. 2015, 176–177.
[36] Heikkilä and Verba 2018, 695.
[37] Heikkilä and Verba 2018, 697.
[38] Heikkilä and Verba 2018, 706.
[39] Heikkilä and Verba 2018, 713.
[40] Heikkilä and Verba 2018.
[41] Cao et al. 2014, 4.

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utility models have much shorter time lags between applications, indicating that the applicant desired speed in particular.[42] These patents are also less likely to have continuations filed at the U.S. Patent and Trademark Office or to be maintained during the patent term.[43] Again, this indicates that utility models are connected to inventions that do not require the full length of U.S patent rights. Applicants are exposing their appropriability interests and making more efficient use of them through the broader options in protection offered by China's system.

### 19.3.3 *Additional Litigation Evidence of Utility Model Use*

If firms indeed perceive utility models as a useful tool for optimally appropriating innovation, one would expect to see more substantive activity than simple rights accumulation. Effectively capturing innovation should include enforcement activities. Conversely, if utility models serve primarily as a weak credential for individuals and firms wishing to memorialize innovative activity, one might expect very little litigation and low rates of success when it does occur. Unfortunately, the lack of comprehensive global litigation data in the utility model arena makes it difficult to decide between real value or mere credential.

Fortunately, China, the most prominent utility model filing target, has now made available a significant amount of information.[44] Those data suggest that, despite the lower standards and lack of examination, utility model rights fare quite well in terms of enforcement success: they are enforced at a level at least as high as standard patents with better win rates for rights holders. Unofficial sources have reported this robust litigation activity for some time.[45] Bian (2018) conducted an empirical analysis of Chinese patent litigation using an official source, China Judgements Online. According to Bian's analysis of final judgments from 2014, owners of Chinese utility models constitute a greater share of the litigation landscape than standard patents (25% versus 13%), and are slightly more likely to be successful, with a win rate of 77% versus 72%.[46]

For purposes of our analysis, perhaps the most interesting statistic in Bian's article is the fact that foreign litigants make up 3.33% of the plaintiffs in the cases studied.[47] Although this is relatively low – and certainly much lower than the 28.44% foreign litigant share in standard patent cases – it is higher than the percentage of foreign utility model ownership (1.12%).[48] This indicates that foreign utility model owners litigate at a higher rate than domestic owners. In other words, foreign owners of

[42] Cao et al. 2014, 6.
[43] Cao et al. 2014, 7.
[44] China Judgements Online 2020.
[45] *See* Liu 2014, 243; Gajewski 2019.
[46] Bian 2018, 446–447.
[47] Bian 2018, 459.
[48] Bian 2018.

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Chinese utility models seem to value their rights as real appropriation tools at least as much as, if not more than, domestic owners.

Of course, it is possible that the litigation numbers might reflect a selection bias rather than suggest that utility models are generally valuable (e.g., perhaps only the strongest or more straightforward utility models are asserted). However, this is no different than with standard patents; most are not enforced and those that are can be viewed as part of a specialized subset.[49] Based on this slice of the global litigation environment, utility models seem to have an enforceability potential that allows them to serve as a reasonable innovation investment incentive.

## 19.4 BUSINESS STRATEGY AND MOTIVATIONS FOR UTILITY MODEL FILINGS: A STUDY OF U.S. PATENT-TO-UTILITY MODEL PATHWAYS

With the Heikkilä and Verba (2018) and Cao et al. (2014) studies in mind, we endeavored to extend the analysis to better understand the patent-utility model strategy. Are patent-utility model pairs simply a subclass of substandard inventions that are crammed into the standard patent system in order to execute a broader rights grab? Or is there evidence that firms are attempting to optimize a differential appropriation strategy, in which utility models provide distinct advantages in place of or in addition to standard patents in certain countries or instances? To better assess the strategic opportunity in filing utility models, we carried out our own novel empirical analysis.

In a study presented in more detail in a separate paper,[50] we used PATSTAT data to focus on a particularly relevant stream of utility model rights that could provide a unique perspective on (1) how these rights impact innovation and (2) what firms appear to exploit system disharmony. Specifically, we considered inventions objectively viable as standard patents that are nonetheless filed as utility models in at least one country. Our presumption was that firms see a particular advantage in undertaking the time and expense of such filings, and this can reveal important information about the appropriability potential of certain systems.

We looked for indicators that would permit us to assess the validity of two hypotheses. First, we propose that this subset of utility model applicants is choosing this form of innovation protection in order to attain some local advantage. Again, because we presume the applicant could have filed only a standard patent, the choice to file a utility model evinces a strategy that accounts for the expense of filing for and possibly enforcing a lower form of intellectual property.

Additionally, we considered the possibility that firms filing a large number of utility models may simply be attempting to obtain every right possible in every location possible. This kind of strategy conflicts with the more purposeful strategy

[49] *See* Chien 2016, 841–842.
[50] Cahoy and Oswald 2021.

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that acknowledges utility models are an advantage only in some countries for some technologies. We believe that firms are more likely to choose the latter, more specific strategy and that it is useful to distinguish between the two.

Our analysis bore out the hypothesis that firms chose to file utility models when a standard patent would be attainable to take advantage of country-specific conditions. Moreover, as to whether patent-to-utility model strategies are simply an attempt to accumulate more rights whatever the cost, we looked to the number of different utility model filings per U.S. patent application. If rights accumulation were the ultimate goal, we would expect to see a large percentage of the inventions filed in multiple countries.

However, the evidence suggests that broad rights accumulation is not the dominant strategy. In our study set, we found that most applicants file for a utility model in only one country. Overall, throughout the studied time period, 79.5% of the U.S. patent applications were filed in a second country as a utility model, and only 16% were filed in two additional countries as utility models (with the remaining percentage being filed in three to fourteen countries).

Additionally, we find that the top technologies underlying the utility models change by forum (see Figure 19.2). In China, we see "electrical machinery, apparatus, energy" at the top whereas Germany's filings are led by "computer technology." Similarly, digital communication draws a relatively high filing rate in Germany but not in China. Pharmaceuticals factor highly in Germany's filings but low in China, though this is likely due to the fact that, strictly speaking, chemicals and pharmaceuticals are not protected under China's utility model system.

Again, these data support the conclusion that, at least in some industrial sectors, firms are employing a forum-specific strategy rather than broad rights collection. We infer that firms are likely considering local industries and markets in seeking utility model protection.[51]

## 19.5 INSIGHTS ON NAVIGATING UTILITY MODEL DISHARMONY

Despite existing in disharmony, utility models are an important part of the global intellectual property system for innovators. Our analysis, as well as recent literature, suggests that firms value utility model rights and actually use them to protect truly inventive activity. Typically, a discordant intellectual property system that plays a contributing role in creating innovation incentives would be a target for harmonization, yet there is no evidence of significant lobbying by either firms or policymakers to harmonize global utility model law. This suggests that both groups of stakeholders find the disharmonious status quo satisfactory.

[51] *See* Moga 2012, 14–16.

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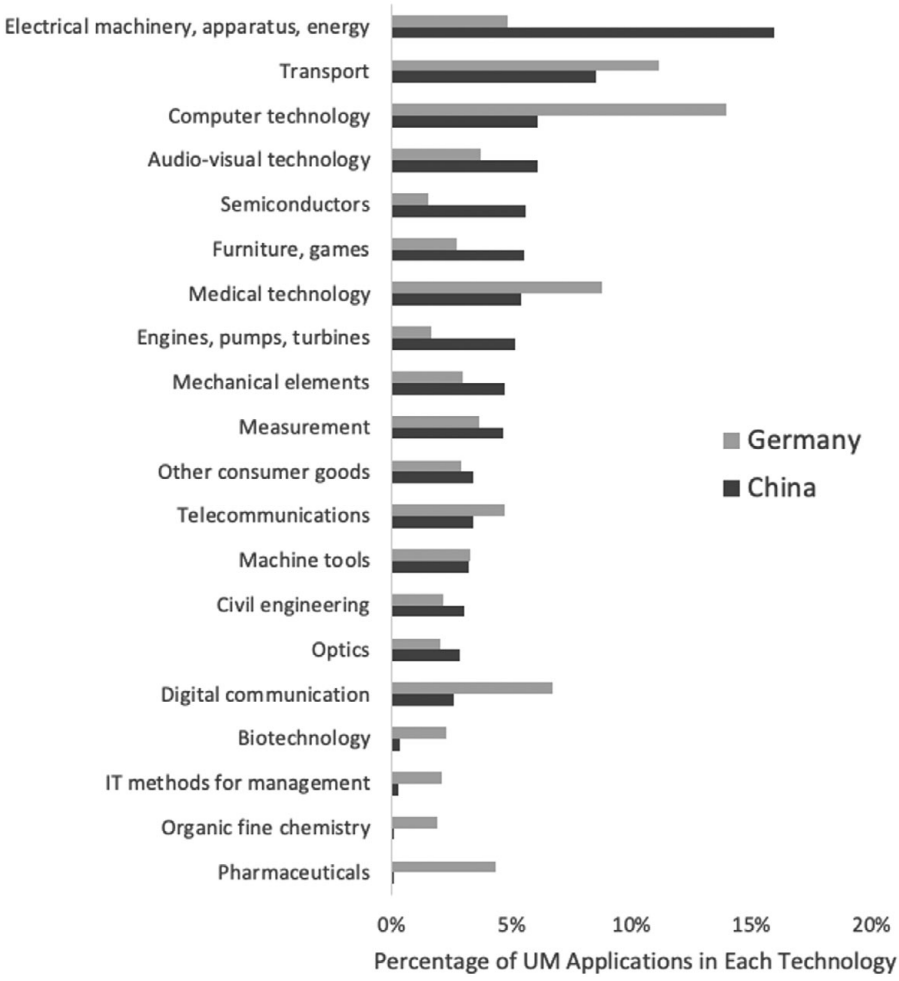



FIGURE 19.2 Share of U.S. patent-to-utility models in selected technologies (2000–2018)

*Note*: The technology fields in PATSTAT are based in the WIPO Statistics Database IPC8 Technology Concordance. *See* Schmoch 2008.

The results of our study help explain the lack of enthusiasm for harmonization by providing important evidence that firms can effectively navigate the disharmonious environment of utility model systems. Importantly, ours was the first work to assess utility model use in a context that suggests a purposeful strategy of optimal intellectual property protection rather than simple rights capture. Although additional research is necessary to determine whether disharmony is better for global innovation or a particular country's economic health, our proposed framework posits that, at the firm level, an innovator may consider the availability of utility models around

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the world and utilize the systems it finds advantageous in view of the overall economic, legal and political environment.

In particular, firms can optimize the differential appropriability of utility models to achieve protection efficiencies and accommodate national differences. Possible applications include employing utility models as an efficient antipiracy device in foreign locations, rather than a long-term, global competition exclusion tool as they would with traditional patents. Firms in fast-moving industries can put up roadblocks with utility models on their minor advances that are otherwise easy to copy. With cheap filing costs and no examination, ultimate enforceability may not be so important. In other cases, utility models may fill a gap that exists between what can be protected through design patents or other industrial design measures and what is worth protecting with traditional patents.[52] And, if there are differences in standard patent acquisition and enforcement rules between countries of interest, utility models may fill that gap as well.

At the national level, individual countries may well benefit from not being forced into a harmonized utility model system. They may use utility model systems to experiment with a combination of intellectual property protection elements that best optimize their desired economic or policy goals. They may adopt utility model systems to fill a specific national need, such as satisfying inventor rights or providing a defensive publication to preclude another's capture of an invention.[53] Some countries may even seek to align their systems with desired firms or economic outcomes and modify utility model attributes in accordance.[54]

Of course, even though disharmony may have some benefits for some firms or some countries, those benefits could be outweighed by anti-competitive negatives. For example, commentators have noted the potential to use easy-to-obtain utility models as a vehicle for trolling.[55] Given the efforts in the United States to curb abusive patent behavior, firms and policymakers may be loath to see another potential trolling vehicle arise in other systems. Additionally, the higher costs of navigating disparate systems may disadvantage smaller firms with global goals.

More broadly, our study and related analysis are the first to present the idea of utility models as an appropriability choice rather than a means of capturing otherwise unprotectable inventions; as such, our study may address a persistent problem in innovation system assessment. Namely, study after study has failed to find sufficient evidence for changing the status quo regarding utility model structures as a component of national or regional innovation systems. For example, the Technopolis Report stated that "it is not possible for us to conclusively say whether

[52] Where such a gap filler does not exist (as in the United States), it is possible that firms are relying on design patents to carry some of the weight (i.e., trying to use the nonfunctional right to overlap onto the functional).

[53] Radauer et al. 2015, 781.

[54] *See generally* Prud'homme 2017a.

[55] Moga 2012, 25; Productivity Commission (Australia) 2016, 17.

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UM systems – or particular incarnations of those – actually support innovation."[56] A follow-up article by Radauer et al., discussing evidence since the study, doubled down on this conclusion.[57] Similarly, Prud'homme found that while utility model systems can be useful tools to stimulate innovation and technological diffusion in some developing countries, they "can grow to be of limited value in developed countries."[58] Other studies reach similar conclusions.[59]

Although one possibility may be that utility model systems fundamentally fail as innovation incentives, the zone of appropriability preference model suggests that innovators may be simply allocating the same inventions between different protection regimes. To be sure, optimal capture may have some positive impact on the incentive to innovate and one might still expect to see that in measures of innovative activity. The reason this does not show up in the studies is likely that this impact is far less significant than that which one would expect from bringing an entirely new group of innovators into the system.

Taken together, one can reasonably conclude that the invention appropriation advantages of utility models, lack of evidence of significant abuse in the existing systems and relatively small impact on the overall innovation activity of countries or regions produce general satisfaction with disharmony among both firms and policymakers. Reports suggest that the small portion of the intellectual property community that has an interest in utility models does not generally favor harmonization efforts.[60] Moreover, users of the global intellectual property system would probably be wary of reform that may not address known problems but instead end up eliminating the strategic advantages in pursuing utility model protection.[61] Considering all available information, including our study results, we believe that policymakers have a basis to determine that a TRIPS-like harmonization effort for utility models would be unhelpful and even potentially harmful.

Finally, one might ask if it is legitimate for there to be a policy contrast between utility models and standard patents. In other words, if disharmony is permitted for utility models, how can it be problematic for standard patents? However, the contrasting conditions underlying such an inquiry may not be as stark as many assume. In fact, there is actually some variation in standard patent rights across the world. In particular, enforcement systems can differ in aspects such as government prosecution, bifurcated validity and infringement proceedings, criminal liability and the availability of jury trials.[62] It is primarily the availability of basic protection that is

[56] Radauer et al. 2015, 5.
[57] Radauer et al. 2019, 782.
[58] Prud'homme 2014, 61.
[59] *See* Kim et al. 2012, 374; Productivity Commission (Australia) 2016, 17.
[60] *See* Radauer et al. 2015, 173–176.
[61] Radauer et al. 2015, 182.
[62] WIPO 2018, 13, tbl. S1.

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harmonized through TRIPS[63] and other treaties such as the PCT.[64] More uniformity may be desired, but it may be impossible to fully harmonize every aspect of various domestic legal systems, even in a narrow area like invention rights. Firms naturally look to a means for accommodating the disparity. In this space, the utility model fills the gap and provides a buffer of disharmony that allows a more optimal capture of a given invention in a given country.

In the end, we believe that there is a basis for the counterintuitive proposition that disharmony can be the optimal intellectual property policy from a country-level perspective in some instances to maximize efficiency, exploit system differences and experiment with specific protection standards. Although such an approach conflicts with the historical and political drive toward harmonization, it is a flexibility that may be demanded by the complexities of global production and trade. If the status quo works, the harmonization journey may not be the best policy route.

## 19.6 CONCLUSION

Based on empirical evidence of the use of utility model systems coupled with the relative indifference on the part of policymakers and firms, we believe that there is support for the proposition that marginal disharmony can work in the context of utility models. In this particular intellectual property rights setting, disharmony may allow countries space for experimentation and tailoring to national policy objectives while not impeding effective management of global intellectual property portfolios at the firm level. Reasonable policymakers may conclude that uniformity in intellectual property protection is not necessarily the correct objective.

[63] TRIPS 1994.
[64] Patent Cooperation Treaty 1970.

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