# 21

# Heterogeneities in Utility Model Accessibility

## *Quantitative and Qualitative Insights*

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Utility model patents and similar second-tier rights, collectively referred to as "utility models" for simplicity, are an important yet understudied class of intellectual property (IP) assets.[1] As discussed throughout this volume, these rights can offer quicker protection than conventional patents, thereby enabling better appropriability of shorter lifecycle innovations;[2] protect incremental inventions incapable of meeting the higher standards for conventional patents;[3] and more readily facilitate learning about how and why to use IP than the conventional patent system allows.[4] The main mechanism behind these benefits lies in the greater *accessibility* of utility models compared to conventional patents – namely the formal institutional regime that makes utility models easier, cheaper, and quicker to obtain from the government.[5]

However, despite these purported benefits, there is scant comparative research examining *the impacts of heterogeneities in the accessibility of utility models over time and around the world*. These impacts may include, for example, differences in firms' decisions to apply for utility models depending on the accessibility of the regime governing the rights, as well as lawmakers' decisions to amend the regimes governing the rights due to concerns that they offer too much accessibility and therefore undermine utility model "quality."[6] Examining these issues in further detail is important for several reasons. It can inform lawmakers about how to maximize utility model accessibility, which should enable wider adoption of the rights. Further research in this space can also maximize state revenues from utility model filing fees. It can also help lawmakers by identifying when too much

[1] Janis 1999; Suthersanen 2006, 2019; Suthersanen and Dutfield 2007; Prud'homme 2014, 2017a.
[2] Prud'homme 2014; Radauer et al. 2015, 2019; Heikkilä and Lorenz 2018; Heikkilä 2023a; Heikkilä and Verba 2018.
[3] Suthersanen 2006, 2019; Prud'homme and von Zedtwitz 2018; Cahoy and Oswald 2021.
[4] Lee and Kim 2010; Kim et al. 2012.
[5] Prud'homme 2017b
[6] Prud'homme 2017a, b



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accessibility can incentivize too many low-quality utility models and thus hamper innovation.[7]

The purpose of this chapter is to evaluate the impacts of heterogeneities in the accessibility of utility models over time and in different economies (i.e., countries and regions) around the world. I do this by, first, briefly conceptualizing the core components of utility model accessibility: the height of the requirements governing the rights, the strictness of the requirements' administration, and associated direct fees. Then, I summarize work in progress of mine that quantitatively analyzes how differences in the accessibility of utility models over time across a sample of 25 economies impacts the frequency of filing utility models.[8] Then, drawing directly on other prior research of mine, I provide a more granular, qualitative analysis for a subset of these economies that highlights differences in the accessibility of utility model regimes and their reforms in response to utility model quality concerns.[9]

My research offers a few important lessons. First, there is evidence of an inverted U-curve between utility model regime accessibility and utility model usage: a moderate amount of accessibility may lead to more filings than a lot or a little accessibility – at least over time and multiple economies, ceteris paribus. Second, firms may substitute other means of appropriability for utility models when a utility model regime is less accessible and conventional patent regimes offer stronger rights. Third, utility model regimes may be made less accessible over time to limit quality problems with the rights, although the exact parameters of these reforms must be decided on an economy-by-economy basis.

## 21.1 ACCESSIBILITY OF UTILITY MODEL REGIMES

The accessibility of an IP right is determined by how difficult it is to obtain from the government and to maintain as valid.[10] This accessibility dimension of an IP legal regime joins, of course, the distinct set of rules establishing the length and breadth of IP rights, as well as the mechanisms for their enforcement – referred to in shorthand by the economics and management literature as the "strength" of IP institutions.[11] The comparative accessibility of utility model regimes make utility models easier, cheaper, and quicker to obtain from the government than conventional

[7] Prud'homme and Zhang 2019.

[8] Some of the text here is reproduced from Prud'homme, 2024 (a working paper), with permission.

[9] Some of the text here is reproduced from Prud'homme, 2016a, with permission.

[10] Lemley 2001; Prud'homme 2017a,b.

[11] Ginarte and Park 1997; Park 2008; Prud'homme 2019; Prud'homme et al. 2021; Prud'homme and Tong 2023. In Park 2008, e.g., patent breadth is represented by patentable subject matter; enforcement mechanisms available (e.g., preliminary injunctions, contributory infringement, burden of proof reversal); restrictions on usage or lack thereof (e.g., working requirements, compulsory licensing, revocation of patents); and a patent's length is measured by its duration from grant date considering patent-term restoration or lack thereof.

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patents.[12] Utility model regimes' accessibility is determined by several components: the height of the legal requirements governing the rights, strictness with which the rights' requirements are administered, and direct fees.

### 21.1.1 *Height of Legal Requirements Governing the Rights*

There are several subcomponents of the height of the legal requirements for utility models. The first is novelty. The strictest novelty threshold is absolute novelty, the next most restrictive threshold is relative novelty, and the least stringent threshold is local novelty. When novelty standards for utility models and conventional patents differ within economies, they are sometimes lower for utility models but still exist or, in some cases, are completely nonexistent in law.[13]

The next subcomponent is the legal requirements for inventive step. Inventive step for conventional patents is usually thought of as the "nonobviousness" of an invention to a person skilled in the relevant prior art, but exact definitions for utility models differ among economies.[14] Moreover, some economies' utility model systems have no inventive step requirements, while others have inventive step requirements but they are lower than for conventional patents, and some economies have the same inventive step requirements for both utility models and conventional patents.[15]

Yet other requirements can fit underneath the height umbrella. These include, for example, standards for sufficiency of disclosure and establishing industrial applicability of the invention. These may vary somewhat among economies.[16]

### 21.1.2 *Strictness of Requirements' Administration*

There are several subcomponents of the strictness of how requirements for utility models are administered. The first is the examination process. Generally, there are two types of utility model patent examinations: a Preliminary Examination and Substantive Examination. Preliminary Examinations often only check formalities, for example, the clarity and completeness of claims and descriptions in the utility model application. However, in some cases, they may include a limited assessment of some substantive aspects of the application. In contrast, Substantive Examinations are more in-depth, assessing the extent to which the utility model application satisfies the legal requirements for novelty, inventive step, industrial applicability, patentable subject matter, among other standards (e.g., sufficiency of disclosure). In some economies, a Search Report – an assessment of the prior art most directly related to a patent application – is used in addition to a Preliminary Examination or as part of a Substantive Examination. This report can be mandatory and considered as a basis to

[12] Prud'homme 2017b.
[13] Prud'homme 2014,2017a,b; Suthersanen 2006; Suthersanen and Dutfield 2007.
[14] Prud'homme 2014, 2017a,b.
[15] Prud'homme 2014, 2017a,b.
[16] Prud'homme 2014, 2017a,b.

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not grant the utility model, mandatory but not considered as a basis for not granting the right, or simply available upon request to the applicant and/or other interested parties and kept only for their own purposes. Although some economies only require Preliminary Examinations for utility models while requiring Substantive Examinations for conventional patents, others require Substantive Examinations for both types of rights.[17]

The second subcomponent is observations and related mechanisms. Economies have widely varying mechanisms to challenge the granting and validity of utility models. These can include an opposition mechanism, under which, during a certain period of time, third parties submit evidence to support the decision not to grant the utility model in the first place (pre-grant) or invalidate the right (post-grant). Although not always opposition mechanisms stricto sensu, various related mechanisms exist in different economies. Some economies have third party observation mechanisms under which third parties can submit information related to the patentability of a utility model, typically after publication but before grant; and this information may be "considered" to varying degrees, including not at all, by the patent office as a basis for not granting the utility model. Some economies have reexamination mechanisms, which can be ex parte or inter partes. Some economies have administrative revocation and invalidation mechanisms, which may or may not have time limits on when invalidation cases can be brought. Some economies have a combination of several of these mechanisms. Such mechanisms are similarly structured for utility models and conventional patents in some economies, although sometimes they are different for utility models, or do not exist at all.[18]

### 21.1.3 *Direct Fees*

The official government fees associated with satisfying the aforementioned requirements and obtaining and maintaining a valid utility model are another important aspect of the accessibility of utility model regimes. Utility models around the world usually have substantially lower costs to obtain and maintain than conventional patents owing to their lower and less strict legal requirements.[19]

## 21.2 QUANTITATIVE ANALYSIS OF IMPACT OF UTILITY MODEL REGIME ACCESSIBILITY ON UTILITY MODEL USAGE

In this section, I draw directly on work in progress of mine that examines the impact of utility model regime accessibility on utility model usage.[20] On one hand, I conceptualize IP institutions that are too accessible (in other words, too lax) as

[17] Prud'homme 2014, 2017a,b.
[18] Prud'homme 2014, 2017a,b.
[19] Prud'homme 2014.
[20] Prud'homme 2024.

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disincentivizing firms from using those institutions. Here, insufficiently high institutional requirements will attract IP filings of low economic value, while insufficiently strict institutional requirements will create excessive uncertainty about the legal value of those IP filings. Eventually, this will create a vicious cycle whereby, on average, the IP right obtained is of such low economic and legal value that it is not worth the costs, including transaction costs, to obtain and maintain it in the first place. On the other hand, I conceptualize IP institutions that are insufficiently accessible as disincentivizing firms from using those institutions. Here, more restrictive institutional requirements will raise the costs, including transaction costs, of obtaining and maintaining the IP right beyond its economic and legal value.[21] In short – holding the breadth and length of IP offered by the state, and the associated direct fees, constant – while institutional requirements must be high and strict enough to make IP net beneficial to applicants, those that are excessive will make IP net costly. I therefore predict (H1): *The accessibility of utility model regimes will have an inverted U-shaped relationship with utility model filings.*

I formulate another prediction as well. Prior economic research indicates that firms may substitute conventional patents for utility models over time.[22] However, this research does not examine how the institutional requirements governing utility models vs. conventional patents may play into this decision-making. Building upon my aforementioned hypothesis, I propose that utility model regimes that are insufficiently accessible (i.e., too restrictive) may incentivize firms to consider filing conventional patents instead. This is because conventional patent regimes can offer much greater appropriability length and breadth, and more feasible enforcement, for the inventions they protect when compared to the protections afforded by utility model regimes. For example, the duration of protection for utility models is only a fraction of that afforded by conventional patents, and utility models may only protect a more restricted set of product subject matter and often exclude processes entirely.[23] As such, when conventional patent regimes offer especially strong protection and utility model regimes are relatively inaccessible, the former should be even more attractive substitutes for the latter. I therefore predict (H2): *There will be fewer utility model filings in economies with both less accessible utility model regimes and conventional patent regimes that offer stronger rights.*

I test these two hypotheses on a sample of 25 economies with utility model regimes or equivalents. These economies include Argentina, Austria, Brazil, Bulgaria, China, Colombia, Costa Rica, the Czech Republic, Ecuador, Germany, Guatemala, Italy, Japan, Mexico, Panama, Peru, Philippines, Poland, Russia, Spain, Taiwan, Thailand, Turkey, Ukraine, and South Korea. These economies were

[21] van Pottelsberghe de la Potterie 2011; de Saint-Georges and van Pottelsberghe de la Potterie 2013.
[22] Lee and Kim 2010; Kim et al. 2012.
[23] Prud'homme 2014, 2017a,b.

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selected because they are major sources of economic activity in their respective regions, collectively account for the vast majority (99 percent) of utility model filings around the world,[24] and the laws governing their utility models (in English or their native languages) over time could be relatively confidently located.

The *dependent variable* for both hypotheses is the annual filings of utility models in each country in the sample (*UMs*). Utility model grants were also separately analyzed, and similar findings were reached. This data was collected from WIPO's IP Indicators database and from the official websites of the national IP offices. Since data prior to 1980 is highly spotty, as is newer data for some economies, I limited the sample to 1980–2014. This time period, nearly 40 years, is reasonable to evaluate the hypotheses. Also, most of the utility model institutions outside of Europe in my sample were first introduced in 1980 or later anyway.

*Independent variable:* For the first hypothesis, my independent variable is an index measuring the accessibility of utility model regimes in the sampled economies (*UM Accessibility Index*). The basis for the index is the laws, which I analyzed with support from a team of research assistants, governing utility models for each of the 25 economies in the sample from 1980 to 2014. Copies of the laws for each economy were obtained either from the official government websites of their IP offices or from the WIPO Lex Database. To construct my index from these laws, I build on the methodology developed and validated by Prud'homme (2017a). However, I simplify my index somewhat to minimize error in the scoring process – as interpreting the laws of some of the 25 economies across these sub-indicators was sometimes overly difficult due to their lack of clarity. Table 21.1 outlines the indicators and sub-indicators used. The index is reverse coded, such that higher scores reflect a less accessible utility model regime.

For hypothesis 2, the independent variable is the interaction between my *UM Accessibility Index* and Park's (2008) Patent Strength Index (*Park Patent Index*), data for which is available until 2015. The Park Patent Index proxies patent length and breadth from conventional patent regimes around the world.

I included several *control variables*. I constructed an index of the length (maximum duration of rights) and breadth (patentable subject matter) of the utility model regimes per country in the sample (*UM Length & Breadth Index*) from the same set of laws used for the *UM Accessibility Index*. A dummy variable was included to control for effects from utility model regimes being in place before the time period I analyzed, namely prior to 1980 (*Old UM Regime*). I further controlled for the *Park Patent Index*, *GDP*, *population*, *total factor productivity*, *conventional patent filings*, and *economy fixed effects* and *year fixed effects*.

In terms of estimation methods, for H1, following the methods in Haans et al. (2016), the independent variable was squared to estimate the inverted-curvilinear relationship. For H2, curvilinear estimates with moderation effects (Haans et al.

[24] See, e.g., WIPO 2023d.

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TABLE 21.1 *Indicators for UM accessibility index*[a]

| Indicator | Sub-indicators | Sub-indicator scoring | Sub-indicator weighting | Highest score possible |
|---|---|---|---|---|
| 1. *Novelty* | 1. Absolute novelty | 3 | 2 | 6 |
| | 2. Relative novelty | 2 | 2 | |
| | 3. Local novelty | 1 | 2 | |
| | 4. None | 0 | 2 | |
| 2. *Inventive step* | Requirement (of any kind) for utility models or not | 3 or 0 | 1.75 | 5.25 |
| 3. *Examination* | 1. Patentability of subject matter examined (in any way) or not | 3 or 1 | 0.1 | 3 |
| | 2. Industrial applicability examined (in any way) or not | 3 or 0 | 0.15 | |
| | 3. Novelty examined (in any way) or not | 3 | 0.3 | |
| | 4. Inventive step examined (in any way) or not | 3 | 0.45 | |
| 4. *Opposition and related mechanisms* | 1. Pre-grant mechanism (of any kind) or not | 3 or 0 | 0.4 | 3 |
| | 2. Post-grant mechanism (of any kind) or not | 3 or 0 | 0.6 | |

[a] *Source*: Prud'homme 2024.

2016) were used. In both estimations, the RHS variables were log-transformed and lagged by one year to avoid simultaneity with the dependent variable.

Figures 21.1 and 21.2 visually represent the results for H1 and H2, respectively. These figures and the full set of regression results, available upon request, provide robust, statistically significant support for both hypotheses.

## 21.3 QUALITATIVE ANALYSIS OF IMPACT OF UTILITY MODEL REGIME ACCESSIBILITY ON UTILITY MODEL QUALITY

In this section, I draw directly on prior work of mine to provide a qualitative comparative analysis of accessibility dimensions of the utility model regimes in a subset of economies studied in the prior section.[25] I focus on Austria, China, the Czech Republic, Finland, France, Germany, and Italy, but also briefly consider Belgium and the Netherlands. I organize the analysis within the three-part categorization of utility model regime accessibility set forth earlier. When apparent,

[25] Some of the text here is reproduced from Prud'homme 2016a, with permission.

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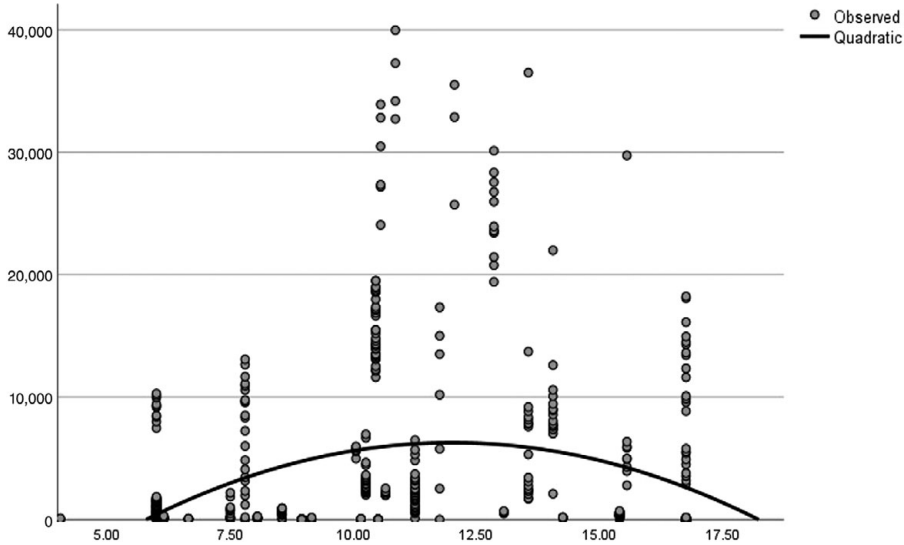



FIGURE 21.1 Impact of UM regime accessibility on UM filings around the world
*Source*: Prud'homme 2024. Sample of 25 economies from 1980 to 2014. Y axis = UM filings, X axis = UM Accessibility Index. Y axis observations over 40,000 (for China) removed from figure simply to allow easier visual interpretation; all results hold strong with and without these outliers.

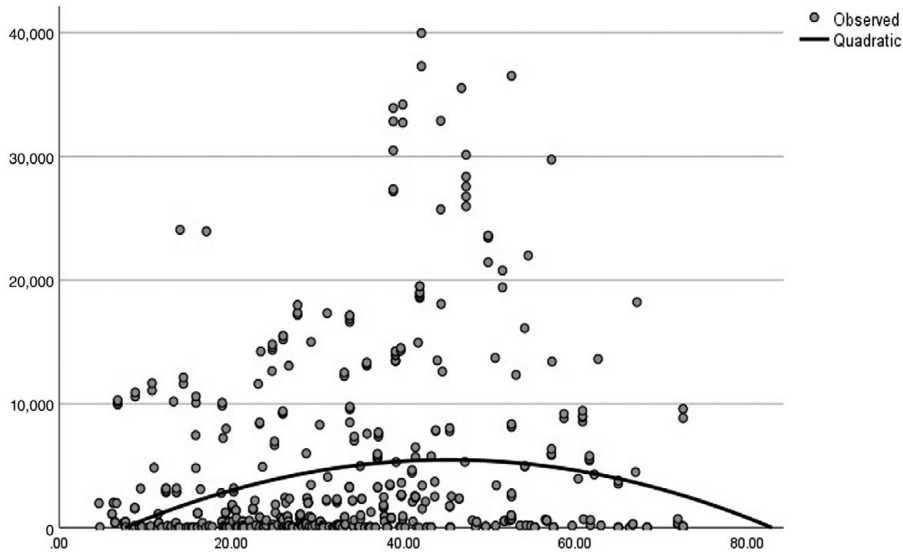



FIGURE 21.2 Joint impact of UM regime accessibility and conventional patent regime strength on UM filings around the world
*Source*: Prud'homme 2024. Sample of 25 economies from 1980 to 2014. Y axis = UM filings, X axis = UM Accessibility Index X Park Patent Index. Y axis observations over 40,000 (for China) removed from figure simply to allow easier visual interpretation; all results hold strong with and without these outliers.

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I emphasize situations where officials in the patent/utility model offices of these economies suspected that the accessibility of their utility model regimes was creating "quality" concerns and reformed their regimes in response. By "quality" of an IP right I broadly mean how well it is drafted, a definition often favored by IP attorneys; the extent to which it meets the legal standards for being granted, a definition often favored by legal scholars; and its technological and/or commercial worth, a definition often favored by economists.[26] As explained by Prud'homme and Zhang, the quality of all types of patents, utility models included, is important because:

> First, an economy rife with low-quality patents is dangerously self-reinforcing because in such an environment rational firms seek more low-quality patents rather than higher-quality patents … In other words, poor patent quality creates path-dependency on inventions that do not significantly contribute to innovation. Second, poor patent quality generates uncertainty, which leads to lower incentives to innovate, which stifles technological development, entrepreneurship, employment, and ultimately growth and consumer welfare … Third, poor patent quality can increase barriers to entry, i.e., more patents blocking freedom-to-operate (FTO), and raise IP-related transaction costs. These barriers and costs are faced when merely identifying the rights in order to maintain FTO; otherwise navigating licensing of the rights; proactively invalidating the rights to maintain FTO; invalidating the rights as a defense in (frivolous or other) infringement disputes; otherwise defending against the rights, if they are difficult to invalidate, in infringement litigation; and defending against the rights if used as a basis for invalidity cases.[27]

### 21.3.1 *Height of Legal Requirements Governing the Rights*

Among the economies studied, only Germany has relative novelty for utility models, whereas the other economies currently have an absolute novelty standard for utility models.[28] While Germany has maintained its novelty standard for some time now, the absolute novelty standard is inferably viewed by the other economies as useful to ensure utility model quality in an increasingly interconnected world.[29]

Some economies have the same *inventive step requirement for utility models* as for conventional patents. Evidence is mixed, however, as to if this is optimal for balancing utility model quality with incentives to seek utility models in the first place. The experience of Germany offers a natural experiment highlighting this trade-off. A 2006 decision from the German Supreme Court changed the prior way of interpreting inventive step for utility models as lower than for conventional patents to require that the inventive step requirement be the same for both

[26] Prud'homme and Zhang 2019, 53.
[27] Prud'homme and Zhang 2019, 54.
[28] DPMA 2014; Article 3, Austrian Utility Model Law (2009); Article 22, Patent Law of China (2008); Article 4, Czech Republic Utility Model Law (2006); Intellectual Property Code of France (2014), Article L611–11; Societa Italiana Brevetti, Intellectual Property Consultants, 2014.
[29] Prud'homme 2016a.

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rights.[30] While perhaps encouraging higher-quality utility models according to some scholar's conceptualization of the term, this decision was criticized by a range of experts based on legal grounds.[31] Also, the decision has been scrutinized on economic grounds given it appears to have discouraged filing of utility models by German entities at a time when filing for such rights could be helpful to improve their competitiveness.[32]

The other economies studied have varying approaches to inventive step requirements for utility models relative to conventional patents. France has consistently maintained the same inventive step requirement for utility certificates and conventional patents.[33] In 2006, the Austrian Supreme Court ruled that the inventive step threshold for utility models, conversely to what the German court ruled the same year, should continue to be lower for utility models than conventional patents; however, in practice, the inventive step for the two rights is assessed similarly.[34] China,[35] Finland,[36] and Italy[37] have lower inventive step thresholds in statute for utility models than conventional patents. The Czech Republic has lower inventive step thresholds in statute for utility models than conventional patents, although in practice the inventive step requirement is basically the same.[38]

Different economies use varying *methods to determine inventiveness* of utility models. China is unique among the economies studied as it has written examination guidelines recommending narrowing prior art to one or two pieces, as well as narrowing the number of technical fields considered, when assessing the inventive step of utility models in "normal" cases.[39] However, in practice, the patent offices in the Czech Republic[40] and Finland[41] also usually use no more than one or two pieces of prior art to determine the validity of a utility model – although there are no

[30] Decision of the Demonstrationsschrank, German Federal Supreme Court, X ZB 27/05, June 20, 2006. The German Utility Model Law (2013) stipulates utility models must have inventive step, but it does not provide a definition for inventiveness. In Article 4 of the German Patent Law (2013), inventiveness for patents is determined as being "not obvious to a person skilled in the art from the state of the art."

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

[32] Ibid.

[33] Article L611–14 of the Intellectual Property Code of France (2014).

[34] Decision of the Austrian Supreme Court, No. 4 Ob 3/06d, July 12, 2006; Written correspondence from Dr. Johannes Werner, APO, June 24, 2014. Note: the Austrian Utility Model Law (2009) and Austrian Patent Act (1994) treat inventiveness for utility models and invention patents in the same manner as the corresponding German laws do.

[35] Article 22 of the Patent Law of China (2008).

[36] Article 2 of the Finnish Utility Model Act (2013); Article 2 in the Finnish Patents Act (2013).

[37] Italian Industrial Property Code (2012), Article 82.1; Article 48 of the Italian Code of Industrial Property (2012); Written correspondence from Loredana Guglielmetti, IPTO, August 2014.

[38] Article 1 of Czech Republic's Utility Model Law (2006); Article 6 of the Czech Republic's Patent Act (2007); Consultations with Šimon Bednář, IPO CZ, May 21, 2014 roundtable.

[39] Part IV, chapter 6, Section 4(2), Patent Examination Guidelines of China (2013); Part IV, chapter 6, Section 4(1), Patent Examination Guidelines of China (2013).

[40] Consultations with Šimon Bednář, IPO CZ, May 21, 2014 roundtable.

[41] Written correspondence from Hanna Aho, PRH, June 2014.

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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 in which external technical experts can be involved.[42]

### 21.3.2 *Strictness of Requirements' Administration*

Requiring a *Search Report* prior to granting a utility model, even if not considered as a basis for not granting the application but simply presented alongside it, can be a useful method for ensuring the quality of utility models. This approach is mandatory in Austria.[43] The costs of such a procedure to patent examiners or externally contracted agents can be included in the fees for filing the utility model. 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 upon the applicants' 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 quality of the utility model.

All economies studied consider several formalities in their *Preliminary Examinations* of utility models. These include the clarity and completeness of claims and descriptions. In some economies, Preliminary Examinations also examine more substantive elements. Finland requires an assessment of industrial applicability of utility models in the Preliminary Examination stage.[44] China[45] and the Czech Republic[46] require assessing if utility models "obviously" lack industrial applicability. Preliminary Examinations of utility model applications in Austria,[47] the Czech Republic,[48] China,[49] Finland,[50] France,[51] and Italy[52] assess the patentability of subject matter therein in some form, in terms of obvious nonconformity or otherwise. Meanwhile, 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.[53]

[42] Prud'homme 2016a.
[43] Article 19 of Austria Utility Model Law (2009); Consultations with Dr. Johannes Werner, APO, May 21, 2014 roundtable.
[44] Written correspondence from Hanna Aho, PRH, September 17, 2014.
[45] Article 44, Implementation Regulations of Patent Law of China (2010).
[46] Article 11 (4) of the Utility Model Law of the Czech Republic (2006).
[47] Presentation by Dr. Johannes Werner, APO, May 21, 2014 roundtable.
[48] Article 11 (1) of the Utility Model Law of the Czech Republic (2006).
[49] Article 44, Implementation Regulations of Patent Law of China (2010).
[50] Written correspondence from Hanna Aho, PRH, September 17, 2014.
[51] Cabinent Beau de Lomenie 2014.
[52] Article 170 of the Italian Industrial Property Code (2012).
[53] Article 8 (1) of the German Utility Model Law (2013); Written correspondence from Dr. Johannes Holzer, DPMA, October 31, 2014.

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China is unique among the economies studied as the country's National Intellectual Property Administration (CNIPA)'s Preliminary Examination for utility models assesses if the invention in the application "obviously" lacks novelty[54] and, as of very recently, inventiveness.[55] These requirements appear useful to ensure the quality of utility models.[56]

None of the economies studied require a full *Substantive Examination* for utility models. The lack of this requirement is said to enable utility models to be granted much quicker and cheaper than conventional patents which undergo such an examination. (This being said, multiple economies around the world do require substantive examinations for utility models.[57]) Moreover, in the cases of the Netherlands and Belgium, lack of a substantive examination – or at least examination of novelty via a Search Report – appears to have created significant uncertainty in the equivalent of utility model regimes there by incentivizing the filing of low-quality rights. In fact, partially because of this, these economies ultimately abolished their utility models regimes in 2008 and 2009, respectively.[58]

The economies studied adopt different approaches to *third party observation mechanisms*. A third-party observation mechanism is used for utility certificates in France.[59] Third parties in Italy can submit petitions on utility models during the examination procedure, although they are not considered part of a formal third party mechanism nor do they serve as a basis for the Italian patent office to not grant a utility model.[60] In Austria, while there is no formal mechanism to collect third party observations, if third parties provide the Austrian Patent Office with their observations they will be considered prior to the publication of the Search Report.[61] These mechanisms can help ensure quality utility models are granted.

[54] Article 44, Implementation Regulations of Patent Law of China (2010); SIPO's Decision on Amending the Patent Examination Guidelines (September 16, 2013). This 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.

[55] Part I, chapter 2, Section 11, CNIPA's Patent Examination Guidelines (December 21, 2023).

[56] China, in particular, also offers "Patent Evaluation Reports," which 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. However, this report should not be confused with a Search Report, Preliminary Examination, or Substantive Examination, nor does it constitute an administrative decision from the patent office (Prud'homme 2014, 2016b).

[57] For example, according to DIPP (2011), the Andean Community, Argentina, Brazil, Bulgaria, Chile, Guatemala, Indonesia, Malaysia, Mexico, Philippines, Poland, Portugal, South Korea, Thailand, and Vietnam require Substantive Examinations before grating utility models.

[58] Written correspondence from D. J. de Groot, Director of the Netherlands Patent Office, August 22, 2014.

[59] Article L612–13 3° Industrial Property Code of France (2014).

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

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

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The economies studied institute different utility model *invalidation procedures*. Some invalidation cases go directly to courts without involvement of patent offices, as in France and Italy. In the other economies studied, their patent offices serve as at least a first instance reviewer in a procedure that can then be appealed to the courts. As it is not straightforward to determine from available evidence, it is beyond the scope of this article to assess which of these two approaches are better for utility model quality.

### 21.3.3 *Direct Fees*

Relatively low *official fees* are another classic component of the utility model regime, at least costs lower than those associated with conventional patents. This differential reflects the often less-substantive nature of the examination process for utility models when compared to conventional patents. Also, the lower costs are meant to be one mechanism to enable small-scale inventors, who typically have limited money to protect their inventions, to obtain IP protection. Among the economies studied in this chapter, the nonsubsidized/otherwise preferentially reduced official costs associated with utility models are the lowest in the Czech Republic. This is one main reason cited by the Czech IP Office for the attractiveness of the utility model system to inventors in that economy.[62]

Some economies offer *special reductions and subsidization of official filing fees and other expenses* associated with utility models. This does not necessarily create problems for utility model quality. For example, available evidence shows that subsidies for intellectual property rights in Italy – which, when distributed by provincial and local level entities, can go to utility models – do not appear to significantly hurt patent quality; however, they also do not appear to do much to improve patent quality.[63] However, in the case of China, some provincial/municipal and local subsidies and state-provided financial awards for utility models appear to have led to a surge in low-quality utility models.[64] In reaction to this, China's CNIPA has continued to work with IP bureaus and other departments across the country to modify and restrict such incentive schemes.[65] The more significant size and widespread use of state-provided monetary patent incentives in China vs. in European economies, amongst other factors, likely explains the especially negative utility model quality in China.[66]

[62] Written correspondence from Šimon Bednář, IPO CZ, May 2014.
[63] Xu and Munari 2016.
[64] Prud'homme 2012, 2014, 2015a,b, 2016a,b, 2017a,b, 2025; Long and Wang 2016; Prud'homme and Zhang 2019.
[65] Prud'homme 2012, 2014, 2015a,b, 2016a,b, 2017a,b, 2025; Long and Wang 2016; Prud'homme and Zhang 2019.
[66] Prud'homme 2016b.

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In summary, utility model regimes need not be homogeneously accessible. However, sometimes, regimes that are too accessible need to be reformed to safeguard against significant utility model quality problems. This is illustrated by China's experiences with significant state financial incentives for utility model fees alongside low and not strictly administered requirements for obtaining utility models, which stimulated low-quality utility models. The importance of carefully calibrating utility model regimes to safeguard the quality of corresponding rights is also illustrated by the low and not strictly administered requirements for obtaining the equivalent of utility models in Belgium and the Netherlands, which contributed to the abolishment of the regimes governing those rights altogether. In short, utility model regimes may be made less accessible over time to limit quality problems with the rights, although the exact parameters of these reforms need to be decided on an economy-by-economy basis.

## 21.4 CONCLUSIONS

This chapter examined the impacts of heterogeneities of utility model accessibility over time and around the world. I provided evidence of an inverted U-curve between utility model regime accessibility and utility model usage. I also showed that firms may substitute other means of appropriability for utility models when a utility model regime is less accessible and conventional patent regimes offer stronger rights. Lastly, I showed that utility model regimes may be made less accessible over time to limit quality problems with the rights, although the exact parameters of these reforms must be decided on an economy-by-economy basis.

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