

Utility Models and Innovation in Low-Income Economies

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Poor countries may find [IPRs] useful provided they are accommodated to suit local palates. The Commission suggests that the appropriate diet for each developing country needs to be decided on the basis of what is best for its development, and that the international community and governments in all countries should take decisions with that in mind.

— Sir Hugh Laddie

This chapter explores the following theoretical extrapolations which are grounded from previous research findings in this area.¹ Based on the historical and existing literature review, it appears that utility model (UM) law has been defined and rationalized in various ways. And yet, UM laws can subsist as an independent (*sui generis*) regime within the IP pantheon of rights, untethered to international rules or global norms (save for procedural rules such as priority rules). As the law has pluralistic justificatory bases, and absent strict international rules, policy makers are free to choose existing rationales and/or expand the justifications for UM laws which best suit the local conditions. National UM laws can be sculpted to suit *any* local socio-economic interest or need.

Can UM law therefore be harnessed to plug existing gaps in protection for innovative practices outside the capitalist economy, including indigenous, traditional and/or community-based innovative practices? This endogenous growth approach would perhaps allow some countries to be guided by the diverse economy school of thought – whereby all types of innovations, initiatives and investments (including non-capitalist yet valued practices) can be nurtured through tailored property rights, or non-property-related remuneration schemes.

¹ Cummings 2010, 303; Prud'homme 2017a; Suthersanen 2019. For older studies in this area: Janis 1999; Suthersanen 2001, 2006; Suthersanen and Dutfield 2007.

22.1 THE UNEASY DISCOURSE: PATENTS, HYBRIDS AND INNOVATION

The quote at the start of this chapter derives from a 2002 report which analysed the capacity of intellectual property rules [IPRs] to develop in such a manner as to take greater account of the interests of developing countries and poor people.² One recommendation was that lawmakers in developing countries should introduce a system of utility models to foster “domestic innovation” as well as incremental innovation. The Report acknowledged the fact that parties in many low-income developing countries filed very few patent applications despite the presence of innovative activity; the problem was assigned to the defects within patent law, namely high transaction costs in terms of fees, examination and grant timelines, high thresholds and overall institutional complexity.³

The “patent defects” argument is the traditional basis for three further inter-related rationales for UM systems: (i) a flexible hybrid right to ameliorate patent law defects, (ii) an IPR tool for small inventors/small and medium-sized enterprises (SMEs) to prevent free riding/imitative copying in important small and local industries, (iii) an IPR that acts as a spur to enhanced levels of innovation and technological catch-up and/or for improving the environment of developing countries.⁴ Juma sets out a further justification for UMs in that they “may become a source of data on innovative activity and experience in technological management”.⁵

The “patents promote innovation” refrain runs strongly in many other discourses on extending protection to new types of subject matter. Take, for instance, the 2021 Australian decision on the patentability of AI-generated inventions where the first tribunal determined that the meaning of “inventor” (and thus patent protection) should be extended to AI systems. Why? Because the policy objective of the Australian Patents Act 1990 was to promote

technological innovation and the publication and dissemination of such innovation by rewarding it, irrespective of whether the innovation is made by a human or not.⁶

This line of reasoning (especially in relation to a no-examination and low-threshold UM system) leads to further assumptions as to how a comprehensive and extensive IPRs-framework benefits local economies: it encourages local innovations within indigenous cottage industries, it prevents the free-riding of minor or

² UK Report of the Commission on Intellectual Property Rights 2002, vi. The genesis of this report was the UK Government’s optimistic White Paper – see *Eliminating World Poverty: Making Globalisation Work for the Poor*, Stationery Office 2000, 98.

³ *Ibid.*, 134–136.

⁴ Janis 1999; Heikkilä 2023a.

⁵ Juma 1989, 231–232.

⁶ *Thaler v. Commissioner of Patents* (2021) FCA 879 at [124], relying on s2A of the Australian Patents Act (Cth) 1990. The decision was subsequently reversed by the Australian Federal Court in *Commissioner of Patents v. Thaler*, [2022] FCAFC 62.

cumulative innovations, and it improves the legal and investment environment of developing countries, which in turn boosts local R&D needed to turn inventions into marketable innovations.⁷

Two queries come immediately to mind. First, is there empirical evidence that existing UM systems encourage the innovation practice and environment? We deal with this in Section 22.2. However, a secondary query which is dealt with immediately below is: if lower patent thresholds can boost minor or cumulative innovation, why not just adopt lower patent thresholds?

22.1.1 *Cumulative and Incremental Innovation: Lower Thresholds and Policy Limits*

Innovation as a concept lies on a spectrum ranging from Arrow's sweeping conception (innovation is the production of information) to Schumpeter's broad definition.⁸ Irrespective of the development and technological stage of the country or the company concerned – a lot of “innovation” is incremental and cumulative. This is equally true of both industrial and cultural innovation.⁹ One of the key implications of that is the creation of new works requires access to and use of pre-existing data and works. So, lowering thresholds within patent (and even design) laws would be a useful policy if it extends to reward cumulative or minor innovation in ways that do not impose high transaction costs on follow-on innovations.

But such low thresholds, whilst benefitting the innovators of today, may hinder the innovation of tomorrow. Good policy dictates that all innovations cannot be categorized as legally patentable inventions. Moreover, if patent protection is structured in such a manner as to unduly require the sacrifice of scarce resources, any societal benefits and economic rent accruing from patent law would be dissipated. These arguments also explain (i) the high levels of novelty and inventiveness (theoretically) required, (ii) the range of limitations and exclusions in national IP laws to ensure that commonplace, obvious or mere workshop inventions and works are not protected,¹⁰ and (iii) the lack of global consensus as to the eligibility of

⁷ Radauer et al. 2019.

⁸ Arrow 1962; Schumpeter 1934, 66.

⁹ Scotchmer 1999; Cohen and Lemley 2001, 5 (the software industry “is characterized by rapid sequential innovation”); also Merges and Nelson 1990, 880–881, citing examples in the toy and consumer product industry. Part of this argument derives from Dutfield and Suthersanen 2004.

¹⁰ In relation to commonplace works or functional features or basic building blocks of creativity, IP law has devised a myriad of doctrines including the idea-expression principle, the functionality doctrines within copyright, design and trademark laws, and abstract subject matter. See, e.g., the United States Copyright Act – 17 USC § 102(b); for the international position, note Article 9(2) of the TRIPS Agreement and Article 2 of WIPO Copyright Treaty.

patentable subject matter such as computer programs, methods, genetic materials or inventions contrary to “morality and *ordre public*”?¹¹

Instead of lowering eligibility thresholds, the other historical solution is to either introduce a liability-rule-based system such as a statute-based tort or misappropriation law, or a hybrid property rights system. We will consider these next.

22.1.2 Revised Rationale for UMs

As I suggested above, the “IPRs promote innovation” mantra is not new and runs throughout the IP literature; and one can detect its influence when the discourse shifts to justifying new hybrid IPR systems in different contexts including fashion, design and plant variety rights.¹² And indeed, historically, local Procrustean solutions were the ideal means to overcome patent law defects. The solutions could accommodate “forbidden” subject matter, bypass inconvenient policy rules and remove procedural thresholds such as examination or even registration. Existing laws can be re-purposed and extended; or new *sui generis* rights can be created which emulate existing rights and rationales. Or liability-rule-based systems can be employed to introduce new tort actions.¹³ These systems could operate in place of patents or copyright, or could alternatively operate in parallel, so that patents and copyright could then be used only for those inventions and creative works displaying a demonstrably high inventive step or level of creativity. In this manner, all sorts of new subject matter can be accommodated within any national IPR framework as ostensibly new *sui generis* regimes (or liability rule systems) can subsist.

The policy criticisms against such hybrid rights are varied. But they can be reduced to a single contention: by constructing a loose hybrid misappropriation or property regime, the traditional IPR system is in danger of being captured by the wrong parties and of being ignored by the “chosen” stakeholders. In the case of UMs, the targeted party usually includes local SMEs or the sole, indigenous innovator. On the other hand, hybrid rights may well be the best way to do so due to the inherent flexibilities in such systems; note such flexibilities within IP law in relation to non-creative databases, test data exclusivity, plant variety and plant patent rights, AI-derived and computer-generated works, and geographical indications.¹⁴

So perhaps a better rationale for hybrid rights is that property rights may be a necessary allocation to underwrite/support risk-laden, investment-driven knowledge

¹¹ Saw 2016. For attempts to align the US position with that of the European Patent Office, see Lefstin et al. 2018. For the international and European position, see Article 27(2) of TRIPS Agreement and Article 53(a) European Patent Convention.

¹² Reichman 1994; Suthersanen 2013.

¹³ Reichman 2000, 1771 et seq; Cornish 1993, 54–55.

¹⁴ Bonadio and Goold 2023: the various chapters in the book rationalise these subject matters (and more) on a broad basis – a thing of value should/will become property, irrespective of consequentialist reasoning.

activities and results. This chapter employs this revised rationale to explain why UMs can play a role in a country's local innovative system. As Cahoy and Oswald argue, UMs are "purely economic rights and are offered in countries at very different levels of development".¹⁵

22.1.3 *UMs as Development Tools*

A final consideration is in relation to the many studies which have emphasized the role of UMs as a catch-up and developmental tool in different contexts.¹⁶ Thus, Maskus and McDaniel report that technology diffusion through UM applications had had a positive impact on Japan's post-war productivity growth. Importantly, UM applications had an indirect impact on patent applications. They opine that this perhaps reflects a more fundamental industrial invention, through their stimulation of follow-on utility model applications, which were quickly diffused into commercial use.¹⁷

A more recent empirical study by Kim et al. affirms this general conclusion in a more concise manner. According to them, UM protection allows developing economies to build up their "indigenous innovative capacities".¹⁸ Moreover, within such developing economies, the study found that UMs contributed specifically to technologically lagging firms.

Once firms become more technologically advanced, their performance is driven less by utility model innovations and more by patentable innovations. These results thus indicate that different types of intellectual property rights are more appropriate for countries at different stages of economic development. [...] Incremental, adaptive R&D leads to innovations that qualify for such utility model protection and provides a foundation upon which to eventually produce patentable innovations.¹⁹

This finding appears to lend credence to one of the rationales of UM in that it can enhance the capacity of SMEs/sole innovators to produce (future) patentable inventions – this is discussed further in Section 22.2.2.

Kim et al. conclude that developing countries need to construct the sort of IPR framework which is appropriate for their economic and development level; and that UM protection "can be an important factor affecting the production of patentable innovations *only* in middle-to-low income countries". (emphasis added).²⁰ A more recent 2020 study for the Asian Development Bank confirms this – at least from the

¹⁵ Cahoy and Oswald 2021, 548. See also Chapter 18.

¹⁶ Prud'homme 2017a; Juma 1989, 231–232; Maskus and McDaniel 1999; Boztosun 2010.

¹⁷ Maskus and McDaniel 1999.

¹⁸ Kim et al. 2012.

¹⁹ Kim et al. 2012, 359.

²⁰ Kim et al. 2012, 367.

Korean perspective. Depending on the development stage of a firm (or country), the innovation policy should shift between the different forms of IPRs: early stages of development were associated with UMs while catch-up stages required trademark and design, and the globalization stage required patents.²¹ Other studies have also alluded to the holistic IPR framework by noting that technologically strong and developed economies distrust an “easy” system and switch to the more rigorous patent regime, as their concerns shift to market-based competitiveness, the need to attract foreign direct investment, and the use of the utility model system by foreign companies (as in Australia and Japan²²).

The lesson for developing countries is to seriously consider introducing UMs into their IPR framework. But a lot of initial discourses must be had. And such countries should be realistic and view IPRs as mere tools for economic advancement that contribute to the enrichment of society. If it does not do this, then dump the policy.

What of developed nations? The reasoning appears to be linked again to the economic and innovative environment of the country in question. The 2013 Australian economic review confirmed that the economic effect of UMs decreases with the rise of technological capacity in industries (see Chapter 9 on the Australian system); however, the report also concluded that the continued use of UMs in Japan, Germany, France and Italy (see Chapters 11, 6, 5 and 7, respectively) suggests that these instruments may have a role in innovation and economic growth even in developed economies.²³

22.2 MAPPING A SUI GENERIS UM SYSTEM

The proliferation and diversity of UM laws globally is intriguing. There is no harmonized legal understanding nor pattern to UM protection under international law, with the different agreements being silent as to the nature and extent of the second-tier patent/UM right.²⁴ However, despite the recalcitrance of substantive international law to engage with UMs, these rights are recognized within the

²¹ Lee et al. 2019, 2, 31–32.

²² There is much literature on this: Odagiri et al. 2010, 1–28; Kardam 2007; Kim et al. 2012.

²³ Zeitsch 2013.

²⁴ Suthersanen 2019; Cahoy and Oswald 2021, 527; Bodenhausen 1969, 29. For legislative ambivalence, see Art. 2 Patent Cooperation Treaty (references to applications covers patents for inventions, inventors’ certificates of addition, and utility certificates of addition); Art. 2 Agreement for the International Patent Classification 1971 (the IPC refers to patents for invention, inventors’ certificates, utility models and utility certificates); Art. 1(2), Paris Convention for the Protection of Industrial Property of 20 March 1883 (1967, Stockholm revision); Arts 1(2) and 2(1), TRIPS Agreement, Annex 1C of the WTO Agreement, 15 April 1994 (The TRIPS Agreement, in incorporating salient Paris Convention provisions, extends the WTO-based IP umbrella to UMs; but the Agreement fails to establish any other international benchmark for this IP right).

intellectual property chapters of free trade agreements²⁵ or as investment assets under international investment agreements.²⁶ More than 100 countries have laws referencing second-tier patent protection resembling UM protection in some form or another.²⁷ Heikkilä's analysis shows the following regional percentages of countries with a two-tiered patent system: 58% of EPO member states, 45% of ARIPO members and 60% of ASEAN members.²⁸

The studies show that developing economies can have mixed results due to changing national policies: on the one hand, UM and patent laws are transplanted from other more mature legal regimes, and then countries are faced with the task of transforming such laws to meet evolving local needs of the recipient country. Thus, patent regimes have been weakened in certain countries in order to shift low-income economies into the middle-income stages.²⁹ As one study concluded, national IPR policy should be holistically implemented in relation to how the IPR ecosystem works with the different development stages. Thus, in relation to Korean firms, the finding was that national policies should cater for different levels and different forms of IPRs for different development stages: from UMs at an earlier stage to designs in export-oriented sectors or trademarks in domestic market-oriented sectors, and finally to patents at the later development stages.³⁰

Using existing laws as a base template, developing countries are thus free to formulate or reject UM protection as they see fit. And should a country introduce such a regime, it can emulate existing regimes or build a bespoke system which is exclusively adapted to local socio-economic conditions and infrastructure subject to mutual reciprocity rules.³¹

22.2.1 *Narrow, Short and Non-registered?*³²

The next step would be to consider the undesirable consequences of introducing a UM right which is too broad in terms of eligible subject matter, duration and scope

²⁵ EU – CARIFORUM European Partnership Agreement and the Japan-Indonesia Economic Partnership Agreement; see generally Grosse Ruse-Khan 2012.

²⁶ Germany – Pakistan Bilateral Investment Agreement 2009; Japan-Indonesia Economic Partnership Agreement 2007; German Model Bilateral Investment Treaty 2005. See Grosse Ruse-Khan 2015, 14–15; Liberti 2010.

²⁷ WIPO 2023d.

²⁸ Heikkilä 2023a, 2.

²⁹ Prud'homme 2017a cites many empirical studies; of note is that by Maskus and Penubarti 1995.

³⁰ Lee et al. 2019, 2, 31–32. See also Chapter 12 (Korea).

³¹ Paris Convention, Arts 4(E)(1), 4(E)(2), Art. 5A, Arts. 5D and 11. It should be noted that Paris Union countries cannot discriminate against a foreign rights holders in terms of recognition and enforcement of such utility models pursuant to the generally applicable national treatment obligation. Reciprocal national treatment will also apply for select international principles including the right of priority, the importation and forfeiture clauses, and the compulsory licensing arrangements.

³² This section is based on a longer discussion published as: Suthersanen 2019, 2–24.

of protection. Such concerns can include: excessive protection of innovations leading to an increase in wasteful claims and litigation; increased rent-seeking behaviour re-directing funding away from innovation or marketing to obtaining more rights via UM; over-utilization by foreign companies accompanied by under-utilization by local firms, leading to an increased outward flow of royalties and licensing fees; using UM system to cordon off research areas.

I would suggest, however, that the most fundamental questions to determine are:

Subject matter: Developing countries, in particular, should be cautious in broadening protection to cover all types of innovations – irrespective of whether they are minor and low-cost innovations, or whether they involve complex and cutting edge technologies such as biological and pharmaceutical products.³³ Previous experiences show that a generous UM regime will attract larger market players who use the UM regime as a means of circumventing the more stringent criteria under the patent system, and overuse the system in ways that make it hard for SMEs to compete.³⁴ Conversely, some of the UM laws are confined to protecting three-dimensional functional or technical designs and innovations, the term of protection is to a short 3–5 year duration, a local novelty threshold is adopted, and the scope of protection is limited to five or fewer claims.

Patent-type registration: Another consideration is whether developing countries should adopt a registration-based system? Especially one which emulates existing patent regimes, and its accompanying procedural formalities and costs? For example, the Australian Government's report noted that one of the illusory benefits of the "innovation patent" regime was that the upfront and maintenance costs for innovation and standard patents were similar.³⁵ From the German perspective, it is apparent that imposing identical application structures on both standard patents and UMs (i.e. claims, description and drawings) results in incurring the same costs in the form of the trained patent agent. "The idea that a utility model application needs less care and competence than a patent application can have fatal consequences especially for sole inventors".³⁶ And surely a quick, automatic right would solve the needs of SMEs to obtain quick injunctive relief against copying?

³³ Thus, the draft EU utility model proposal excluded biological or pharmaceutical inventions on two grounds: such subject matter calls for lengthy preparation before being placed on the market and should therefore be given patent protection that lasts longer than UM protection; and that these sectors are complex areas in which property rights involving no examination as to novelty or inventive step are out of place.

³⁴ See Chapter 10 (Australia).

³⁵ Productivity Commission (Australia) 2016, 248–258.

³⁶ Königer 2017.

Hybrid design/UK right: An alternative way to protect cumulative or minor innovation would be to introduce a hybrid IPR fashioned on both industrial design and UM principle – such as the United Kingdom-type unregistered design right which extends to protecting functional shapes.³⁷ Historically, this is rather similar to first second-tier patent systems in the world. Both the British and German laws incorporated elements that would ordinarily constitute functional or utilitarian designs or objectives with spatial forms.³⁸

22.2.2 *For Whom? Local Industries and SMEs*

Who are the ultimate beneficiaries of UM laws? It may be that this will be dependent on the innovative capacity of each country, which in turn will depend on the industrial sector in focus. As this author and others have previously highlighted, a key argument for UMs is the ability of such second-tier laws to prevent free-riding and imitative copying. This is more so in relation to certain types of product sectors which are concerned, not so much with revolutionary technological breakthroughs, but more so with incremental or improvement innovation. And that it is quite likely that individuals or SMEs have a large presence in such industries where minor innovation is the norm, and unfair copying is rife.

Prud'homme, for example, notes several studies showing how UMs have had a significant effect on the labour productivity in China, with some benefit accruing directly to individual inventors and SMEs.³⁹ Similar reasons were also offered by the European Commission when it initially proposed the (unsuccessful) draft UM directive. In addition to highlighting certain local European industries in need of further protection, the Commission had highlighted the failure of patent law to protect minor innovations from SMEs.⁴⁰ The contrary narrative stems from Australia where a 2015 report noted that it was “unable to obtain adequate empirical evidence as to whether the system does or does not stimulate innovation” in Australian SMEs; a year later, the Australian Government's Productivity report concluded that the UM system had failed to be a strategic tool to help SMEs.⁴¹ More recent surveys note that it is the larger firms with more resources and IPR know-how who have utilized UMs as complementary instruments.⁴²

³⁷ Ss. 213 et seq., United Kingdom Copyright, Designs and Patents Act 1988. The UK sui generis unregistered design right protects functional three-dimensional shapes, using much lower criteria. See also Chapter 3 (UK).

³⁸ The 1843 UK Utility Designs Act; 1891 German Act on Utility Models. Bently and Sherman 1997; Janis 1999, 156; Suthersanen 2006; Königer 2017.

³⁹ Prud'homme 2017a, citing several empirical studies from 2002 to 2011. See also Chapter 17.

⁴⁰ European Commission 1995.

⁴¹ Australian Government's Advisory Council on Intellectual Property 2015, 28; Johnson et al. 2015; Australian Government Productivity Commission 2016.

⁴² For sceptics of the SME/sole innovator argument, see Radauer et al. 2019.

There are grumbles even under the much-lauded German UM system, with one commentator going as far as to suggest – as I do above – why not just change patent law and thus render UMs redundant?

Since the utility model is not examined by the Patent Office, the competitors are forced to examine the validity of the claims. These costs can be especially high for small and medium-sized companies (SMEs) which are not used to such examinations and need more advice. Thus, in many cases, SMEs are not the beneficiaries of the fact that the utility model is not examined, but the victims.⁴³

22.3 VALUING “REAL INNOVATION” IN DEVELOPING COUNTRIES: SDGS AND THE “DIVERSE ECONOMIES” PARADIGM

IPRs ostensibly exist to benefit society. But this does not tell us much about the ends they are meant to serve nor how these ends ought to be achieved. Much of the literature and discourse revolve around the elusive and almost undefinable concept of “innovation” (or *minor* innovation).

“Innovative” countries which have national utility model regimes include Japan, China, Republic of Korea and Germany.⁴⁴ Conversely, other top “innovative” countries which have not embraced a national utility model regime, and which may or may not have similar economic histories or current innovative practices, include Switzerland, the United States, the United Kingdom, Singapore, Sweden and Canada.⁴⁵

22.3.1 *Registrations Reflect Local Context*

A recurring challenge is to resolve the conflicting picture that emerges from various empirical studies: some countries respond to the existence of a UM system, whilst others barely use it. The discourse in Section 22.2 reflects particularly pertinent considerations when we look at the global statistics issued by WIPO from 2019 to 2023.

With the major exceptions of China, Germany, Japan, Korea, Russia and Ukraine, UMs have not been well exploited in many of these countries. The standard patent protection system has been used more extensively and – apart from China – only a handful of UMs have been filed in those countries offering UM

⁴³ Königler 2017.

⁴⁴ For instance, the Global Innovation Index (GII) Database compiled by WIPO for 2023 rank these countries as follows: Germany (8), Korea (10), China (12), Japan (13).

⁴⁵ As classified by the GII Database 2023: Switzerland (1), Sweden (2), the United States (3), the United Kingdom (4), Singapore (5) and Canada (15).

protection.⁴⁶ Heikkilä's work shows that for each of the 40 years preceding 2020, UM filings at the patent offices of China, Japan, the Republic of Korea and Germany accounted for about 90 per cent or more of all global utility model filings.⁴⁷ If we focus solely at the global filings in 2023, we get an impressive figure of 3 million plus filings for UMs as opposed to 3.5 million for patents, and 1.5 million for industrial designs.⁴⁸ But 2.95 million filings originated in a single country – China. The second top country in terms of filing is Germany recording a very modest filing number at 9469.⁴⁹

If we turn to look at other regions, the registration figures remain low. For example, the 2022 ASEAN region statistics show the following approximations:⁵⁰

Indonesia – 3,200
 Thailand – 3,700
 Malaysia – 200 plus
 Cambodia – 13 (in 2018 registrations)
 Philippines – 1,800 plus
 Vietnam – 340

It is also difficult to reconcile the development ethos with the low registration rate in some African states which come under the Harare Protocol.⁵¹ On the one hand, the UM system is treated as being a success in Kenya since (i) there has been a continuous increase in the UM application rate annually, and (ii) more than 90 per cent of UM applications were made by local entities. However, the actual numbers remain low: prior to 2015 when substantive examination was carried out on UMs, the success rate was as follows: out of 450 UM applications, 85 were registered (18.8 per cent success rate).⁵²

However, what do these statistics reveal other than registration is not a preferred mode by sole or small entities? Do the registration figures for China indicate high innovative capacity or is it due to China's distinctive national innovation policy which embraces, *inter alia*, innovation parks, IPRs pledge loans, compulsory

⁴⁶ Harrison 2023, 128. Harrison interestingly correlates the growth of UM systems in Central and Eastern European countries from the fall of the Soviet Union and the establishment of the market economy. And it may be that many of the former Soviet Bloc countries felt the need to implement a low-cost IPR for the encouragement and protection of local industry. But Harrison notes that the Eastern European systems were set up with the help of the German Patent and Trade Mark Office.

⁴⁷ Heikkilä 2023a.

⁴⁸ WIPO IP Facts and Figures, www.wipo.int/en/ipfactsandfigures/patents

⁴⁹ www3.wipo.int/ipstats/key-search/search-result?type=KEY&key=231

⁵⁰ WIPO IP Statistics.

⁵¹ Harare Protocol on Patents and Industrial Designs within the Framework of the African Regional Intellectual Property Organization (1982).

⁵² Mboya 2018.

licences and talent plans?⁵³ And to what extent do registration statistics indicate the local innovative environment or show that UM systems encourage domestic innovation?

22.3.2 *Determining “Local Innovation”*

Many economists, by focussing on Schumpeter’s narrow usage of innovation, see innovation as something which introduces new technology to the market.⁵⁴ This tends to view innovation as something inextricably linked to patent systems, and usually as extractive and capitalist commodities – discussed further in Section 22.3.3.

However, as Scherer points out, innovation does occur in cultural spheres such as music performance and composition, film making and book writing.⁵⁵ Innovation must be understood in the broader Schumpeterian sense: the usage of information in the creation of scientific and cultural goods. A correlated view is that most innovations, as opposed to groundbreaking and dramatic inventions, are routine and primarily devoted to product improvement or enhanced user-friendliness or searches for new uses for those products.⁵⁶

In sum, innovation is a complex process intertwined with factors such as the strength of the knowledge base, institutional arrangements, qualifications of the labour force, openness of the economy and an overall ability to take on board improvements achieved in other countries or sectors.⁵⁷

It may be more helpful to treat IP systems holistically and also as public policy regulatory institutions. Institutions that evolve over time and operate in diverse ways according to the local innovation and economic contexts. Therefore, the same UM system may be appropriate and functional in one context (e.g. under China’s national innovation policy) but inappropriate and dysfunctional in another (e.g. the Australian example). It can be difficult to predict how well such an institution transplanted to a completely different cultural, political or economic milieu will work in practice. And history offers some clear and important indicators. Take the case of Germany where UMs were introduced when the changing economic and industrial policies and landscape generated a perfect incubator for the newly coherent and unified industrial property policy, in the German free trade area in the late

⁵³ “Talent plans” (offering financial rewards, housing benefits, etc. to overseas Chinese expats) – see Shao 2014. See also Chapter 10 (China).

⁵⁴ Note Merges’ very narrow perspective: “An innovation is the ‘debugged’ and functional version of the invention: the version first offered for sale”. Merges 1988, 807, 845 *cf* 851. See also Nelson and Winter 1982, 263.

⁵⁵ Scherer 2001, 12.

⁵⁶ Baumol 2002, 22.

⁵⁷ Dutfield and Suthersanen 2004.

nineteenth century. And with Germany industrialising rapidly, the anti-monopoly and anti-patent movements were collapsing.

22.3.3 *Observing and Valuing “Real Innovation”: Diverse Economies:
An Inventory of Local Entrepreneurship*

Part of the problem with any UM study is, I believe, the approach which accepts the categorization of UMs as “industrial property” under the Paris Convention. This leads to the logical extension of perceiving UMs as a subaltern second-tier regime, as an off-shoot of the “parent first-tier” patent regime, and as being a registered right. This is curious when one argument for UMs is the “flexibility” inherent in international IP and the flexibility that most nations presume when designing bespoke utility model laws.⁵⁸ It is arguable that the true test of the flexibility of UM systems would be to escape the strict IP typology and if UMs can be re-fashioned so as to protect “local innovation” in a broader and more meaningful fashion. The optimal way forward would be to (i) identify with precision the innovation culture within the country, thus optimizing the entire IPR framework needed, (ii) identify which cottage or fledgling industries are to be encouraged, thus tailoring the subject matter of protection to such industries, and (iii) map the different stages of development within that country for those specific industries.

I suggest that this sort of analysis, which will differ according to different economic and technological contexts, may be undertaken within the diverse economies framework. This theoretical framework has been labelled as a Marxist approach though a more gentle description may be that the diverse economies framework invites us to consider the heterogeneity of economic practices which produce knowledge and endeavours (including innovation).⁵⁹

Developing countries should cast a wide net to inventorize, capture and valorize all sorts of innovative activities, which are not necessarily produced as surplus, through locally grounded enterprises including cooperative, ecological, communal, non-profit and tribal enterprises. Such a diverse economies inventory may work to identify why, despite local innovative practices, there is so little interest in registration systems. Examples of diverse enterprises include:

tenant farmers in India who are in feudal-like relationships but manage up to one-fifth of India’s land holdings; or self-employed farmers in Kenya that make up almost 500 million small farm households worldwide;⁶⁰

⁵⁸ Janis 1999; Suthersanen 2006; Boztosun 2010; Grosse Ruse-Khan 2012; WIPO’s Database on Flexibilities in the Intellectual Property System considers utility models as a type of flexibility, available at www.wipo.int/ipdevelopment/en/agenda/flexibilities/database.html

⁵⁹ The examples and discussion are based primarily on Cameron 2021, 26–39; St Martin 2021, 271–282.

⁶⁰ Cameron 2021, 27–28.

the Mondragon Corporation representing 250 companies in the Basque region of Spain who engage in participatory cooperative activities to produce “innovative” products across finance, industrial, retail and knowledge sectors;⁶¹ and

the Trent Market Garden/Flint Corn Community projects which are mixed student, Aboriginal cultural knowledge, and Indigenous seed saving supply and educational initiatives.⁶²

If we focus on IPRs and local innovation, a good example is the Sri Lankan cosmetics industry which incorporates traditional knowledge. According to findings, such industries are hesitant to use the patent system due to fear of (i) disclosure of valuable information to competitors, (ii) delays in the registration process which affects the short product life-cycle, (iii) lack of novelty and inventive step. And thus the authors suggest that UMs may be very appropriate for Sri Lanka at this stage.⁶³

More engagingly for our purposes, the diverse economies outlook asks policy makers to re-think and re-frame the “type” of sole innovators/SMEs that work and live in specific contexts. Are we expecting them to be the capitalist entrepreneur at the heart of the economic process: the heroic, charismatic, special people, with high levels of vigour, persistence and self-esteem, rational Western white males? Or can we expand our vision to include, say, SME owners who have limited cash flows and an unsympathetic bank manager?

Small and medium-sized enterprise (SME) owners often “just about manage” [...] in the global South, this is especially so. [...] Many fail, and enthusiasts for entrepreneurialism pay too little attention to the costs of this failure in financial terms (leading to debt poverty, perhaps homelessness) and in terms of mental health issues, internalization of feelings of being a “loser” who made “bad choices” in the enterprise culture, family breakups, and homelessness.⁶⁴

In this reality, SME owners may have very limited time, cash, energy and resources, it is odd, therefore, to believe that a *registered* system, with complex forms calling for legal services, would be the pathway to economic success in developing countries. Moreover, a truly local and small business is usually embedded within the local communities – staying through good times and bad, having a reputation to maintain, and using their surplus profits to support local services, groups, pubs and cafes, etc.⁶⁵

And yet, I have not found any UM law which emphasizes the “IPRs for local businesses” link or threshold.⁶⁶ Or else, one finds this link within national innovation

⁶¹ <https://innovative-thinking.mondragon-corporation.com/?idioma=en#seccion-pcolaborativos>

⁶² Lyne and Madden 2021, 78–79.

⁶³ Hewage and Sampath 2015, 107.

⁶⁴ North 2021, 98–105.

⁶⁵ North 2021, 102–103.

⁶⁶ Harrison 2023, 128.

policies such as the Chinese policy – which has led to more enthusiastic local participation. This re-assessment of “local innovation” can also vary widely despite the category of “developing countries”. The starting assumption is that the latter term refers to a country with comparatively low economic output, the World Bank uses “developing countries” as a convenient nomenclature for “low and middle income countries”, and bases its categorization on the gross national income (GNI). The UNDP Human Development Index looks at several factors in order to classify countries according to its “level of human development”, whilst the UN itself uses “developed regions, and developing regions, and Least Developed Countries” and the IMF employs “advanced economies, emerging and developing economies”. Therefore, Malawi and Mexico are developing countries but their respective GNIs are disparate: US\$250 v US\$9,860. This, in turn, does not explain other “developing” considerations, for example a developed country may still be an IP net importer nation.

22.3.4 *Linking Innovation and UMs to SDGs*

A final suggestion is that developing countries seriously consider tying UM legislation with SDGs, expressly in the statute or with a national innovation policy paper. “Innovation is not an end in and of itself: innovation is an instrumental good”.⁶⁷ Or as the WIPO policy paper on the SDGs states:

[w]e need innovation to help us rethink how to overcome poverty, hunger and premature mortality, how to combat climate change and preserve our natural world, how to optimize the use of artificial intelligence, and how to shape the future of work.⁶⁸

The value scheme under SDG9 can be linked, in a similar manner as advocated under the diverse economies theory, to the types of innovative and entrepreneurial activities which are of importance in the Global South (but not necessarily in the US or EU): build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

We leave the final note to Noto La Diega, Cifrodelli and Dermawan who advocate this perspective in the new technological field of AI-generated inventions. The question is whether developing countries should adopt the US/EU perspective of what constitutes patentable innovation, or do such countries adopt SDG9 values since they “constitute an incentive for the promotion of sustainable industrialisation and the upgrade of technological capabilities”.⁶⁹ Thus,

⁶⁷ Noto La Diega et al. 2024, 538, 565–567. Similarly, it has been noted that “[s]ustainable innovation deems welfare an intrinsic value and income generation an instrumental value” – António Abreu 2021, 257.

⁶⁸ WIPO 2021, 1.

⁶⁹ Noto La Diega et al. 2024, 565; McDave and Hackman-Aidoo 2021 (advocating for stronger IPRs in light of industrial development in Africa.)

[t]o simply “export” the rationale for rejecting AI inventorship to the Global South should be regarded as a form of “patent colonialism”. Based on a deeper understanding of the wider industrial and socio-economic context, governments in the Global South should be able to use the patent system as both an industrial policy tool and a means for sustainability, and this may well include the acceptance of AI systems as inventors.⁷⁰

⁷⁰ Noto La Diega et al. 2024, 567.