B More detail on the patents system in Australia and comparable markets

This appendix provides more detail on the patents system in Australia and comparable markets than is included in the chapters of this report. Non-voluntary access arrangements to patents in comparable markets are discussed in appendix C.

What constitutes a comparable market is a complex issue that depends on a range of factors, such as a country’s industrial structure, geography, form of government, and human and physical capital, and the purpose of the analysis at hand. The fact that Australia and many other countries grant the majority of patents to non‑residents is particularly relevant for this inquiry. For example, in 2010, 91 per cent of patents granted in New Zealand and 90 per cent in Canada were to non‑residents (WIPO 2012a). Australia’s status as a developed economy is also relevant, given the importance that places on attracting suppliers of advanced technologies. Hence, the United States is included in the comparison. Australia’s significant trading relationship with Asian countries, such as China, has been a further consideration.

This appendix has three sections:

* features of the patents system in Australia and comparable markets
* measures of patent strength and quality
* reforms of patents systems.

## B.1 Features of the patents system in Australia and comparable markets

This section discusses key features of patents systems including the patent application process in Australia and comparable markets.

### **Patentability criteria**

Patents systems, and patentability criteria, are influenced and constrained by international agreements. Almost all countries in the world, and all developed countries, are signatories to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS agreement), which is one of the key international intellectual property (IP) agreements. It was negotiated and came into force in the 1990s. Article 27 of the TRIPS agreement states:

[subject to certain allowable exclusions] patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application.

In patents systems internationally, patents are made available for inventions in all fields of technology. Patents tend not to be available for discoveries, although the distinction between an invention and a discovery is not always clear. As a result, abstract ideas, natural phenomena and laws of nature are usually excluded from patentability. Patentability criteria in Australia are outlined in box B.1.

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| --- |
| Box B.1 Patentability criteria |
| Under the *Patents Act 1990* (Cwlth), an invention is eligible for a patent if it:   * is a ‘manner of manufacture’, such that the invention must relate to an ‘artificial state of affairs’, that is a product, process or method that arises through a form of human intervention with nature to bring about some physical change * is novel, such that the invention has not been publicly disclosed in any form, anywhere in the world (for example, published patent specifications, textbooks, technical journals and internet sites) or sold or used in a public area * is an inventive step for a standard patent, such that the invention is not obvious to someone with knowledge and experience in the technological field of the invention * is an innovative step for an innovation patent such that there must be a difference between the invention and what is known about that technology, and this difference must make a substantial contribution to the working of the invention * is useful, such that the invention must have a specific, substantial and credible use and must be capable of achieving the result that the patentee claims it can achieve * is sufficiently well disclosed or described * is not the subject of a specific exclusion in the Patents Act. |
| *Source*: IP Australia (nda). |
|  |

Patentability criteria are similar in comparable markets. As part of its study into patentable subject matter, the Australian Council on Intellectual Property (ACIP 2010c) examined international definitions of inventions. ACIP noted that New Zealand’s patent laws, like Australia’s, included a ‘manner of manufacture’ test, linked to the *Statute of Monopolies 1623*. Patent laws in other countries were not directly linked to this statute, but include similar tests and language. Table B.1 presents language on patentable subject matter from patents legislation worldwide.

Table B.1 Patentable subject matter

|  |  |
| --- | --- |
| Country | Language on patentability |
| Australia | ‘[An] invention is a patentable invention … if the invention … is a manner of manufacture … is novel … involves an inventive step … is useful … [and] was not secretly used [in the past]’ |
| Canada | ‘[An invention means] any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter’ |
| China | ‘[An invention means] any new technical solution relating to a product, a process or improvement thereof’ |
| European Patent Convention | ‘European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application’ |
| Japana | ‘[An invention means] a highly advanced creation of technical ideas by which a law of nature is utilized’ |
| South Koreaa | ‘[An invention means] the highly advanced creation of a technical idea using the law of nature’ |
| Malaysia | ‘An invention is patentable if it is new, involves an inventive step and is industrially applicable’ |
| New Zealandb | ‘Invention means any manner of new manufacture the subject of letters patent and grant of privilege within section 6 of the *Statute of Monopolies* and any new method or process of testing applicable to the improvement or control of manufacture; and includes an alleged invention’ |
| United Kingdom | ‘A patent may be granted only for an invention … [if] the invention is new … involves an inventive step … [and] it is capable of industrial application [and not subject to exclusions]’ |
| United States | ‘Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent …’ |

a From an English language translation of local patents legislation. b In 2008, a new Patents Bill was introduced to replace and repeal the Patents Act. At the time of writing the Bill had not been passed.

*Sources*: *Patents Act 1990* (Australia), p. 16; Patent Act (Canada), p. 9; SIPO 2012; European Patent Convention, p. 106; JPO (2012c, p. 1); WIPO (2012c, p. 2); Patents Act 1983 (Malaysia), p. 13; Patents Act 1953 (NZ), p. 5; Patent Act 1977 (UK), p. 8; 35 U.S.C., appendix L — Patent Laws, p. L-21.

### **Patent application process**

Figure B.1 outlines the patent application process in Australia. As a first step, applicants are advised to perform a search to determine whether the invention is novel, to keep their invention secret so that it would meet the novelty requirement, and to seek professional advice due to the complexity of the IP system. If the applicant wishes to proceed, the second step is to decide whether to apply for a standard or innovation patent. Innovation patents are discussed in more detail below in the ‘utility models’ section.

Figure B.1 Patent application process in Australia

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| --- |
| This figure outlines the patent application process in Australia. Once an inventor has an idea they should search to determine if their invention is novel. If their idea is novel, an inventor should seek professional advice before applying for a patent. An inventor can apply for an innovation patent or a standard patent. Innovation patents do not need to be examined before being granted. Standard patents must pass examination before grant and must meet a higher threshold than innovation patents. Fees apply for both innovation and standard patents. |

*Source*: Based on IP Australia (nda).

Three types of applications can be submitted:

* Provisional application — an application prior to a complete application. This enables applicants to get the earliest possible priority date, which is the date from which novelty is assessed, and important for applicants in competitive industries. A provisional patent application does not provide patent protection. A complete application must be filed within 12 months of a provisional application or the priority date lapses.
* A complete application — necessary for a patent to be granted. Complete applications are published in the *Australian Official Journal of Patents*, and must include:
* a full description of the invention
* one or more claims on the invention, which outline what the invention is and what it can do, and determine the scope of exclusive rights claimed by an applicant.
* International application — an application for patent protection overseas. Many inventors wish to apply for international protection since an Australian patent only provides protection in Australia. Applicants have two choices:
* Patent Cooperation Treatyapplication — this allows an applicant to file a patent application with IP Australia and elect for protection in over 100 countries.
* Paris Convention application — if protection is only sought in a few countries, it might be cost effective for an applicant to make separate patent applications in each country.

#### Patent application process in comparable markets

Application processes for a patent in comparable markets are broadly similar to the process in Australia. All comparable markets have a ‘first-to-file’ system, like Australia. Until recently, the United States was the exception, as it had a ‘first-to-invent’ system. The United States moved to a first-to-file system in March 2013. In some comparable markets (for example, New Zealand and the United States) provisional applications are available. Grace periods (where an applicant can apply for a patent when the invention has already been disclosed subject to conditions) apply in many countries including the United States, Japan and Canada. Grace periods do not apply in most European countries (IP Australia 2012g).

Selected features of patents systems in Australia and comparable markets are discussed in more detail below.

### Utility models

In some comparable markets, inventions can be protected under a ‘utility model’ or short-term patent, equivalent to innovation patents in Australia. Utility models have a maximum term of six years in France, 10 years in both China and Germany,   
10–15 years in Japan and 15 years in both South Korea and Malaysia. In these markets, utility models have less stringent requirements for patentability, lower fees and a more streamlined application process. Examination requirements for utility models only exist in some comparable markets. In many countries, a patent application can be converted into a utility model application. In France, failure to request examination for a patent will automatically lead that application to be converted into a utility certificate (Richards nd).

Utility model applications worldwide have grown rapidly in recent years — from 313 000 in 2008, to 496 000 in 2010. Applications received by the Chinese IP Office make up most of these applications (83 per cent in 2010). In 2010, applications to the German, South Korean, Russian, Ukrainian and Japanese patent offices were the next most common, comprising collectively about 12 per cent of applications worldwide. Applications to other patent offices were negligible. Utility model applications are more likely to be by domestic applicants than applications for standard patents. This is particularly the case in China, where in 2010, 99 per cent of applications were domestic (WIPO 2012a). Between 2009 and mid‑2012, IP Australia received between 1000 and 2000 applications for innovation patents per year (IP Australia 2012j) relative to about 25 000 standard patent applications per year (chapter 4).

Features of standard and innovation patents in Australia are outlined in table B.2.

Table B.2 Features of standard and innovation patents

|  |  |  |
| --- | --- | --- |
|  | Standard patent | Innovation patent |
| Patentability criteria | The invention must be new, useful and involve an inventive step | The invention must be new, useful and involve an innovative step |
| Examination requirements | Mandatory. Substantive requirements must be met before a patent is granted | Optional. Examination can be requested by a patentee or a competitor to clarify the patentee’s legal right |
| Protection period | 20 years if annual fees paid (up to 25 years for pharmaceuticals) | 8 years if annual fees are paid |
| Application processing time | 6 months — several years (depending on circumstances) | 1 month for grant |
| Renewal fees | Yes | Yes |

*Source*: IP Australia (nda).

### Examination requirements

Examination requirements apply to patents, and fees apply. In Australia, examinations are performed by IP Australia to determine whether an invention meets patentability criteria (outlined above in box B.1) and is sufficiently well disclosed. As part of the process, examiners will search for ‘prior art’ to determine if the invention is novel. An applicant for a standard patent must request examination within five years of the application being filed in Australia. Standard patent applications must be examined before rights can be enforced. In contrast, innovation patents are not examined unless requested by the patentee or a third party. Twelve months after requesting examination, IP Australia advises applicants if their application does not meet patentability requirements. Applicants can modify and resubmit their application. Once an application has passed examination and opposition proceedings have been resolved a patent is granted.

Examinations of patents are required in comparable markets. Time limits for examination vary. For example, request for examination must occur within six months of publication of a European patent, which occurs 18 months after filing. A request for examination is required within three years of filing date in China (EPO 2012a), three years in Japan (JPO 2012a) and five years in Canada (CIPO 2012). In the United States, applicants do not request examination. Once applications meet requirements they are examined in due course.

### Opposition periods

Pre- and post-grant patent review provisions, where the validity of patents can be challenged, exist in Australia and most comparable markets.

In Australia, an application for a standard patent is published 18 months after it is accepted by IP Australia. Once the application has been published, third parties have three months to start ‘opposition proceedings’ and challenge the validity of the application. The Federal Court has noted:

… the purpose of pre-grant opposition proceedings is to provide a swift and economical means of settling disputes that would otherwise need to be dealt with by the courts in more expensive and time consuming post-grant litigation; that is, to decrease the occasion for costly revocation proceedings by ensuring that bad patents do not proceed to grant. (Federal Court of Australia quoted in IP Australia 2009b, p. 4)

Grounds for filing opposition include:

* the applicant is not the person entitled to the patent
* the invention is not a ‘manner of manufacture’, novel nor involves an inventive step
* the patent is not sufficiently well disclosed
* the patent relates to human beings or the biological processes for their generation.

Innovation patents can also be opposed, but only after the patent is granted. Filing an opposition to a standard or innovation patent costs $600. In the past decade, between 100 and 200 oppositions have been filed each year, which is very small in comparison to the number of patent applications in recent years (about 25 000 per year) (IP Australia 2012j; chapter 4).

After an application has passed examination and any opposition proceedings have been resolved, an application is sealed and becomes a granted patent, but can still be challenged through re-examination or revocation. Requests for re-examination can be made to IP Australia on more limited grounds than for opposition proceedings. An application for revocation can be made to the Federal Court of Australia on broader grounds than for opposition proceedings or re-examination.

Opposition proceedings are available in some comparable markets subject to time limits, which are similar across countries. For example, notices of opposition can be filed within three months of a patent being published in New Zealand and within nine months in the European Union. Opposition proceedings have been abolished in a number of other countries. For example, opposition proceedings were abolished in Japan in 2004 because the system was considered redundant given invalidation proceedings were available (Okuyama 2007). Post‑grant procedures for challenging patents exist in almost all comparable markets. For example, in the United States, a request for re-examination of a patent can be made by anyone at any time during the term of a patent (USPTO 2012a).

### Patent fees

Once a patent is granted, the patent holder must pay annual renewal (maintenance) fees to keep the patent in force. Table B.3 provides a non-exhaustive list of fees through the life cycle of patents in Australia. Standard, innovation and Patent Cooperation Treaty (PCT) applications are considered. Applicable fees vary considerably depending on events that occur during the life cycle of a patent.

Table B.3 Patent fees in Australia**a**

|  |  |  |
| --- | --- | --- |
|  | Standard | Innovation |
|  |  |  |
| Provisional patent application request | $110 | **..** |
| Complete patent application | $370 | $180 |
| Acceptance fee | $250 | **..** |
| Patent examination fee | $490 | $500b |
| Excess claims — per claim, in excess of 20 | $110 | **..** |
| Request for re-examination | $800 | $800 |
| Renewal fees | $300–$2 300c | $110–$220d |
| *Patent Cooperation Treaty (PCT) fees*e |  |  |
| Transmittal fee | $200 | **..** |
| International search fee | $2 200 | **..** |
| International filing fee | $1 375 | **..** |
| PCT international preliminary examination | $590 | **..** |
| Additional international preliminary examination | $590 | **..** |

a By approved means. These fees apply from 1 October 2012. b The fee is paid by the patentee if the patentee requests examination. If a third party requests examination, the fee is shared between the patentee and that third party. c Renewal fees are annual and rise during the term of a standard patent from $300 on the 4th anniversary of the filing date to $2300 on the 20th anniversary of the filing date. d Renewal fees are annual and rise during the term of an innovation patent from $110 on the 2nd anniversary of the filing date to $220 on the 7th anniversary of the filing date. e Only one class of patent (equivalent to a standard patent) is available under the Patent Cooperation Treaty. **..** not applicable.

*Source*: IP Australia (2012f).

It is difficult to compare patent costs across comparable markets as patent application processes and types of fees charged by patents offices differ, and change over time. Fees are charged in the local currency, which makes comparison more difficult. Variation in patent attorney fees might also be considered in any analysis.

Park (2010) provided a sample of patent fees across countries — by destination, not origin of the patent. The cost of a patent 25 pages in length, with five pages of drawings and 15 claims, for a full 20 year term was analysed. Costs in 2010 were examined, from an English language applicant’s perspective, and included application fees, patent attorney fees, translation fees (into English) and renewal fees. Park found that the total cost of such a patent in Australia was about US $20 000. Renewal fees accounted for about 60 per cent of the costs and patent attorney fees accounted for about 35 per cent of the cost. Application fees accounted for less than 5 per cent of the costs. Among key comparable markets, Park found that, relative to Australia, total costs were about 50 per cent higher in Germany and Japan and between 10 and 20 per cent lower in Canada, China, the United Kingdom and the United States. The mix of fees also varied. The United States had the highest proportion of official fees and patent attorney fees, and the lowest proportion of renewal fees.

De Rassenfosse and van Pottelsberghe (2010) also found that patent fees varied greatly across countries both in the level and mix of fees charged. The authors used three metrics for patent fees; absolute fees (fees in $US); fees weighted by the size of the market (measured by population, which influences the value of patent protection); and the affordability of patents for local applicants (measured by absolute fees relative to GDP per capita). In most countries, application fees were lower than renewal fees. Among key comparable markets, absolute fees were much higher in the European Union than Japan or the United States, in large part due to translation requirements.

Another complication is that many inventors apply for patents in multiple countries. As mentioned above, Australian inventors can apply for patent protection in other countries through the PCT or applications through foreign patents offices. PCT application fees are standardised across countries.

### Subject matter exclusions

Most patents systems have subject matter exclusions, which are permitted under international agreements such as TRIPS. Typical subject matter exclusions include discoveries, scientific theories or mathematical methods, inventions contrary to public policy or morality, business methods and methods of medical treatment and diagnosis (for example, Patents Act 1977 (UK)).

Many subject matter exclusions are health related. Some of these specifically concern biological material, access to pharmaceuticals and access to healthcare. In Australia, human beings, and the biological processes for their generation, are not patentable inventions. European law and practice excludes ‘animal varieties’ and ‘plant varieties’ from patentability. In Canada, exclusions exist for medical treatment and higher (multi-cellular) life forms. However, Canadian law expressly states that unicellular microorganisms and processes to produce life forms are patentable. South Korean law excludes mixing two or more medicines. US law does not provide explicit *statutory* health-related exclusions. An exception for patenting humans exists but is not defined in statute (Barbosa and Grau‑Kuntz 2010).

The desirability of computer software and business method patents is debated. Objections to these patents are based on the effects on innovation and the obviousness of some of these inventions. ACIP (2010c) found considerable variation internationally on the patentability of computer software. ACIP also noted recent court decisions in Australia and the United States that found that abstract ideas are not patentable, but there was no general bar on business method patents.

In the past, many developing countries excluded pharmaceuticals from patentability. At the beginning of the Uruguay Round of trade negotiations about 50 countries did not recognise pharmaceutical patents (Correa 1999). Most of these countries now recognise pharmaceutical patents in order to be compliant with TRIPS.

A number of exclusions exist in patents legislation related to inventions contrary to public order or morality. For example, the United States prohibits patents ‘useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon’ under the Atomic Energy Act of 1954 (cited in ACIP 2010c, p. 77).

### Objects clauses

Objects clauses, also referred to as ‘statements of objectives’, are included in some pieces of legislation to outline the purpose of the legislation. As discussed in chapter 6, the *Patents Act 1990* (Cwlth) does not have an objects clause, but some commentators have recommended one be included. ACIP (2010c) noted that it is important that the patents system take into account economic and ethical matters, and for this reason recommended that an objects clause be inserted into the Patents Act. The proposed objects clause describes the purpose of the Act as being to enhance the wellbeing of Australians by balancing competing interests of patent holders, users of technology and Australian society. The Australian Government (2011a) accepted this recommendation, but did not introduce an objects clause into the Patents Act as part of the ‘Raising the Bar’ reforms (discussed in more detail later in this appendix). At the time of writing this report, the Government had not yet developed legislation to introduce an objects clause.

Article 7 of the TRIPS agreement describes the objective of an IP system:

The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

Objects clauses are included in the patents legislation in other comparable markets, including Japan, South Korea and the New Zealand Patents Bill, which is currently being debated. Language from these clauses is contained in box B.2. Canadian, US and UK patents legislation do not have an objects clause.

|  |
| --- |
| Box B.2 Object clauses in selected other countries |
| An English language translation of the Japanese objects clause is:  The purpose of this Act is, through promoting the protection and utilisation of inventions, to encourage inventions, and thereby to contribute to the development of industry (JPO 2012c).  An English language translation of the South Korean objects clause is similar:  The purpose of this Act is, through protecting and encouraging inventions and promoting the utilisation of inventions, to accelerate the development of technology, and thereby to contribute to the development of industry (WIPO 2012c).  The objects clause in the proposed new NZ Patents Act is more extensive:  The purposes of this Act are to—  [a] Provide an efficient and effective patent system that—  (i) promotes innovation and economic growth while providing an appropriate balance  between the interests of inventors and patent owners and the interests of society as a  whole (NZ Parliament Commerce Select Committee 2010). |
|  |
|  |

## B.2 Measures of patent strength and quality

There has long been interest in the ‘strength’ and the ‘quality’ of patents systems. A body of literature measuring the strength and quality of patents systems in different countries has developed in recent decades (Ginarte and Park 1997; Lerner 2002; Park 2008; Rapp and Rozek 1990).

Strength and quality of patents systems are difficult concepts to define. Definitions of strength usually relate to the coverage and duration of patents, enforcement mechanisms available to patent holders and safeguards on patents, such as compulsory licensing. Definitions of quality tend to relate more to the stringency and transparency of the patent process. The effects of strength and quality on innovation and growth are also disputed. For example, a ‘strong’ patents system might have perverse effects and discourage innovation due to difficulties accessing patented materials to develop incremental inventions. A strong patents system might also put strain on the relevant patent office due to a large number of applications, which might lead to delays in the patent process and other problems. A high quality patents system might mean patent applications have to pass a high inventive threshold, and therefore that granted patents are of ‘high quality’. However, the degree to which the quality of a patents systems impacts on the quality of patents is uncertain. Care must be taken when comparing countries because there has been much patent reform in recent years. Many of these reforms were designed to improve the strength and/or quality of patents systems, which has altered world rankings.

Park (2008) found that, in 2005, most developed countries had strong patents systems and that almost all strong patents systems were in developed countries. Park measured the strength of patents systems on a five point scale based on: coverage (inventions that are patentable); membership of international treaties; duration of protection; enforcement mechanisms; and safeguards. On this scale, in 2005, the United States had a score of 4.9; Japan had a score of 4.7; and most European Union members had a score of about 4.5. Australia had a slightly lower score (4.2).

The International Property Rights Index, which includes IP rights as one of three core components, shows that developed countries provided the strongest IP protection. In 2012, Finland had the highest score on the IP measure of 8.6 out of 10. Japan and the United States were in equal fourth position and the United Kingdom was in ninth position. Australia was ranked equal 18th with a score of 7.8 (Tiwari 2012).

The desirability of a strong patents system is contested. For example, de Saint‑Georges and van Pottelsberghe (2011) argued that most literature on patent strength overlooks the quality and transparency of patents systems. The authors argued that patents systems typically classified as ‘stronger’ were more ‘applicant friendly’, rather than high quality, and developed a quality index for 32 countries based on nine components outlined in table B.4.

Table B.4 Components of patent quality index

|  |  |
| --- | --- |
| Component | Assumed effect on quality |
| First-to-file system | A first-to-file patents system increases patent quality because it encourages earlier disclosure |
| Published search report | A published search report for prior knowledge increases patent quality |
| Time limit to request examination | A shorter time limit to request examination after filing increases patent quality |
| Length of post-grant opposition period | A longer post-grant opposition period increases quality since more time is allowed to challenge ‘poor quality’ patents |
| Grace period | A shorter grace period increases patent quality |
| Time period patent application is hidden | A shorter period of time where a patent application is hidden increases patent quality |
| Continuation-in-part application | Existence of continuation-in part applications (related to previously granted patents) decreases patent quality. |
| Incentives to patent examiners | Greater incentives, based on salaries, increase patent quality through higher quality examination. |
| Workload of patent examiners | Greater workload, measured by claims per examiner, decreases patent quality. |

*Source*: de Saint-Georges and van Pottelsberghe (2011).

After calculating indices, countries were ranked as having a high, medium‑high, medium‑low or low quality patents system. The authors’ results showed variation in rankings for comparable markets to Australia. The European Patent Office (EPO) and the United Kingdom and Scandinavian countries had the highest rankings. Australia had a medium‑low ranking. Comparable countries including Canada, New Zealand and the United States had a low ranking (table B.5). These rankings do not take into account recent patent reforms. For example, Australia, New Zealand and the United States have made reforms to their patents systems (discussed in detail in section B.3) that might improve their rankings on this index.

Table B.5 Quality of patents systemsa

|  |  |
| --- | --- |
| Ranking | Countries |
| High | European Patent Office, United Kingdom, Sweden, Norway, Denmark, Finland |
| Medium‑high | Austria, Poland, China, The Netherlands, France, Japan, Switzerland, Chile, Russia, Colombia, South Korea, Turkey, Malaysia |
| Medium‑low | Australia, Greece, Germany, Singapore, Spain, Brazil, Thailand, Mexico |
| Low | India, New Zealand, South Africa, Canada, United States |

a Countries within a category are listed in order of their scores based on the author’s preferred index.

*Source*: de Saint-Georges and van Pottelsberghe (2011).

Patent grant rates are used by some authors as a measure of patent quality. Grant rates appear to be broadly similar in key comparable markets:

* In 2011, among applications to the EPO: 22 per cent were abandoned after search; 31 per cent were stopped during examination; and 47 per cent were granted (EPO 2012b).
* In 2011, about 535 000 patent applications were made to the United States Patent and Trademark Office. About 250 000 patents were granted, which implies a grant rate of about 45 per cent (US Patent and Trademark Office 2012c).
* In 2011, about 220 000 patents were granted by the Japanese Patent Office. About 60 per cent of applications were granted and about 40 per cent were rejected (JPO 2012b).

In 2010, the ratio of patent applications to grants was about 60 per cent in Australia. This ratio fluctuated between 35 and 80 per cent between 1995 and 2010 (chapter 4).

## **B.3 Reforms of patents systems**

There have been many patent reforms in Australia and comparable markets in recent years. Australia and comparable markets are signatories of the Paris Convention, TRIPS and other international IP agreements, which means that there are many similarities between patents systems. Many recent reforms involve further harmonisation of patents systems.

Worldwide, patent applications have grown markedly in the past decade, which has led to considerable pressure on patent offices and consequent backlogs of applications. Many recent reforms aim to address this issue through greater cooperation between patent offices, including by sharing resources. As part of these reforms, a number of multilateral forums have been established.

Other key themes include raising the threshold for patentability of inventions, introducing accelerated examination processes and providing fee discounts for small and medium enterprises.

### Recent reforms in Australia

There has been much debate about Australia’s patents system and broader IP system in recent years, especially with respect to gene patents. The Australian Government established a number of inquiries into the patents system including:

* Review of Intellectual Property Legislation Under The Competition Principles Agreement (IPCRC 2000)
* Genes and Ingenuity: Gene Patenting and Human Health (ALRC 2004)
* Review of Crown Use Provisions for Patents and Designs (ACIP 2005a)
* Gene Patents (SCARC 2010)
* Patentable Subject Matter (ACIP 2010c).

The Intellectual Property Competition Review Committee (IPCRC 2000) recommended that s. 135 of the Patents Act, concerning the ‘reasonable requirements of the public’ test for compulsory licensing, be repealed and replaced with a competition test. The Government partly agreed with this recommendation, agreeing to introduce a competition test but decided to retain the ‘reasonable requirements of the public’ test. A competition test was introduced as part of amendments to the Patents Act in 2006. The competition test is discussed in more detail in chapter 6.

#### Raising the Bar

In 2011, the Australian Government provided a combined response to the   
ALRC (2004), SCARC (2010) and ACIP (2010c). Recommendations from these reports were part of the latest package of reforms to the patents system — titled ‘Raising the Bar’. These reforms have led to extensive changes, but left compulsory licensing untouched. These reforms are discussed in more detail in box B.3.

|  |
| --- |
| Box B.3 ‘Raising the Bar’ reforms |
| The intellectual property (IP) system was significantly changed with the passage of the *Intellectual Property Laws Amendment (Raising the Bar) Act 2012* (Cwlth). The amendments apply to the *Patents Act 1990* (Cwlth) and other IP legislation. The changes addressed six key areas:   * Patent standards — raises the standard of Australia’s patents to align more closely with higher patent standards in comparable markets. It does this by: * raising standards for information provided in patent applications and specifications, and requiring that the patent has a credible use consistent with the information provided * raising the standard for inventiveness, including by taking into account common general knowledge from overseas * ensuring that a consistent standard of proof is applied by the Commissioner of Patents. * Research freedom — distinguishes between research and commercial activities, leaving researchers free to conduct their experiments without having to gain approval from a patent holder. It also introduces an exemption for activities undertaken solely for the purpose of gaining regulatory approval to market or manufacture a patented technology. * Application process — introduces changes aimed at making the patent and trade mark application process more efficient, in part through preventing ‘gaming’. These changes target two key areas — opposition proceedings and divisional applications. * Attorney profession — permits patent and trade mark attorneys to conduct all aspects of their business through a corporate structure and extends the definition of ‘privileged’ communications within the IP field. * Trade mark and copyright infringement — introduces changes aimed at improving the ability of trade mark and copyright owners to enforce their rights. * Technical improvements in the IP system — introduces changes aimed at modernising aspects of Australia's IP system, increasing transparency in the decision making process, and generally making the system easier to use. |
| *Source*: Carr (2011). |
|  |
|  |

Most provisions came into effect on 15 April 2013. However, the regulatory use exemption (for non-pharmaceutical patents) and the experimental use exemption were introduced immediately.

There have been a number of other amendments to the Patents Act in recent years. For example, amendments as a result of the Australia–United States Free Trade Agreement. More changes are in prospect:

* ACIP is investigating the effectiveness of innovation patents (ACIP 2011) and might recommend changes to the innovation patents system.
* The Australian Government announced its intention to implement a TRIPS Protocol, which allows compulsory licensing for export of patented pharmaceuticals to developing countries, and has released an exposure draft of the Bill (discussed in more detail in appendix D).

### Multilateral reforms

#### TRIPS Protocol

A number of countries have implemented the above mentioned TRIPS Protocol (discussed further in chapter 8).

#### International cooperation between patent offices

Cooperation between patent offices can reduce the costs of the patent process through sharing resources. The greater the harmonisation between patents systems, the greater the scope for cooperation. Cooperation is especially important since patent applications have been rising in recent years. Two projects are outlined below. Many other forums and projects to promote cooperation have also been established in recent years.

#### Five IP Offices forum

The heads of the five largest IP offices — European Patent Office, Japan Patent Office, South Korean Intellectual Property Office, State Intellectual Property Office of the People’s Republic of China, and United States Patent and Trademark Office — met in South Korea in 2008. Together these offices account for about 90 per cent of patents filed worldwide. After the meeting, these five offices established the Five IP Offices forum. The foundation projects agreed to were developing common staff training policies, application processes and examination practices. The offices also agreed to establish a shared set of literature to assess novelty and improve machine translation services to assist users of the IP system. The forum has continued to develop. For example, the fourth IP5 Examiners’ Workshop was held in October 2012 in Beijing. These workshops have provided opportunities for patent examiners from different offices to learn from each other and enhance cooperation between offices (Five IP Offices 2012).

##### Patent Prosecution Highway

Many inventors apply for patents in multiple countries. Under the Patent Prosecution Highway (PPH), an applicant for a patent may, in participating countries, request that the office of second filing fast track examination of corresponding claims when the office of first filing ruled that the application included at least one patentable claim. The PPH speeds up examinations by allowing examiners in one national office to reuse search and examination results from another office.

### Recent reforms in other markets

There have been many reforms of patents systems in comparable markets in recent years. This section examines some key reforms.

#### EU reforms

European patent law is relevant when considering comparable markets in Europe, as these countries have both national patent laws and are affected by European laws.

##### European patents and unitary patents

The Convention of the Grant of European Patents, commonly referred to as the European Patent Convention (EPC), was signed by 16 countries in 1973 and came into force in 1977. The EPC allows for European patents to be granted. To obtain a European patent, a single patent application in one language can be filed at the EPO or at a national patent office. European patents are essentially a group of independent, nationally‑enforceable and nationally‑revocable patents. At the time of writing, all 27 EU member states as well as 11 other European countries offered European patents. Once a European patent is granted it has to be validated in each member state (EPO 2012c).

In 2011, the European Union Council decided to allow 25 member states to establish a unitary patents system. Enabling EU legislation was approved by the European Parliament in December 2012 and will come into force on 1 January 2014. Unitary patents, also known as ‘community patents’, will be automatically valid in all participating countries, unlike European patents. Advantages of unitary patents include fewer translation and renewal requirements. European patents will continue to be available (EPO 2012c; European Parliament 2012a).

##### European Patent Office ‘Raising the Bar’ initiatives

In response to criticism from stakeholders, the EPO launched a series of measures in 2010 to ‘raise the bar’. The aims of the measures were to clarify the scope of the search for prior knowledge, save time in the application process and increase the chance of worthy applicants being granted robust patents (EPO 2009).

The first series of reforms included:

* introducing time limits for filing divisional applications (applications related to a previously filed application)
* where it is unclear to the patent examiner what subject matter should be searched for, the applicant will be invited to file a statement indicating relevant subject matter
* examiners will only search one independent claim per category.

Kossonakou (2009) suggested that these reforms are likely to encourage higher‑quality applications, lead to an earlier focus on the scope of the patent application and assist applicants to decide whether to enter the examination phase.

#### US reforms — Leahy-Smith Act (US)

The Leahy-Smith Act America Invents Act was passed by the US Congress in September 2011 and came into force in March 2013. The Act:

* moved the US patents system to a ‘first-to-file’ system from a ‘first-to-invent’ system
* introduced a prioritised examination procedure known as ‘Track one’, available for a fee at the time of filing a patent application
* aimed to reduce litigation. Interference proceedings, where two parties claim identical or substantially similar inventions, were eliminated and post-grant opposition, where third parties can challenge the validity of a patent, was introduced
* allowed the USPTO to set its own fees rather than the US Congress.

#### Japanese reforms

The JPO has put in place measures to improve the quality of the patents system. For example, the Quality Management Office was established in 2007 (JPO 2012b). Japan has also made changes to expedite its patent application process by providing applicants with a facility to search for prior art, shortening the time limit for requests for examination from seven to three years and introducing an accelerated examination system.

In 2012, amendments made to the Japanese Patents Act came into force, which aimed to provide:

* greater protection for licensing agreements, by making it easier to register a licence with the JPO and be protected by registration
* appropriate protection to inventors in relation to results from joint research and development programs
* greater convenience for users of the IP system and reduced burdens on small and medium enterprises, through extending fee reductions for these enterprises from three to 10 years
* quick and efficient settlement of IP disputes (METI 2012).

#### New Zealand reforms

##### New Zealand Patents Bill

A Bill was introduced into the New Zealand Parliament in July 2008 to repeal and replace the Patents Act 1953 (NZ). The Patents Bill was designed to increase patent standards in New Zealand and harmonise with the rest of the world. Commentary in a report by Parliament on the Bill noted that New Zealand has a low threshold for patentability compared to other countries, which can disadvantage New Zealand, since technology freely available in other countries can be subject to patents in  
New Zealand (NZ Parliament Commerce Select Committee 2010). The new Bill includes an ‘absolute novelty’ standard which considers worldwide, rather than local, prior knowledge. As part of these changes, more patent examiners will be employed and higher fees will be charged.

The Bill was introduced into Parliament prior to an election in late 2008 and was reintroduced after that election. The first reading of the Bill was in May 2009 and it was then passed to the NZ Parliament Commerce Select Committee and opened for submissions. The Committee reported back to Parliament in 2010 and recommended two key changes — that both computer software and methods of medical treatment of human beings not be patentable and that a separate bill be developed to regulate patent attorneys. On 12 September 2012, the New Zealand Parliament held a second reading debate for the Bill. At the time of writing, the Bill had not yet been passed.

##### Trans-Tasman integration

The Trans-Tasman Outcomes Implementation Group, jointly chaired by representatives of the Australian Treasury and NZ Ministry of Business, Innovation and Employment, recently authored a progress report on integration between the Australian and New Zealand economies. The report noted that governments have agreed to a single regulatory framework for patent attorneys, a single trade mark regime, a single application and examination process for patents filed in both countries, and a single plant variety right regime. Progress is on track for all outcomes except the plant variety rights regime (TTOIG 2012).

#### South Korean reforms

In October 2008, the KIPO launched the Three-Track Patent Examination system, which, as the name suggests, gives applicants the opportunity to select from three different types of examinations:

* an accelerated examination (which is performed within three months of an examination request)
* a regular examination
* customer-deferred examination (which is performed within three months of the date specified by the applicant).

From 2008 to 2010, between 10 and 15 per cent of applicants selected an accelerated examination (KIPO 2012).

South Korea also amended its patents legislation in 2010 to implement the TRIPS Protocol and to introduce a regulatory approval exemption for pharmaceutical products.

In December 2012, the KIPO signed a memorandum of understanding with the EPO on simplifying the process for South Koreans applying for patents in Europe.

#### Chinese reforms

China’s first Patents Law came into force in 1985, which included compulsory licensing provisions. The Law was amended in 1992, 2000 and 2008 (Ma 2011). The 2008 amendments came into force in 2009 and included:

* introducing an ‘absolute’ novelty standard, which considers worldwide prior knowledge
* removal of the requirement for Chinese applicants to file first in China
* amendments related to compulsory licensing.