# 4 Intellectual property

Intellectual property (IP) law has a pervasive impact on innovation, production, trade and consumption and is the theme topic in this year’s *Trade & Assistance Review*. (Recent *Reviews* have included separate theme chapters on adjustment assistance, state and territory government assistance to industry, assistance to the finance industry and carbon reduction measures.)

The inclusion of IP in the global trading system that accompanied the establishment of the World Trade Organisation (WTO) in 1995 clearly signalled the significant elevation of IP in national and international economic policymaking. Well-designed IP law can facilitate innovation and creativity, trade and investment, as well as technology transfer and economic development. At the same time, open trade and investment regimes can encourage firms to be innovative and, in turn, lead to the growth of IP.

IP law aims at ‘safeguarding creators and other producers of intellectual goods and services by granting them certain time-limited rights to control the use made of those productions’ (WIPO 2004, p. 3). The underlying rationale for IP law is that creations and ideas, once known, may be copied at little cost which may in turn lead to under-investment in intellectual goods and services, in the absence of IP protection.

IP law and its implementation influence firms’ capacity to derive pecuniary benefits from their inventions and creations. The IP system also influences the activities of firms and individuals seeking to use IP in the production of their own goods and services. It can further innovation and private consumption, but if too much protection for IP is provided, it can deter consumption and investment.

Given the capacity for IP systems to facilitate (or inhibit) innovation, creative activity and trade, it is important that the design, operation and review of IP systems be carefully governed. This chapter provides an overview of these facets of the IP system in Australia. It begins with the nature and extent of IP rights in Australia and a brief historical background to modern IP law (sections 4.1 and 4.2). Against this backdrop, the chapter outlines the extent of trade and commerce in IP in Australia (section 4.3), identifies international IP agreements in force and Australia’s involvement in these (section 4.4), and aspects of IP administration and legal recourse (section 4.5). It also outlines some findings from recent empirical research (section 4.6) and notes Australian policy reviews affecting Australian IP law (section 4.7). Some concluding remarks are provided at the close of the chapter (section 4.8). Appendix B provides a catalogue of legislated measures providing IP protection.

Previous work by the Commission in relation to IP includes:

* an inquiry (just completed) on the *Compulsory Licensing of Patents* (PC 2013);
* a report into *Bilateral and Regional Trade Agreements (*PC 2010b);
* a report into *Restrictions on the Parallel Importation of Books* (PC 2009a);
* an inquiry into *Public Support for Science and Innovation* (PC 2007); and
* the *Review of National Competition Policy* *Reforms* (PC 2005).

The Commission has also reported on trade policy developments pertaining to IP in Australia in previous editions of its *Trade & Assistance Review*.

## 4.1 Types of intellectual property in Australia

Australian law provides legal protections for a diverse range of intellectual property (box 4.1). There is no single ‘IP Act’, rather, most types of IP are provided for by separate, specific statutory laws — for example, a patents act for inventions and a copyright act for literary and artistic creations (appendix B). In Australia, the statutory IP law comprises two broad categories:

* registered rights for industrial property, such as patents, trade marks,[[1]](#footnote-1) geographical indications of source, designs and plant breeder’s rights; and
* unregistered rights for creative activity in the literary, artistic and scientific fields, such as copyrights, moral rights, performers’ rights, circuit layout rights, and artists resale royalty rights.

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| Box 4.1 Some types of intellectual property |
| A *standard patent* is granted for any device, substance, method or process that is new, inventive and useful. An application must disclose sufficient information, such that a person skilled in the relevant field could replicate the invention.  *Innovation patents* provide protection for lower-level inventions that may not meet the higher inventive threshold required for standard patents (for example, incremental advances in existing technology). An innovation patent allows an innovator to protect each stage of a development.  A *design* refers to the features of shape, configuration, pattern or ornamentation which gives a product a unique appearance, and must be new and distinctive. Design registration is intended to protect designs which have an industrial or commercial use. |
| *Plant breeder’s rights* are used to protect new varieties of plants that are distinguishable, uniform and stable.  A *trade mark* is used to distinguish the goods and services of one trader from those of another. A trade mark can be a letter, number, word, phrase, smell, shape, logo, picture, aspect of packaging or any combination of these.  A *geographical indication* identifies goods as originating in a specific territory or locality where a particular quality, reputation or other characteristic is essentially attributable to its geographic origin.  *Copyright* protects the original expression of ideas (not the ideas themselves). Works protected by copyright include books, films, music, sound recording, newspapers, databases, media broadcasts and computer programs.  Creators’ *moral rights* are treated under ‘copyright’ in Australia but are distinct from the economic copyrights in a literary, dramatic, musical or artistic work, film or live recorded performance. The three designated ‘moral rights’ are the right of attribution, the right against false attribution, and the right of an author or performer to object to treatment of a work that demeans their reputation.  *Performers’ rights* are treated under ‘copyright’ in Australia, but are separate from copyright in the material that is performed and from the creator’s moral right. Performers have the right to: grant, or refuse, consent to the reproduction of a performance; co-ownership of copyright in a sound recording of their performance; and moral rights in relation to live performances and their sound recordings.  *Circuit layout rights* protect the layout design (3D topography) of integrated circuits (commonly known as semi-conductor chips). These rights are based on copyright but are a separate, unique form of protection.  The *artists’ resale royalty right* entitles visual artists (including painters, sculptors, printmakers, craft workers, and photographers) to a five per cent royalty on the sale price for certain resales of their work. |
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Standard patents and trade marks involve an application and examination process. If examination is successful, the patent or trade mark is registered. Designs and innovation patents involve an application process and registration without substantive examination. Examination can be requested if the right owner wishes to enforce or license their right. In contrast, copyright and related rights apply automatically and are unregistered in Australia. This dichotomy is reflected in the division of administrative responsibilities, with industrial property rights administered by IP Australia (a prescribed agency within the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education) and copyright and related law administered by the Attorney-General’s Department (section 4.5).

Copyright differs fundamentally from patents in that copyright does not protect ideas or information as such, but only the original expression (material form) of ideas or information. Copyright does not protect against independent creation of a similar work whereas independent discovery infringes patents (Posner 2005).

Other protections are also provided in Australia through non IP-specific law and/or the common law. These include confidential information, trade secrets, test data submitted for regulatory approval of medicines and agricultural chemicals, business reputation and goodwill in trade names, the Olympic insignia, the Advance Australia logo, and the Scout Association name and uniform.

Each type of IP is quite distinct, governed by separate legislation and subject to a variety of international agreements. The nature of the legal entitlement differs across the types of IP in such aspects as eligibility, duration, use exemptions, administration timelines and fees, third party objections, international registration requirements, legal infringement processes and awards.

Most of the IP rights establish general ‘exclusivity’ which the holder may then use to derive a financial benefit. However, the artists’ resale royalty right differs in that it establishes a ‘specific remuneration right’ (augmenting the initial exclusivity right of the artist). Moral rights are also different from economic copyrights and registered industrial property rights in that they are personal and cannot be assigned or licensed — moral rights are not tradeable ‘property’, as such.

While IP generally gives an owner an exclusive right over an innovation, safeguard mechanisms also typically limit the extent of the IP holder’s right to exclusive use. For instance, there are several mechanisms in the Patents Act that allow a patented invention to be used without the patentee’s authorisation, including compulsory licensing, government use, and research and regulatory exemptions. Such mechanisms are essentially safeguards to be invoked in exceptional cases where the outcomes associated with a patent would not serve the best interests of the community as a whole (PC 2013). Similarly, copyright law provides for certain fair dealing exceptions. The nature and scope of copyright exceptions is currently being reviewed (section 4.7).

### Duration of protection

One of the most obvious differences that has evolved around the various instruments is duration of protection. The shortest *maximum* term is currently eight years for an innovation patent. In comparison, a standard patent is for 20 years (with an extension of up to five years available for pharmaceutical patents that meet certain requirements), while copyright protection generally extends to 70 years after death of the creator, and trade marks are of indefinite duration (provided they continue to be renewed). The *minimum* initial period of protection and renewal options also differ. A standard patent initially applies for four years (from filing date) and lapses unless renewed annually thereafter, whereas designs are initially registered for five years (with a single five-year renewable option). Trade marks initially apply for ten years (with the option of unlimited ten-year renewals).

Differences in the duration of protection have also evolved within different types of IP. For example, the maximum duration available for pharmaceutical patents is five years longer than other standard patents in recognition of the lag between the patent being granted and regulatory approval for sale. Similarly, the duration of plant breeders’ rights (PBR) is longer (25 years) for trees and vines than for other plants (20 years), reflecting the longer breeding process for trees and vines. The duration of protection afforded by copyright and moral rights vary across activities, for instance, while copyright protection for authors generally extends to 70 years after death, copyright protection for broadcasts extends 50 years from the first broadcast, while circuit layout rights (based on copyright) are protected for a maximum of 20 years.

## 4.2 Historical background

The origins of contemporary IP frameworks in Australia date back to developments in law in Britain during the 17th and 18th centuries, with these in turn being underpinned by earlier related laws and practices.

* *Patent law* in England had its beginnings in the 14th century with the granting of monopoly rights in exchange for designated technology-related products, initially for the purpose of attracting skilled craftsmen from abroad (David 1993). Following the example of Venice and Antwerp, England adopted the practice of patents for inventions in the 16th century (as an alternative to invention grants at a time when scarce public revenue was used mainly to finance the military and elite). The English Statute of Monopolies of 1623 transferred the right of granting monopolies from the monarchy to the Parliament (Moser 2013) and, in 1778, was later broadened to require disclosure of the invention details (Moir 2012).
* *Copyright law* in European countries emerged from efforts by the church and state to regulate the output of printers following the introduction of printing presses in the mid-15th century. With the emergence of printing presses, output formerly regulated through a system of control over scribes was continued through regulated monopolistic printing guilds, with copyrights being given to publishers rather than authors. The modern copyright protection of authors appeared in England in 1709, when the Act of Anne eliminated the guild monopoly on the holding of copyrights, enabling anyone to hold a copyright for a new work. Following this change, copyright began to assume the role of providing a commercial incentive for the expression of new forms and ideas, including musical compositions and the visual arts (David 1993).
* *Trade mark* *law* originated from laws and practices governing the use of marks in the Middle Ages to indicate the maker of specific products (for example, bread and silver). Various craft guilds had ‘rules’ to indicate the product maker. By the 19th century, trade marks and the goodwill associated with them were considered as a type of property. Trade mark laws emerged in the UK in the middle of the 19th century giving the right to take action in the courts against infringement of a trade mark (UK IPO 2012).

### International treaties

With the trade and commerce-related aspects of IP reaching across national borders, IP has been the subject of international treaties. The Paris Convention for the Protection of Industrial Property of 1883 and the Berne Convention for the Protection of Literary and Artistic Works of 1896 were the first multilateral international treaties governing IP. A succession of topic-specific international IP agreements has subsequently been initiated (section 4.5). In 1995, the broad-ranging Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) came into effect. IP matters have also been included in bilateral and regional trade agreements and other international protocols.

### Post-federation Australia

Section 51(xviii) of the Australian Constitution provides the Federal Government with the power to make laws with respect to ‘copyright, patents of inventions and designs, and trade marks’. Before Federation, most Australian colonies had enacted patent and copyright laws. The first industrial property IP laws enacted by the Australian Government were the *Patents Act 1903*, *Trade Marks Act 1905* and *Designs Act 1906*. These Acts were modelled on the UK *Patents, Designs & Trade Marks Act 1883*. The Patents Act was re-enacted in 1952 and again in 1990, the Trade Marks Act was re-enacted in 1955 and 1995, and the Design Act in 2003. Along the way, there were many amendments to each of the Acts. In addition to the continuous development of the original post-Federation industrial property IP laws, new and separate legal protection was added through the *Plant Variety Act 1987* and the *Plant Breeder’s Rights Act 1994*.

The first Australian Government copyright statute was the [Copyright Act 1905](http://en.wikipedia.org/w/index.php?title=Copyright_Act_1905&action=edit&redlink=1), based on the UK *Copyright Act 1842.* In 1912, the Federal Parliament recognised the UK *Copyright Act 1911*, superseding the 1905 Act. This arrangement remained in force until the enactment of the Australian *Copyright Act 1968,* which took into account the 1948 revision of the Berne Convention, the UK *Copyright Act 1956* and national requirements. Legal protection over creative material has also been extended to new areas such as moral rights, performers rights, and circuit layout rights. Over the last two decades, significant changes to copyright law have been made in the light of digital technology developments (section 4.5)

With the extension of coverage of legal protections and the evolution of legal practices and technologies falling within the purview of IP, the volume of Australian IP law — measured by the number of sub-sections in the Acts — is estimated to have increased six-fold over the 20th century, from 553 in 1905 to 3317 in 2005 (figure 4.1).[[2]](#footnote-2)

Up to 2005, the volume of copyright law had grown in relative significance compared with other IP law, from around 22 per cent of the total volume of IP law in 1906 to nearly half by 2005. Since 2005, there have been further changes to IP law, with one of the most recent being the passing of the *Intellectual Property Laws Amendment (Raising the Bar) Act 2012* (box 4.2). While the volume of law and frequency of changes is indicative of legislative activity, it does not necessarily provide an indicator of the level of, or changes to, administration and compliance costs of Australia’s IP system or the *net* community-wide benefits of the system. Associated with the increase in the volume of IP law has been an increase in the incidence of reviews of IP law (figure 4.1). (The nature and scope of reviews is outlined in section 4.7.)

Figure 4.1 Volume of Australia IP law and incidence of reviews, 1905 to 2005a

Trade mark, patents, design and copyright legislation

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| Figure 4.1 Volume of Australia IP law and incidence of reviews, 1905 to 2005. This figure shows the volume of IP legisloation and reviews increasing markedly in the last 20 years |

a Number of sub‑sections in consolidated Acts.

*Source*: Caine and Christie (2005).

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| Box 4.2 ‘Raising the Bar’ reforms |
| In April 2012, the *Intellectual Property Laws Amendment (Raising the Bar) Act 2012* was passed by the Commonwealth Parliament. The Act includes a number of changes to the patent, trade mark, copyright, design and plant breeder’s rights system including:   * raising patent standards; * increasing penalties for trade mark counterfeiters; * improvements to border security measures for goods that infringe copyright and trade marks; * providing free access to patented inventions for researchers; * improving application processes and reducing delays when seeking an IP right; and * permitting patent and trade mark attorneys to adopt a corporate structure. |
| *Source*: Carr (2011). |
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**4.3 Extent of trade and commerce in IP in Australia**

There are a number of measures available that indicate the extent of economic activity subject to IP law. There is also detailed reporting on the number of patent applications and grants of patents and other industrial IP rights. Collectively, this information provides an indication of the economic footprint of IP rights in trade and commerce.

**The number of applications and grants of IP rights**

The most common form of registered IP in Australia is trade marks (table 4.1). Over 60 000 trade mark applications are made each year, claiming protection in over 100 000 business areas with about 70 per cent of these being granted. More than half of trade marks granted have been to Australian applicants.

The next most common category of registered IP is a standard patent. In 2012, over 26 000 standard patent applications were filed in Australia — a level broadly in line with the number of applications received in 2007, that is, before the onset of the global financial crisis (GFC). The increase in the number of patents granted (about 60 per cent since 2007) is largely reflective of an increase in examination resources rather than a change in demand for patents, as such. Of the standard patents awarded in 2012, 7 per cent were to Australian applicants, down from 10 per cent in 2005. In 2012, applications were lodged for over 1800 innovation patents and 6400 designs, respectively, both of which do not require examination in order to be to be registered. Plant breeder’s rights are the least voluminous of the registered IP rights, averaging under 350 applications per year, with about 70 per cent being successful.

**Use of IP protections in trade and commerce**

IP protection afforded by patents can enter into trade and commerce in a number of ways. These include ‘own use’ in production and licensing and other arrangements, defensive uses directed at blocking competitors as well as simply holding the rights to an invention or idea against possible application. While there are limited data and studies in this area, one indication of how patents enter trade and commerce is the use made of them by registered holders. A sample of around 9000 inventions patented in six Western European economies (France, Germany, Italy, the Netherlands, Spain and the United Kingdom) between 1993 and 1997 indicates that around half of those patents were intended for use internally for commercial or industrial purposes. The use of a further 13 per cent included licensing arrangements (Giuri *et al*. 2007). Cross licensing of IP is a feature in areas such as information technology where the overall product or system relies on bringing together a number of complementary components each patented by a separate inventor.

Table 4.1 Intellectual property applications and grants in Australia,   
2005 to 2012

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| *Applicants from all countries (number)* | | | | | | | | |
| **Trade marks** |  |  |  |  |  |  |  |  |
| Applications (filings)a | 56414 | 60445 | 60976 | 59216 | 56573 | 59274 | 61557 | 62633 |
| Applications (classes)a | 92680 | 101695 | 108450 | 108314 | 99937 | 105837 | 110912 | 112543 |
| Registrations (classes)a | 62203 | 69915 | 77251 | 86138 | 79145 | 72607 | 72012 | 79894 |
|  |  |  |  |  |  |  |  |  |
| **Standard patents** |  |  |  |  |  |  |  |  |
| Applicationsb | 23851 | 25515 | 26774 | 26562 | 23675 | 24868 | 25520 | 26358 |
| Registrations (by examination) | 10977 | 9416 | 11069 | 11836 | 12410 | 14557 | 17877 | 17722 |
|  |  |  |  |  |  |  |  |  |
| **Innovation patents** |  |  |  |  |  |  |  |  |
| Filings | 1072 | 1094 | 1249 | 1297 | 1341 | 1485 | 1701 | 1856 |
| Registrations (automatic) | n.a. | n.a. | 1059 | 1173 | 1207 | 1345 | 1581 | 1838 |
|  |  |  |  |  |  |  |  |  |
| **Designs** |  |  |  |  |  |  |  |  |
| Filings | 5860 | 5878 | 5800 | 6083 | 5138 | 5865 | 6064 | 6449 |
| Registrations | 5843 | 7370 | 5207 | 6097 | 5665 | 5327 | 5647 | 5995 |
| Certifications | 318 | 637 | 863 | 1263 | 1007 | 856 | 895 | 963 |
|  |  |  |  |  |  |  |  |  |
| **Plant Breeder’s Rights** |  |  |  |  |  |  |  |  |
| Filings | 354 | 364 | 336 | 374 | 363 | 325 | 330 | 304 |
| Registrations | 362 | 280 | 196 | 249 | 282 | 217 | 183 | 144 |
|  |  |  |  |  |  |  |  |  |
| *Grants to Australian applicants as a proportion of total grants***c** | | | | | | | | |
| Trade marks | 0.57 | 0.54 | 0.55 | 0.54 | 0.55 | 0.57 | 0.59 | 0.54 |
| Standard patents | 0.10 | 0.09 | 0. 09 | 0.07 | 0.07 | 0.08 | 0.07 | 0.07 |
| Innovation patents | n.a. | n.a. | 0.82 | 0.79 | 0.83 | 0.75 | 0.68 | 0.62 |
| Designs | 0.47 | 0.48 | 0.45 | 0.4 | 0.47 | 0.47 | 0.44 | 0.41 |
| Plant breeders rights | 0.44 | 0.53 | 0.35 | 0.53 | 0.46 | 0.51 | 0.44 | 0.56 |

n.a. not available. a Every trademark application can claim cover in a set of 45 classes, so each filing will have multiple classes. b Direct applications with IP Australia plus National Phase Entry applications under the Patent Cooperation Treaty. **c** Calculated as the number of grants to Australian applicants (not shown) as a proportion of applications of Australian and foreign origin (shown in upper panel).

*Source*: provided by IP Australia from IP Australia data warehouse and IP Australia business units.

As copyright and related measures do not require registration, estimates of the incidence of works for which legal protections are provided are not available.

Intellectual property protection afforded by copyright and related measures enters trade and commerce through the protection of the expression of ideas such as through reproduction, publication and performance. The time-scale over which income accrues therefore will be of importance to how copyright might enter trade and commerce as well as the duration of protection afforded by IP law.[[3]](#footnote-3) Evidence suggests that the commercial life of creative works is, on average, relatively short — with the majority of income generated by sound recordings accruing within five years of release and income from sales of fiction titles occurring in the first months of publication (Gowers 2006, pp. 52-3).

### Licence fees, royalties and other IP revenues

For arrangements yielding licence fees, royalties and other revenue for IP holders, transactions between countries are estimated in balance of payments statistics. There is, however, no comparable Australian national accounts data which measure the flow of IP fees and royalties between firms in Australia.

In 2011-12, the recorded value of Australia’s payments to offshore IP holders amounted to $5.2 billion, while Australia’s receipts from non-residents were nearly $1 billion, around 0.3 per cent and 0.1 per cent of GDP, respectively (figure 4.2). Licences to reproduce or distribute computer services (mainly software), royalties on film and television entertainment and charges for the use of franchises and trade marks together accounted for about three quarters of the value of these payments offshore (figure 4.2, right hand panel). On the receipts side, around 60 per cent by value accrued from licensing of the use of computer services and for the use of the outcomes of research and development (figure 4.2, left hand panel). Since 1989-90, the value of balance of payments IP receipts and payments have, on average, increased about one percentage point faster per year than GDP. These estimates, as would be expected, will be influenced by a variety of factors including the level and changes in IP activity as well as other factors such as increased globalisation of economic activity and international taxation considerations of multinational firms.

Figure 4.2 Balance of payments licence, royalty and other charges for the use of intellectual property, Australia, 2011‑12a

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| Balance of payments IP credits (receipts) — about $1 billion (0.3 per cent of balance of payments credits and 0.1 per cent of GDP) | Balance of payments IP debits (payments) — about $5.2 billion (1.3 per cent of balance of payments debits and 0.3 per cent of GDP) |
| Figure 4.2 left hand panel. Balance of payments licence, royalty and other charges for the use of intellectual property, Australia, 2011 12. This pie chart shows the division of balance of payments IP receipts as: 31% fro computers; 30% for R&D outcomes; 20% other; 18% film and television; and 2% franchise and trademark licensing | Figure 4.2 right hand panel Balance of payments license, royalty and other chrages for the use of IP Australia 2011-12. This pie chart shows the dvision of balance of payments IP payments into 26% computing; 24% franchise and trademarrk licensing; 24% film and tv; 16% other and 10% R&D outcomes. |
| Figure 4.2 Balanc eof payments license, royalty and othger charges for the use of IP Aiustarlia 2011-12. This is the label legend to  the pie grapohs | |

a Charges for use of intellectual property are compiled in accordance with the IMF *Balance of Payments and International Investment Position Manual* (sixth edition). Under this manual, charges for IP include charges for use of proprietary rights, and charges for licences to reproduce or distribute IP embodied in originals or prototypes. Transactions are recorded when payments are made in accordance with the substance of licensing agreements. Franchise fees, trade mark revenue and payments for use of brand names may include aspects of property and services income, as well as charges for IP.

*Source*: Commission estimates based on data from ABS (2012c) (*Balance of Payments and International Investment Position, Australia, Sept. 2012*, Cat. no. 5302.0, tables 15, 16 and 51).

### IP content of production and trade conferred by IP protection

In an earlier study of the trade-related aspects of IP, the Commission used a two‑stage process to examine the value of the IP content of Australian production (whether used locally or exported) and imports, recovered commercially through IP protection (Revesz 1999). In the first stage, an assessment of the R&D and creative costs of domestic production, exports and imports was made. In the second stage, the component of these costs recovered commercially through IP protection was estimated.[[4]](#footnote-4) The calculations were in terms of ‘per cent of GDP’ with lower and upper‑bound estimates being made. The lower bounds have been projected forward to 2011-12 dollars to provide a broad indication of the possible current values.

* For *copyright*, the value of content in Australian production and trade may be at least $28 billion (in 2011-12 values) (around two per cent of GDP) with about three quarters of this embedded in domestic sales of locally produced goods and services. The copyright content applying to imports has typically been estimated to be much larger than that applying to exports.
* For *patents*, the IP content embodied in Australian production and trade (imports and exports) may be at least $3.5 billion (2011‑12 values) (around 0.25 per cent of GDP) — most of which is likely to be embedded in imports — reinforcing the common statement that Australia is a net importer of IP.

The Commission’s 1999 study recognised that there are monetary premiums attached to trade marks, designs and other IP subject to legal protections, but noted a lack of suitable data to make quantitative inferences about the IP content for these instruments in production and trade.

### Other measures

Another relatively easy-to-measure indicator of the economic footprint of IP is the ‘size’ of IP-related industries — with indicative estimates suggesting this could be as high as 10 per cent of GDP for copyright-related activities.[[5]](#footnote-5) While economic activity in the copyright supply and distribution chain would, to varying degrees, be influenced by copyright law, it is important to note that measures of the scale of activity in the chain do not provide a measure of the value of the copyright ‘content’ of production and trade. Nor do they imply links between legal protection for IP and levels or the extent of such activities that would exist without copyright protection, that is, the counterfactual.

Another approach to examining the economic importance of copyright is to measure firm investment in copyright content. Such measurement has formed part of the move in the national economic accounting field to treat long-lived artistic originals as capital assets (rather than treating the cost of producing artistic originals as current expenses). Soloveichik (2011) estimated the investment in artistic originals (such as theatrical movies, recorded music, books, and television programs) to be around 0.35 per cent of United States GDP in 2007. Goodridge *et al.* (2012) make a comparable estimate of 0.4 per cent of United Kingdom GDP in 2009. Australian national accounts information indicates capital formation of artistic originals amounted to around $2.3 billion in 2012 or around 0.15 per cent of GDP (ABS 2013).

## 4.4 Bilateral, regional and global frameworks

There has been a progressive increase in the coordination and harmonisation of IP law and its application through global frameworks, as well as bilateral and regional agreements. Frameworks influencing Australian IP law, and trade and commerce in IP both within Australia and internationally, include:

* the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS);
* treaties administered by the World Intellectual Property Organization (WIPO);
* other dedicated IP agreements falling outside of the WIPO framework; and
* IP provisions included as part of bilateral and regional trade agreements.[[6]](#footnote-6)

Other international treaties and agreements, such as the United Nations Framework Convention on Climate Change and the Kyoto Protocol contain provisions relating to the transfer of technology (which may have implications for domestic IP arrangements).

In Australia, treaties are tabled in Parliament before the agreement enters into force. Tabling may be followed by review processes, after which enabling legislation is presented to Parliament. (Treaties are referred to by a number of different names, including, international conventions, international agreements, covenants, final acts, charters, protocols, pacts, and accords. Usually these different names have no legal significance in international law.)

The plurality of international IP agreements and the interaction between them and with existing domestic law is complex.

* The IP agreements interact through the referencing of one agreement in another, such as through the referencing of several WIPO agreements in TRIPS. They also interact through eligibility criteria — for example, the Budapest Treaty on deposits of micro-organisms for patent procedures is only open to parties to the Paris Convention for the protection of intellectual property.
* In some areas of IP, there is more than one treaty. Sometimes new treaties are developed to address changes in technology or developments in IP, as happened with the Singapore Treaty on the Law of Trademarks (which followed on from the Trademark Law Treaty). There may also be multiple versions of the ‘same’ treaty, such as the International Convention for the Protection of New Varieties of Plants, with different signatories to different versions.
* Uncertainty can arise when treaty obligations are not incorporated directly into the relevant domestic Act or subordinate legislation. This issue was raised by participants in the Commission’s recent inquiry into compulsory licensing of patents, in reference to differences between the Patents Act and provisions in the Australia-United States Free Trade Agreement (AUSFTA (PC 2013).

### Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)

TRIPS is the overarching international IP agreement, and came into effect on 1 January 1995 as one of the major outcomes from the Uruguay Round of multilateral trade negotiations that led to the establishment of the WTO.[[7]](#footnote-7) TRIPS adopted the most-favoured-nation (MFN) principle, which had not traditionally been provided for in multilateral IP treaties. This principle means that an ‘advantage’ granted by a TRIPS member to the nationals of another country (whether a member or not) should be afforded to all members.

TRIPS sets substantive minimum standards in virtually all areas of IP protection. It does not aim at complete harmonisation as countries are free to exceed the minimum standards in national law. Particularly significant provisions introduced by TRIPS were in relation to patent eligibility, requirements for the protection of plant varieties, copyrights for computer software and electronic transmissions, protection for well-known trade marks, and effective measures to safeguard confidential information. The Agreement also provides guidelines about the effective and expeditious domestic enforcement of IP rights — an element that was not included in earlier international agreements. Compared with the previously unenforceable conventions supervised by WIPO, the TRIPS brought IP into the dispute settlement mechanism of the WTO.

Most of the requirements of TRIPS were already incorporated into Australian law and enforcement practices before the adoption of the agreement. The most significant legislative change brought about by TRIPS in Australia was the increase in the maximum available standard patent protection term from the existing 16 years to 20 years.

TRIPS does not codify detailed matters such as the screening criteria for a patent or the definition of infringements to copyright, leaving scope for national guidelines to vary without violating TRIPS.

### WIPO administered agreements

WIPO is the [United Nations](http://www.un.org) agency dedicated to the use of [IP](http://www.wipo.int/about-ip/en/) as a means of stimulating innovation and creativity (WIPO 2012a). WIPO was established in 1967 — with predecessor agencies dating from the 19th century. It currently has 186 member states, including Australia. Of the 24 IP treaties it currently administers, 15 are in force in Australia (table 4.2). Of major trading nations with significant patent and trade mark filings, the United States is party to 14, China to 13, Japan to 14, Germany to 19 and the United Kingdom to 17. The Republic of Moldova is party to the most (24).

In many cases, Australia was either not an original signatory or did not ratify the agreement at the time it came into force.[[8]](#footnote-8) Although being a signatory does not mean the provisions are immediately part of domestic law, signing does prohibit a country from action that would defeat or undermine the treaty’s objective (Geneva Academy 2012).

Over time, more countries have become parties to existing agreements and the subject matter covered by international agreements has expanded. At the same time, no two countries are party to precisely the same agreements. Some agreements have been revised several times with different countries being party to different versions. Many agreements are also flexible in various provisions allowing for a variety of domestic laws to give effect to the treaty objective.

In addition, some countries have IP regimes consistent with WIPO treaties, even though those countries have not formally joined. For example, Australia uses the Locarno system of classification for designs even though it is not a member of the relevant treaty.

Table 4.2 Current international IP agreements administered by WIPO

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Agreements | First agreeda | Current contracting partiesb | Area of IP | Ratified by Aust. |
| Paris Convention | 1883 | 174 | Industrial property | 1925 |
| Berne Convention | 1886 | 166 | Copyright | 1928 |
| Madrid Agreement (Indications of Source) | 1891 | 35 | Repression of false or deceptive indications of source on goods | - |
| Madrid Agreement (Marks) | 1891 | 56 | International registration of marks | - |
| Hague Agreement | 1925 | 60 | International registration of designs | - |
| Nice Agreement | 1957 | 83 | Classification of trade marks | 1961 |
| Lisbon Agreement | 1958 | 27 | Appellations of origins (geographical indications) | - |
| Rome Convention | 1961 | 91 | Performers, phonogram producers & broadcasting organisations | 1992 |
| Locarno Agreement | 1968 | 52 | Classification of industrial designs | - |
| Patent Cooperation Treaty | 1970 | 146 | International patent filing | 1980 |
| Strasbourg Agreement | 1971 | 62 | International patent classification | 1975 |
| Phonograms Convention | 1971 | 77 | Protection of phonogram producers against unauthorised duplication | 1974 |
| Vienna Agreement | 1973 | 31 | Classification of figurative elements of marks | - |
| Brussels Convention | 1974 | 35 | Unauthorised distribution of program-carrying signals transmitted by satellite | 1995 |
| Budapest Treaty | 1977 | 78 | International recognition of microorganism deposits for patents | 1987 |
| Nairobi Treaty | 1981 | 50 | The Olympic symbol | - |
| Washington Treaty | 1989 | Not yet in force (8 signatories) | Integrated circuits | - |
| Madrid Protocol | 1989 | 88 | Compatibility of Madrid system with legislation of certain countries which had not acceded to the Madrid Agreement | 2001 |
| Trademark Law Treaty | 1994 | 53 | Simplification & harmonization of trade mark registration procedures | 1998 |
| WIPO Copyright Treaty | 1996 | 90 | Copyright | 2007 |
| WIPO Performances and Phonograms Treaty | 1996 | 90 | Performers rights | 2007 |
| Patent Law Treaty | 2000 | 32 | Harmonization & streamlining of international applications | 2009 |
| Singapore Treaty on the Law of Trademarks | 2006 | 29 | Harmonization of trade mark registration procedures | 2009 |
| Beijing Treaty on Audio visual Performances | 2012 | Not yet in force (51 signatories) | Performers rights | - |

a Some agreements have been revised multiple times, for example there are three Acts of the Hague Agreement currently in force (1934, 1960 and 1999). b Of the current contracting parties, some may be party to different versions.

*Source*: WIPO (2012a).

### Other international IP agreements influencing Australian IP law

#### International Convention for the Protection of New Varieties of Plants

The protection of new plant varieties was first introduced in the United States in 1930[[9]](#footnote-9) and progressively adopted in Western Europe. The first international agreement on plant IP was the 1961 International Convention for the Protection of New Varieties of Plants. This was revised in 1972, 1978 and 1991. These international plant protection agreements are managed by the International Union for the Protection of New Varieties of Plants (UPOV), an organisation largely independent of WIPO. Currently, there are 71 members of UPOV, with 19 party to the 1978 version only and not the latter 1991 version.

Australia did not sign the 1961, 1972 and 1978 UPOV conventions because of concerns over whether the Federal Government had constitutional power to legislate and because of debate over the merits and form of any such legislation (Sanderson and Adams 2008: Sanderson 2011). Ultimately, separate legislation for plant breeder’s rights was enacted through the *Plant Variety Rights Act 1987*. Australia subsequently became a member of UPOV in 1989 and replaced the 1987 Act with the *Plant Breeder’s Rights Act 1994,* to give effect to the UPOV Conventions of 1978 and 1991, and to align the plant breeder’s rights system with changing technologies (ACIP 2010).

#### The Anti-Counterfeiting Trade Agreement

The Anti-Counterfeiting Trade Agreement (ACTA) is a plurilateral[[10]](#footnote-10) treaty for the enforcement of IP rights through a regime of common enforcement standards and practices, and a framework for international cooperation on these matters. Article 36 of ACTA would create an the ACTA Committee, comprising the Parties to the Agreement. The ACTA text was finalised in 2010 with Australia signing in October 2011. As at May 2012, Australia has not ratified the agreement. To date, 31 countries have signed ACTA and Japan is the only one to have ratified. (Further detail on the ACTA is provided in chapter 5.)

#### IP provisions in Australian bilateral and regional trade agreements

While IP protections have traditionally been the province of domestic legislation and dedicated multilateral treaties, in recent years they have also increasingly been included in bilateral and regional trade agreements (BRTAs). While most of Australia’s recent BRTAs reaffirmed the existing commitments under TRIPS, the agreements with the United States and Chile covered more IP matters than TRIPS (DFAT 2010).

Australia made changes to domestic law as a result of the (AUSFTA). A prominent change was the extension of the copyright expiration period from 50 to 70 years after the author’s death to align with US practice.[[11]](#footnote-11) Another notable consequential change to Australian law (implemented in the *Copyright Amendment Act 2006*) related to strengthened protection against the circumvention of digital rights management systems (DRMS), which had already been implemented in the United States by the Digital Millennium Copyright Act. DRMS are technical ‘locks’ copyright owners use to stop material being copied without permission. Strengthened DRMS potentially provides stronger protection for copyright holders, but may also inhibit ‘fair dealing’. As noted below (section 4.7), permissible circumvention of technical protection measures in Australia is currently under review.

IP matters are included in negotiations towards a proposed Trans-Pacific Partnership (see chapter 5).

## 4.5 IP administration and legal recourse

Administration of the Australian IP system involves significant public resources, and responsibilities are spread across many government agencies. The design and operation of IP administration as well as the prevalence and costs of legal action can materially influence the outcomes of IP systems. Some background on these aspects is outlined below.

### IP responsibilities within the Australian Government

The array of IP types and related activities has given rise to widespread government responsibilities. The Attorney-General’s Department is responsible for the Australian Government Intellectual Property Rules, setting out how government manages its own IP. The registered rights (patents, trade marks, design and plant breeder’s rights) are administered by IP Australia, a prescribed agency within the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education portfolio. Responsibility for copyrights resides with the Attorney‑General’s Department. Other government agencies with IP related functions include: the Department of Foreign Affairs and Trade (international IP policy and trade-related aspects of IP in consultation with domestic agencies); the Department of Regional Australia, Local Government, Arts and Sport (artists’ resale royalty); the Department of Broadband, Communications and the Digital Economy (IP issues relating to digital content of communications providers); the Department of Health and Ageing (pharmaceutical patent extension applications and compulsory licensing and crown-use exemptions relating to delivering medical and pharmaceutical benefits); Therapeutic Goods Administration (protection of test data in the context of therapeutic goods registration applications); the Department of Agriculture, Fisheries and Forestry (test data submitted for agricultural chemical regulatory approval and wine geographical indicators under the Wine Corporation Act); and the Australian Customs and Border Protection Service (seizure of suspected IP infringing goods).

In addition to the administration and policy responsibilities of departments, the Australian Government provides funding for the Australian Copyright Council (through the Arts Council) and the Intellectual Property Research Institute of Australia (through IP Australia). The Advisory Council on Intellectual Property (ACIP) is an independent body appointed by the government, to advise the Australian Minister for Industry and Innovation on IP matters and strategies.

### IP office resources and examination

While IP systems are often described and compared in terms of their length and coverage of IP protection (section 4.1), the overall strength and quality of an IP system also depends on institutional design features (such as examination periods, opposition processes, and IP office resources) as well as enforcement and litigation cost effectiveness. Recent research suggests that seemingly minor changes in the institutional design of patent systems can have relatively large effects on application levels, grants rates and disputes over validity of patents (Hall and Harhoff 2012; PC 2013, appendix B).

#### IP Australia

Intellectual property offices can be large public organisations. In 2011-12, IP Australia employed around 1100 people and had a total expenditure of about $156 million, most of which was recovered by charging fees for its IP rights services, as required under government cost recovery requirements (IP Australia 2012a).

A standard patent can be granted in Australia within a couple years from initial application, though it can take up to a maximum of around eight years (figure 4.3). An opposition can take one year; although three to four years has not been uncommon in the past. Recent legislative changes aim to streamline the opposition process. Once granted, the standard patent term dates 20 years from the filing date (with an extension of up to five years potentially available for pharmaceutical patents). Potential infringements of a patent date from the initial publication (disclosure) of the application and can be legally pursued (retrospectively) if a patent application is subsequently successful.

In recent years, rising demand for IP rights in an increasingly global system, and difficulties in attracting and retaining enough qualified staff, created a steady increase in the backlog of unexamined applications and a weakening in the achievement of compliance and timeliness standards (IP Australia 2012a). In 2010‑11, IP Australia introduced a Product Quality Review System (PQRS) and by 2011-12, the patent backlog had been reduced by about 24 per cent from the peak level in 2010, while average examination times were reduced from 16 months to 11 months.

Figure 4.3 Stylised overview of a standard patent application process and patent term

|  |
| --- |
| Figure 4.3 Stylised overview of a standard patent application process and patent term. This flow diagram is decsribed in the surrounding text. It shows the different stages from application through examination and opposition. It can take a maximum of up to 7years 3 months. |

a Until recently this was up to 8 years. Under the recent Raising the Bar Act 2012 the statutory time period for responding to examination problems and obtaining reassessment was reduced from 21 to 12 months. Many applications already in progress may continue to take up to 8 years to be granted.

*Source*: Based on IP Australia (2013b).

#### Differences between international patent offices

Picard and van Pottelsberghe de la Potterie (2011) compared the demand for patents, examination resources, workload of examiners, examiner remuneration and staff turnover for the patent offices of the United States, Europe and Japan. They characterised the US patent office as a cheap and fast system, with a low-to-medium quality examination process.[[12]](#footnote-12) In contrast, the European patent office was seen as a slower and more expensive system, with medium-to-high quality. The Japan patent office was assessed to be in an intermediate position. Lemley (2012) argued that the US issues a small but worrisome number of economically significant ‘bad’ patents (where the legal rights awarded are far broader than what their relevant inventors actually invented and hard to overturn legally).

Preliminary results from a recent empirical comparison of the examination of identical patent applications in Australia, the United States and Europe indicated materially different decisions despite generally similar tests. The investigations indicated that the terms of US and European patent grants tended to be narrower than Australian granted claims (Dent and Christie 2012).

##### Pre-grant time and deferred examination

In most countries, a patent application is not automatically examined after it is filed, rather, examination proceeds only after an applicant formally requests commencement of examination. The deferment period varies across countries and influences workloads and comparison of grant success rates across countries. Australia currently allows up to five years in which to request examination (figure 4.3) with the average time in recent years being 17 months (IP Australia 2013b). Three to five years is typical across many countries, although in the United States examination is undertaken without formal request by the patent applicant and in Japan and Germany it is seven years. At the German patent office, only two‑thirds of all applications are ever examined as the remainder are dropped by the applicants during the deferment period (Hall and Harhoff 2012).

While longer deferment may be considered an administrative advantage in terms of reducing workloads, Hall and Harhoff identify research suggesting deferred patent examination may create uncertainty for rivals of an applicant who keeps an application in play (McGinley 2009; Henkel and Jell 2010).

### Challenging and enforcing patent and trade mark rights

#### Administrative opposition to patent applications and grants

Patent systems typically offer some form of administrative pre- and post‐grant review mechanisms that provide third parties with an opportunity for challenging the validity of an application or successful grant. (This administrative challenge is separate from the statutory provisions, noted above, which allow certain non‑voluntary access to IP). Over the last decade, opposition requests in Australia have ranged between 100 and 200 per year (PC 2013) — about 0.25 to 0.5 per cent of total patent applications. About half of patents that are opposed either do not proceed or proceed after amendment (Weatherall *et al.* 2011). The median procedure time of oppositions was 865 days from commencement of opposition. The design of opposition systems varies across countries (such as the available period for opposition, the grounds for opposition, appeal options and fees), with differences in design considered to have a material effect on usage and outcomes, particularly the much lower rate of opposition in the United States compared with the European Patent Office (Hall and Harhoff 2012).

#### Infringement and litigation of patents and trade marks

Once IP rights are created through law, they are typically enforced in a similar manner to property rights over land and other assets. That is, IP holders are responsible for identifying infringements of their own rights and taking action, such as letters of warning and litigation. (It is not the responsibility of IP Australia to identify infringement of registered IP rights). The different IP Acts set out the type of action that can be taken against a person who infringes those rights, as well as the legal remedies and compensation that may be ordered by a court. The court has the power to order an interim injunction pending the outcome of a trial (which can take many months).

For Australia, the court filing rate for patent disputes between 1986 and 2005 was estimated to be about 0.5 per cent of patents in force in any one year (Weatherall and Webster 2009). Most patent cases that are filed are settled privately, with only a small percentage going to trial. However, the relatively low rate of patent litigation does not mean that patent copying and alleged infringement is correspondingly low. A survey of 3700 Australian inventors found 28 per cent of patented inventions between 1986 and 2005 had been the subject of unapproved copying (Weatherall and Webster 2009). Letters warning of infringements were sent in about half these cases, and succeeded in stopping the alleged infringing behaviour in about 40 per cent of the cases. Trade mark litigation in Australia is also relatively rare, with 391 court decisions in trade mark and counterfeit cases identified in Australia between 1997 and 2003 (Bosland *et al*. 2006). Of the 391 court decisions, many were legally straightforward counterfeit cases awarded in favour of the owner, with the alleged infringer often failing to appear in court.

As a comparison, the overall rate of patent litigation in the United States in recent years has been approximately one to two per cent of patents (Hall and Harhoff 2012). For litigation in the United States, financial patents are estimated to be litigated at a rate between 27 and 39 times more often than other patents, and were predominantly being asserted by small entities or individuals against large firms (Lerner 2008). Other research has suggested that the cost of patent litigation has increased and that there are other difficult-to-quantify effects on uncertainty arising from the operation of the legal system (Boldrin and Levine 2013).

## 4.6 Some recent empirical research into IP

Recent empirical research has covered a wide range of topics including the traditional focus on the incentive to invent and create, as well as new IP issues such as the impact of file sharing on copyright revenue and the coordination of multiple input patents required to produce one product. A selection of recent work is identified in this section.

### The effectiveness of patents in encouraging innovation

Hall and Harhoff (2012) provide a wide-ranging survey of recent research on the economics of patents citing 210 theoretical and empirical studies. Regarding the effectiveness of patents in encouraging innovation, Hall and Harhoff (2012) formed the view from the cited studies that patents are an important incentive for innovation for a small subsector of industry (particularly pharmaceuticals, biotechnology, medical instruments and specialty chemicals).

The bottom line from the empirical evidence is that the patent system provides clear incentives for innovation in only a few sectors, but that firms and industries do respond to its presence, both by making use of the system and by sometimes tailoring their innovative strategies to its presence. (Hall and Harhoff 2012, p. 15)

Another recent review article also concludes that the relative importance of patents varies across industries and draws attention to other factors influencing innovation.

A half century of occasional research on the economics of patents has convinced me that although patents are important, other first-mover advantages are even more powerful as spurs to investment in technological innovation. Unfortunately, this knowledge does not appear to be widely diffused. Many policy initiatives proceed as if patents were the only effective stimulus to invention and innovation. The full story needs to be recognised more widely. (Scherer 2010, p. 27)

Another comprehensive study of existing empirical work concluded that there is evidence that strengthening the patent regime increases patenting, but a connection between patents and some measure of innovation or productivity has proven difficult to verify (Boldrin and Levine 2013).

### The effectiveness of patent disclosure in facilitating follow-on inventions

One of the motivating factors behind the development of a patent system was the facilitation of follow-on inventions provided by disclosure of technical information relating to the patented invention (rather than remaining secret). Hall and Harhoff’s (2012) interpretation of the literature is that the effects on innovation by third parties from the revelation of technical information also varies widely across industries, but that the disclosure effects are ‘quite small in comparison’ to the private value of patents. In fields where patents have a strong impact on appropriability such as chemicals and pharmaceuticals, disclosure effects appear to matter the most. The lack of clarity and preciseness of some patent disclosure information (for strategic and legal reasons) has been identified as impinging on the potential usefulness of disclosure, and some researchers avoid studying existing patents to avoid possible wilful infringement claims (Boldrin and Levine 2013).

### Potential impediments to innovation in multiple patent scenarios

Recent research has also considered the implications of the tendency for complex products like ‘smart’ phones to use multiple patented inventions. Two streams of concerns have been expressed.

* The management of the take-up of technologies in an environment of multiple patents with fragmented ownership (patent thickets). A review of the patent thicket literature identified that the core feature of a patent thicket appears to be the number of patentees affected rather than the number of patents pertaining to a single product or service (IPTMAA 2013).
* The potential for ‘hold-up’, where a new technology unknowingly infringes a patent and a technology user is not made aware until large‑scale production has commenced or is about to commence. The patent holder can use its enhanced bargaining power to hold-up production (through legal injuncture) and extract higher licensing fees. Where a single product infringes multiple patents, it may be subject to multiple royalty burdens (royalty stacking). One stream of analysis concludes that patent hold-up and royalty stacking outcomes in the United States have been systematically excessive (Lemley and Shapiro 2007; Shapiro 2010). However, some authors dispute this work (Elhauge 2008; Sidak 2007; Sidak 2009).

An investigation into access to input patents and strategies of innovative German firms found that about six per cent halted or did not start innovation projects because of problems with access to IP, and a further nine per cent reported modifying projects or developing ‘coping mechanisms’ such as the acquisition or exchanges of IP (Mueller *et al.* 2010).[[13]](#footnote-13) About another seven per cent reported proceeding with the project without access to the necessary IP. Rates of modifying a product due to IP access issues were higher for firms in industries where IP is considered more important (such as chemicals and pharmaceuticals).

### The impact of file sharing and illegal copying on copyright revenue

The former UK Strategic Advisory Board for Intellectual Property Policy commissioned an independent report on the theoretical and empirical literature pertaining to the economics of copyright and digitisation (Handke 2010). That report drew on 170 studies. On the topic of the impact of file sharing and illegal copying, the majority of studies considered in the report focused on the primary market for sound recordings and estimated that there had been a negative short-run effect on revenues. However, this was not a universal finding and the size of the estimated effect differs widely between studies.

Subsequent to the Handke work the UK Government commissioned the Independent Review of Intellectual Property and Growth (Hargreaves 2011). This review included a comprehensive stocktake of surveys and claims of the cost of copyright infringement. It observed wide variation in estimates and expressed concerns about the surveys’ methodologies. The review concluded that creative businesses are experiencing turbulence and uncertainty about present and future copyright infringement but the measured impact on the creative business sector as a whole is not as stark as some suggest.

The Australian Competition and Consumer Commission (ACCC) drew on the literature covered by Handke in its submission to the current Australian Law Reform Commission (ALRC review of copyright and the digital economy, noting that most analysis of copyright was incomplete as the benefits to consumers and intermediate users of file sharing were typically not considered (ACCC 2012).

One study since the Handke literature review — on films — found evidence of a relatively small sales revenue displacement effect of illegal copying on Australian box office releases (McKenzie 2013) The study found that the release gap between the United States and Australian markets is a key contributor to piracy early in a film's theatrical life which provides a partial explanation of the industry's increasing trend towards coordinated worldwide releases.

## 4.7 Review activity in Australia

There has been a progressive increase in formal reviews of the Australian IP system (section 4.2). The breadth of modern IP issues and the changing nature of the economic and legal environment pertaining to IP has given rise to frequent review activity.

### Past review activity

The first formal reviews of IP in Australia appear to have been conducted about three decades after the first laws were introduced (Caine and Christie 2005). In 1933, there was a Royal Commission on Performing Rights (the Owen Committee). This was followed in 1935 by a review of patents law (Knowles Committee) and in 1938 by a review of trade marks law (also a Knowles Committee). After this, review activity remained low and sporadic for another 40 years. Review activity (relating to patents, trade marks, design and copyright) then accelerated, with 24 reviews between 1976 and 1990 and then a further 39 reviews in the next 15 year period (1991 to 2005). There has been no stocktake of reviews since Caine and Christie in 2005.

The reviews into aspects of IP have been conducted by a wide range of bodies including: dedicated IP standing bodies (the Copyright Law Review Committee, Advisory Council on Intellectual Property, and the Intellectual Property Advisory Committee); Parliamentary standing committees (both Senate and House of Representatives); government departments; other government bodies (such as IP Australia, the Prices Surveillance Authority, the National Competition Council and the Productivity Commission); other permanent bodies (such as the Australian Law Reform Commission and the Professional Standards Board for Patent and Trade Marks Attorneys); and one-off appointed committees (with a chairperson).

One of the most recently completed reviews was by the Productivity Commission into the compulsory licensing provisions in the *Patents Act 1990* (PC 2013). It included recommendations to:

* remove overlap and inconsistency between provisions addressing anticompetitive behaviour in the *Competition and Consumer Act 2010* (Cwlth) and *Patents Act 1990* (Cwlth);
* replace criteria based on the ‘reasonable requirements of the public’ in the Patents Act with a ‘public interest’ test;
* reduce uncertainty about international treaty obligations on compulsory licensing; and
* clarify when Crown use can be invoked by governments, and improve the associated transparency and accountability.

#### Review of IP within broader frameworks

While reviews of IP have tended to focus on particular aspects of the IP system and its applicability to changing technologies and ways of working, IP rights and law have also been considered in the context of broader frameworks of competition policy, innovation policy and trade policy.

* In 1999, the National Competition Council reviewed the exemption of elements of IP from some provisions of the Trade Practices Act (NCC 1999).
* IP laws were reviewed in 2000 (Ergas committee) under the Competition Principles Agreement of Australia’s National Competition Policy (IPCRC 2000).
* The Productivity Commission’s 2007 research report on public support for science and innovation (PC 2007) discusses impediments in the IP system identified by participants, and the management of IP in universities and publicly funded research agencies.
* The 2008 review of Australia’s innovation system (Cutler review) briefly discussed the inventive steps required to qualify for patents (Cutler 2008)
* The Productivity Commission study into Bilateral and Regional Trade Agreements (PC 2010b) assessed the inclusion of IP provisions in trade agreements.

### Current reviews

A number of current reviews highlight the diversity of IP matters and the continual need to regularly reconsider IP laws and systems in light of changing (and sometimes unforeseen) circumstances.

* The Australian Law Reform Commission is considering whether exceptions and statutory licences in the Copyright Act 1968 are adequate and appropriate in the digital environment and whether further exceptions should be recommended (ALRC 2012).[[14]](#footnote-14)
* The Attorney-General’s Department is undertaking a Review of Technological Protection Measure Exceptions made under the *Copyright Act 1968* (AGs 2013). Technological protection measures are technical locks copyright owners use to stop their material being copied or accessed without permission.
* The Advisory Committee on Intellectual Property has two public reviews in train; one on the Innovation Patent System and another on the Design System (ACIP 2013).
* A review of pharmaceutical patents is evaluating whether the system for pharmaceutical patents is effectively balancing the objectives of securing timely access to competitively priced pharmaceuticals, fostering innovation and supporting employment in research and industry (IP Australia 2013a). Amongst other things, the draft report to this review included for public comment draft recommendations for greater scrutiny of IP provisions in trade agreements and a medium‑term review of Raising the Bar reforms (PPRP 2013).

## 4.8 Some concluding remarks

IP law is long established and has evolved over the centuries in response to changing economic circumstances. The inclusion of IP in the global trading system that accompanied the establishment of the World Trade Organization (WTO) in 1995 signalled the further elevation of IP in economic policymaking.

An underlying motivation of much IP law is to facilitate trade and commerce, either through providing incentives for inventiveness and creativity, or through revealing information about new inventions and ways of working to the market while preserving the proprietary rights of the IP owners. A stream of IP law also seeks to acknowledge the moral rights of creators and performers over their talents.

The tradeoffs entailed in IP arrangements have been recognised in two recent reports by the Commission, one dealing with bilateral and regional trade agreements (PC 2010b) and the other with compulsory licensing of patents (PC 2013). The latter notes in the case of patents:

A patents system involves a tradeoff between encouraging innovation and facilitating access to new technologies. In particular, the right to exclude others from using a patented invention is central to providing innovators with a means to benefit financially from their efforts, but it also has the potential to hinder the community’s access to new technologies. A patent that provides a greater reward than needed to induce an invention could reduce the invention’s net benefit to the community as a whole, and result in a greater share of the benefits going to the patent owner. In cases where there are no substitutes for the invention, a patent could also facilitate monopolistic and/or anticompetitive behaviour. (PC 2013, p. 6)

Complex legal systems and administrative frameworks have been established to manage IP law. National systems of IP law are complemented by international frameworks and treaties. Australia has ratified a number of international treaties and is a signatory or observer to others. Australia also has a substantive tradition of review and public debate concerning the implications for IP law of changing technology, ways of working and evolving community norms. An inquiry into compulsory licensing of patents has just been completed and reviews are current in the areas of the implications of the digital economy on copyright and the pharmaceutical patents system, amongst other matters.

Empirical research suggests that the relevance and impact of IP law varies between activities, while administrative arrangements can have separate effects on IP activity and its use in trade and commerce.

Topic-specific reviews, including assessment of recent changes such as the Raising the Bar reforms, will continue to be needed from time-to-time to ensure that economic, legal and administrative frameworks remain up to date. For a diverse topic area such as IP, an issue is whether there would be a role in the medium term for an independent over-arching framework-style review, as has occurred in Australia in other areas, for example, the financial system and consumer policy.

1. Trade mark (or ‘mark’) is adopted in this chapter for consistency with the *Trade Marks Act 1995*. Some international treaties and IP agencies adopt ‘trademark’ or ‘trade-mark’. [↑](#footnote-ref-1)
2. Caine and Christie (2005) considered sub-sections (rather than number of sections, number of pages or word length) to be a better reflection of the volume and complexity of the legislation and better for comparison across different areas of law. [↑](#footnote-ref-2)
3. As noted (section 4.1) the period of copyright typically extends to the author’s life plus a further margin, which is 70 years after death in Australia. [↑](#footnote-ref-3)
4. Other means by which businesses may recover the cost of their R&D and creative activity include secrecy and market power, as well as direct support by government through taxation concessions and other budgetary outlays. The estimates of the costs recovered through IP protection would vary over time with the level of IP embodied in goods and services and the relative importance of IP law as a means of recovering the costs of development or creation. [↑](#footnote-ref-4)
5. The World Intellectual Property Organization has also developed a framework for identifying industries in the ‘copyright supply and distribution chain’ (WIPO 2003). This framework distinguishes between industries that may be engaged in the creation or distribution of copyright material (core activities) and industries that provide technology and equipment supporting the creation, production or use of creative works (independent industries). This framework has been applied in Australia, in a consultant study, as part of a study of 30 countries of the scale of copyright supply, distribution and support (PwC 2012; WIPO 2012b). The WIPO study indicated that copyright supply and distribution and support activities account for around 5 per cent of GDP across the 30 countries sampled, while for Australia and the United States, the activities were estimated to account for around 10 per cent of GDP. [↑](#footnote-ref-5)
6. A non-treaty measure that may affect the transfer of Australian manufactured products using US technology (including data) is the United States International Trafficking in Arms Regulation (ITAR), which requires US Department of State approval before transfer. [↑](#footnote-ref-6)
7. Prior to the Uruguay Round, IP exporting countries, particularly the United States, had pursued stronger IP protection against infringements in developing countries (Maskus 2000). The Uruguay trade negotiations provided an opportunity to offer developing countries some compensating benefits for strengthening IP protection. Developing countries agreed to join TRIPS partly in exchange for the liberalisation of agricultural and textile imports by developed nations. Initially, the trade talks focussed on ‘pirated’ copyright and counterfeit products that misappropriated well‑known trade marks. However, the final agenda was widened to include all IP issues (Revesz 1999). [↑](#footnote-ref-7)
8. A country can become a member of a treaty through a process of ‘accession’ or ‘ratification’. In the case of ratification, the country first signs and then ratifies a treaty. The procedure for accession has only one step (and is not preceded by an act of signature). Australian membership of most IP treaties has been through accession rather than ratification. In Australia, treaties have no force until legislation is passed by Parliament. [↑](#footnote-ref-8)
9. It established *patent rights* for developers of new varieties of many asexually propagated plants, for example apple trees and rose bushes, that are propagated by cutting pieces of stems rather than germinating seeds. Patent rights in the United States for seed propagated plants were established in 1970. [↑](#footnote-ref-9)
10. The primary difference between a plurilateral treaty and other multilateral treaties is that the availability of [reservations](http://en.wikipedia.org/wiki/Reservation_(law)) is more limited under a plurilateral treaty. Due to the limited nature of a plurilateral treaty, the full cooperation of the parties to the treaty is required in order for the object of the treaty to be met. As a result, reservations to plurilateral treaties are not allowed without the consent of all other parties to the treaty. [↑](#footnote-ref-10)
11. Copyright term in the United States has progressed from 14 years plus an additional 14 years if the author was still alive (1791), to 28 +14 (1831), to 28+28 (1909), to life of author plus 50 years (1976), to life + 70 years (1998). In Australia, the copyright term in the 1905 legislation was the shorter of seven years after death of the author or 50 years from publication. In 1912, when copyright law reverted to the British copyright legislation, the term changed to life of the author plus 50 years, which remained the case until the AUSFTA extension in 2006 to generally life plus 70 years. [↑](#footnote-ref-11)
12. The US processes more patents and more claims per patent (both on a per capita and per-examiner basis). Despite the higher apparent individual productivity at the United States Patent and Trademark Office (USPTO), remuneration is estimated to be lower. Staff turnover is much higher at the USPTO. ‘Quality’ is measured by the inputs (work time per examination and on-the-job experience). [↑](#footnote-ref-12)
13. These results were presented in Australia in 2012 at Intellectual Property Research Institute of Australia (IPRIA) organised seminars. The bibliography in Mueller *et al.* (2010) provides a guide to recent analysis. [↑](#footnote-ref-13)
14. IP Australia has submitted to the review examples of how copyright law impedes its own administration of IP rights. [↑](#footnote-ref-14)