



A New Patent Grant Program Australia's Patent Box Solution

Contents

Executive Summary.....	3
Introduction.....	3
Australia needs to increase patent production as a matter of urgency.....	4
What is Patent Box?.....	5
Why does Australia need a Patent Box solution?.....	5
What is the U.K. Patent Box Incentive?.....	6
Why may a grant style Patent Box be more effective?.....	8
Correlation between Patent Production growth rate and GDP Growth.....	9
Our Short-term Solution – An entitlement grant to produce patents.....	10
Service offerings available under the PGP.....	11
Application Process.....	11
When does the grant get paid?	12
Approved providers and regulation.....	12
Who is eligible to apply?	13
Three year patent production running average.....	14
Conclusion.....	15
Next Steps.....	15
Contact Details.....	16

Executive Summary

- Patent production has a strong link to a nation's Gross Domestic Product (GDP).
- There is robust evidence that a Patent Box incentive increases a nation's patent production.
- Although the Patent Box model in the U.K. is the most compatible with Australia's taxation system, the OECD has concerns regarding its long-term economic impact.
- Further, given the diversity of representation in the current Senate, controversial legislation measures would likely be stalled and eventually be blocked.
- Australia does not have a grant program that funds the production of patents.
- A new grant program in the form of a *Ministerial guideline* may increase Australia's patent production in the short-term.
- The grant, ideally financed through the Department of Industry, would aid to increase patent production until the U.K Patent Box controversy is resolved and legislation to implement Patent Box incentives within the taxation system could be explored.

Introduction

Investment in innovation strategies such as Patent Box will be crucial to driving growth and employment within Australia. As demand increases for new skills, knowledge and flexible competencies within a globalised economy, Australia requires system-wide innovation reform to ensure that it remains on par with international innovation policy¹.

Instability in innovation policy and a lack of clear direction may harm long-term investment by business. The Australian Government must address these innovation policy issues to create an environment to allow business to invest with confidence.

The Wrays and Swanson Reed Innovation Advisory Group (WSR Group)

Wrays is one of Australia's most prestigious Intellectual Property Management and Patent Advisory firms. Swanson Reed is Australia's largest specialist R&D Tax Incentive provider.

Wrays and Swanson Reed have formed a *think tank* on Australian innovation matters. It is envisaged that the alliance will extend to other partners with the view of forming a lobby group to government on short and long-term Patent Box initiatives along with other innovation strategies.

¹ Luke, A., Freebody, P. Shun, L. & Gopinathan, S. (2005). Towards Research-based innovation and Reform: Singapore schooling in transition. *Asia Pacific Journal of Education*, 25(1), p. 5-28.

Australia needs to increase patent production as a matter of urgency

Patent production is a key element in promoting economic growth indirectly by stimulating the accumulation of inputs from R&D and physical capital². Investing in intangible assets alongside physical capital and infrastructure should be a priority for maximising future economic growth and competitiveness.

In 2005, Australia accounted for only 0.76% of the world share of triadic patent families³. This particular type of patent is filed jointly with international patent offices to initiate the process to seek intellectual property (IP) protection worldwide. Therefore triadic patents are often a more accurate indication of the international impact of an economy as they reflect invention and innovation on a global scale. This low level of patenting coupled with Business Enterprise Research and Development (BERD) decreasing as a proportion of GDP reflects Australia's structural characteristics. While there are large resource and agricultural sectors, the weaker manufacturing sector remained the largest contributor to total BERD in 2011-12 with \$4,474 million or 24%⁴.



Additionally, Australia has weaker patent collaboration than many other countries in the G20. According to the OECD, “linkages are weak with only around 9% of innovating firms co-operating with an external partner for their innovation activities; only a small number and proportion of patents are developed with co-inventors”.

² OECD. (2013). Maximising the benefits of R&D tax incentives for innovation. Directorate for Science, Technology and Industry. Retrieved from SourceOECD database.

³ OECD (2008). OECD Science, Technology and Industry Outlook 2008. Retrieved from <http://www.oecd.org/australia/41557063.pdf>

⁴ Australian Bureau of Statistics. (2013). Research and Experimental Development, Business, Australia, 2011-12. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8104.0/>

What is Patent Box?

The Patent Box scheme provides an incentive for companies to increase their patent production as a form of IP. The scheme encourages companies to locate all associated activity, such as manufacturing and exploitation of that IP, in the home country where the patent was developed by making this an eligibility requirement⁵. Presently, Patent Box exists in nine European countries and China.

Why does Australia need a Patent Box solution?

Patent Box incentives encourage Australian and foreign companies to invest and locate high-value jobs associated with the development and exploitation of patents in Australia. This has the potential to positively impact and strengthen industries such as manufacturing, which have been facing a steady pattern of decline⁶.

With the introduction of a Patent Box system in many developed countries around the world, Australia is in immediate danger of losing large innovative manufacturing companies to overseas economies where companies can benefit from the reduced corporate tax rate.



⁵ Thomas, B., Lavelle, A., Murray, I. & Tegen, S. (2014). *Australian Innovation and Manufacturing (AIM) Incentive*.

⁶ Lowe, P. (2012). The Changing Structure of the Australian Economy and Monetary Policy (RBA report). Retrieved from the Reserve Bank of Australia website: <http://www.esa.doc.gov/Reports/intellectual-property-and-us-economy-industries-focus>

What is the U.K. Patent Box incentive?

Patent Box was introduced into the United Kingdom in April 2013. In order to qualify for the incentive, companies must exclusively licence-in the relevant patents and must have been involved in qualifying development of them in the U.K.. Qualifying companies receive a reduced corporate tax rate of 10% for exploiting patented inventions and certain other botanical and medical innovations⁷.

Positive aspect of U.K. Patent Box model

The implementation of the Patent Box regime in the U.K. has resulted in significant interest and investment from major corporations. Ian Read, Pfizer's Chief Executive said in a statement in April 2014 "*The United Kingdom has created attractive incentives for companies to manufacture products and maintain and protect intellectual property, and we have seen that capital and jobs have followed these types of incentives*". GlaxoSmithKline disclosed that they would be investing £700 million in the U.K. because "*the establishment of the Patent Box has made the U.K. a globally competitive location for investment in high-tech manufacturing and research facilities*". The aim of the Patent Box incentive is to encourage high value technological, manufacturing and other associated activities in the U.K.; based on preliminary evaluations this objective appears to be occurring.

Negative aspects of U.K. Patent Box model

In recent months, there has been controversy surrounding the U.K.'s Patent Box system regarding the level of reduction in corporate tax. Tax erosion has been observed with large multinational's shifting their profits to low-tax jurisdictions to minimise their tax burden. The aim of the Patent Box was to encourage new business investment, rather than reduce corporate tax of groups already conducting business within the U.K.. Further to this, the U.K. model has been seen as a threat to the fair competition agenda of the European Union⁸.

⁷ Intellectual Property Office (2014). *Qualifying for Patent Box*. Retrieved from <http://www.ipo.gov.uk/types/patent/p-patentbox/p-patentbox-qualify.htm>

⁸ Dean, M. (2014) UK Patent Box - a pre-Action plan recipe?. Retrieved from <http://www.tpa-global.com/news/2014/04/28/uk-patent-box-ndash-a-pre-action-plan-recipe>

The OECD has recently introduced an Action Plan designated at targeting Base Erosion and Profit Shifting (BEPS), topics which are of key concern with Patent Box incentives. According to the OECD, *“due to gaps in the interaction of different tax systems, and in some cases because of the application of bilateral tax treaties, income from cross-border activities may go untaxed anywhere, or be only unduly lowly taxed”*⁹.

The action plan developed by the OECD aims to address issues regarding BEPS through:

- Developing new international standards to ensure the coherence of corporate income taxation at an international level;
- Realigning taxation and relevant substance to restore the intended effects and benefits of international standards, to better reflect changing business models and technological developments; and
- Establish transparency, certainty and predictability for business, to ensure the success of actions implemented to counter BEPS¹⁰.



According to Pooter and Tingle (2014), the Australian Taxation Office is also leading a pilot project with five other countries to map the global tax planning of multinationals in the digital economy and share intelligence on their activities. This is in response to profit shifting by MNEs, especially digital firms such as Google and Apple, which has sparked widespread concern internationally and strengthened political support for the OECD anti-avoidance project.

⁹OECD (2013), Action Plan on Base Erosion and Profit Shifting, OECD Publishing.
<http://dx.doi.org/10.1787/9789264202719-en>

¹⁰OECD (2013), Action Plan on Base Erosion and Profit Shifting, OECD Publishing.
<http://dx.doi.org/10.1787/9789264202719-en>

Why may a grant style Patent Box be more effective?

It has been argued that Australia should adopt the U.K.'s Patent Box model due to its greater compatibility with our taxation system over traditional European models. However given the OECD's concerns regarding the U.K. model's long-term economic impact and possible tax erosion, the current Australian Senate would not likely immediately legislate this measure if introduced.

Due to the strong link between general patent production and GDP, the WSR group is of the opinion that a grant model will be a much more workable alternative to a tax incentive in the short-term. Grant models are also easier to implement as a Ministerial initiative.

Additionally, where the delivery of the grant program was successful in increasing GDP growth, the Government would likely gain bipartisan support to explore, develop and eventually legislate alternative Patent Box tax models that are supported by the OECD.



The correlation between patent production growth rate and GDP growth

An analysis of data over a period from 1963 to 1993 by Josheski and Koteski¹¹ has shown:

- There is a direct causation between patent production and GDP growth.
- There is a positive relationship between the number of patents produced in the economy and GDP growth¹².
- It is not important whether the patents are produced by individuals, universities, or large multinational organisations.

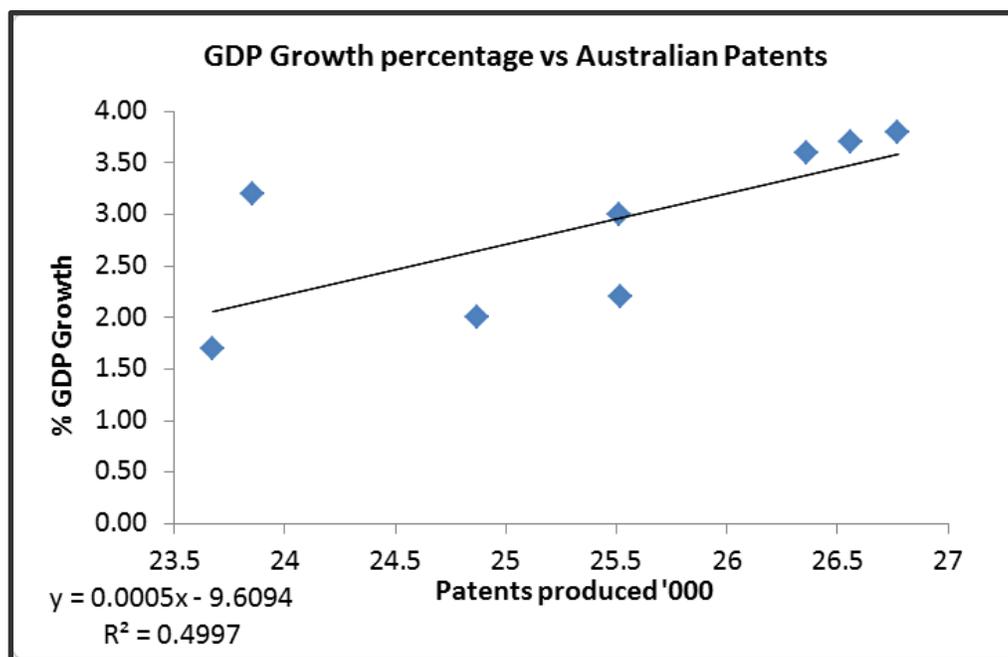


Figure 1: The above graph demonstrates the significant positive effect of GDP growth with patent production in Australia from 2005 to 2012^{13 14}.

For the foreseeable future it is reasonable to expect 0.5% growth in domestic GDP for every one thousand patents registered in Australia (please also refer to Table 1).

¹¹ Josheski, D & Koteski, C. (2011). The causal relationship between patent growth and growth of GDP with quarterly data in the G7 countries: cointegration, ARDL and error correction models. Retrieved from <http://mpa.ub.uni-muenchen.de/33153/>

¹² Chand, X. Et Al. (2013) Patents and Productivity Growth: Evidence from Global Patent Awards. Retrieved from http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2371600

¹³ World Bank. (n.d.) GDP Growth (Annual %). Retrieved from <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>

¹⁴ IP Australia. (2013). Australian Intellectual Property Report 2013. Retrieved from: <http://www.ipaustralia.gov.au/about-us/reports/ip-report-2013/>

Our Short-term solution - An entitlement grant to produce patents

The WSR Group proposes that the Government introduce an entitlement based Patent Grant Program (PGP), aimed to increase the number of international patent applications originating from Australia.

It is envisaged that the Department of Industry would provide the grant to businesses to offset the cost of preparing and submitting a valid innovation or standard patent application through IP Australia and international patent applications through the Patent Cooperation Treaty (PCT).

Grants would be capped at \$50,000 per international patent family and businesses would be permitted to claim indefinitely, for the life of the program.

A budget blowout could be avoided by enforcing a first come first serve constraint each year and exhausting the total budget once a target number of patents had been lodged under the program. Table 1 illustrates the cost and benefit of the program if a target of 1000 or 5000 new international patent families was reached in any given year under the PGP.

Number of New Patent Families per year from PGP	GDP increase (%)	GDP increase [^] (\$)	PGP cost per year @ \$50K/Patent Family [#]
1000	0.5%	\$7.2 Billion	\$50 Million
5000	2.5%	\$36 Billion	\$250 Million

Table 1: Relationship between PGP cost and benefit in terms of increase in Australian GDP for 1000 new patent families and 5000 new patent families per year respectively.

[^] assuming 2014 Australian GDP is \$1.436 trillion.

[#] administration costs of the program per year have not been considered.

Service offerings available under the PGP

The PGP would be designed to support businesses in seeking the following services:

1. Performance of an international novelty search and initial patentability advice;
2. Preparation and submission of Australian Patent application (including a provisional application if required);
3. Preparation and submission of international application (under PCT); and
4. Converting the international patent application into national applications in foreign jurisdictions (national phase entry).

Each of the above services has a funding cap (as per example 1 below).

Service Offering and Application Fees	Service Type ⁺	Funding Cap
Performance of an international novelty search and initial patentability advice	Mandatory	\$5,000
Preparation and submission of an Australian patent application (including provisional application if required)	Mandatory	\$7,500
Preparation and submission of an international patent application (under the PCT)	Optional	\$12,500
Assistance with National Phase Entry	Optional	\$25,000
Total amount available per patent under the program		\$50,000

Example 1: Service components available and respective funding cap under the PGP.

Application Process

The PGP is aimed to fund or offset the cost to engage an approved provider to advise, prepare, file and prosecute a patent application as described in Example 1.

An applicant must enter into a funding agreement with the Department of Industry prior to engaging an approved provider.

Businesses will have 18 months to complete all advisory services and submit the patent application as specified in the funding agreement.

⁺For an applicant to be eligible under the program, all mandatory services must be performed.

When does the grant get paid?

The grant will be paid directly to the approved provider on initial submission of the patent application with IP Australia (and where relevant the international patent application under the PCT).

The approved provider must itemise each performed service and provide a timesheet or otherwise demonstrate that the fee is at arm's length and on normal commercial terms.

Where fees are accumulated due to an objections being raised against a submitted patent application, the approved provider will have an opportunity to claim these fees separately.

Approved providers and regulation

In order to be recognised as an approved provider, the provider must:

1. be aged at least 18;
2. be an Australian citizen or permanent resident of Australia;
3. be a registered Australian patent attorney;
4. be a fit and proper person; and
5. by them or by their firm have acted for and submitted at least ten patent applications in the previous financial year.

Additionally, to remain an approved provider, providers must demonstrate that:

1. at any point in time, that no more than 10% of patent applications that were submitted (by them or by their firm) as part of the Patent Grant Program had been ultimately rejected by a Patent Office and then abandoned.

Regulation of the approved provider will be jointly managed between the Department of Industry and IP Australia.



Who is eligible to apply?

To be eligible, a business applying for funding under the PGP must:

- be a sole trader, company or trust;
- be solvent;
- have revenue between \$50,000 and \$100 million in the current financial year or one of the two preceding financial years;
- possess an Australian Company Number;
- engage an approved provider to conduct mandatory services (as per Example 1).
- have a trading history of at least three years; and
- demonstrate that by applying under the program, the applicant has increased its three year patent production rolling average (as per Example 2).



Three year patent production running average

The PGP is intended to drive an increase in patent production over time. It must not fund patent applications that would have otherwise already been filed in any given income year.

Therefore, a business applying for a patent under the program must demonstrate the patent application that is subject to the funding increases that business' average patent production over the last three years in whole numbers.

A business will be eligible for PGP funding for all patent applications filed with IP Australia that exceed the running average in the current year i.e. where a business has filed on average two patent applications per year for the last 3 years, the running average is taken to be two. Funding may then be claimed for a third patent application provided two patent applications have already been lodged in the current year.

Example 2 illustrates how the *running average* would work with four scenarios.

Patent applications filed by applicant in current year (Y_0)	Y_{-1}	Y_{-2}	Y_{-3}	$Av^{++\wedge}$	Patent applications eligible for PGP funding in Y_0^{**}
1	0	0	0	0	1
4	3	1	1	2	2
2	2	1	1	2	0
1	0	1	0	1	0

Example 2: Incremental patent applications that are eligible for funding under the PGP.

⁺⁺ The running average is $1/3^d$ of the sum of the number of filed patents for each of the Y_{-1} , Y_{-2} and Y_{-3} years rounded up to the nearest whole number.

^{**} Equals Y_0 minus the running average. Negative numbers are substituted for zero.

^{^^} Rolling average will include all patent applications filed within the applicant's business and where relevant, any patent applications filed with any member of its consolidated tax group.

Conclusion

It is the responsibility of Government to plan and implement appropriate incentives to achieve optimal economic outcomes. The Government must act now to develop policies that equip an economy with the right tools to thrive in a highly competitive global economy¹⁵.

- GDP growth is not exclusively due to R&D spending of large enterprise. For every thousand patents registered in Australia, there is a predicted 0.5% growth in domestic GDP.
- An incentive that adds 1000 extra patents per year may add about \$7 Billion extra GDP per year while costing as little as \$50 Million.
- Australia has no grant program aimed at increasing patent production.
- In the short-term, a well-structured patent grant program is more workable than a tax incentive, modelled on the U.K. Patent Box.
- The PGP in the form of a *Ministerial guideline* may increase Australia's patent production in the short-term.

The Patent Box debate will not be resolved anytime soon. A patent grant solution is an easy, short-term and lower risk alternative.



¹⁵ OECD. (2010). The OECD Innovation Strategy: Getting a Head Start on Tomorrow. Retrieved from Source OECD database.

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