

Nurturing Innovation

Introduction

- 3.1 The Department of Foreign Affairs and Trade (DFAT) stated that start-up companies are often Australia's 'fastest growing' and 'most innovative' companies.¹ Three quarters of start-ups fail, but the DFAT added:

It is quite important to make the right economic settings so that they can form and then disband, because a lot of the innovators and entrepreneurs actually go on and start up another business.²

- 3.2 The University of Melbourne provided an example of the failure and rebirth of start-up companies by relating the history of one of its four 2012 start-up companies – where a company had failed and then created another start-up, which then also failed, but was followed by a third start-up which was 'looking good.'³
- 3.3 Innovative ideas created by existing companies are also subject to a culling process. CSL Ltd stated that it reviewed 'over 100 new product opportunities each year' and only chose '5 to 10 per cent for full evaluation and then fewer still for licensing.' CSL Ltd commented that some ideas which were not pursued might have resulted in significant economic benefits to Australia had they been further developed, but they were not sound candidates for commercial development by CSL Ltd, or were not sufficiently advanced to transition to commercial development.⁴

1 Mr Robert Owen-Jones, Assistant Secretary, Economic Advocacy and Analysis Branch, Department of Foreign Affairs and Trade (DFAT), *Official Committee Hansard*, Canberra, 25 February 2016, p. 15.

2 Mr Robert Owen-Jones, DFAT *Official Committee Hansard*, Canberra, 25 February 2016, p. 15.

3 Mr Rohan Workman, Director, Melbourne Accelerator Program, University of Melbourne, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 57.

4 CSL Ltd, *Submission 37*, p. 9.

Developing the Start-up Sector

- 3.4 The Export Council of Australia (ECA) observed there was often limited awareness about how to commercialise a product. The innovator had not developed the original idea with a view as to how it could be progressed through to commercialisation. The ECA emphasised that even at the earliest stages the right processes needed to be in place.⁵
- 3.5 La Trobe University acknowledged that while universities conducted high-quality research they had 'not as yet been able to translate that into commercial products and services.' La Trobe University added that universities were increasingly becoming aware that this was an issue and were changing their efforts and priorities to address the problem.⁶

Co-location

- 3.6 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) considered it 'fundamentally important' to bring people together so that ideas could be workshopped to spawn new innovations. This could be achieved through 'smart digital platforms' which could facilitate the input of information, new ideas, and insights from a wider geographic area.⁷
- 3.7 Cochlear Ltd commented that it was very difficult to move things from Research and Development (R&D) into manufacturing, but it had co-located its R&D and manufacturing activities:
- 3.8 You bump into something in your manufacturing process, you walk down the corridor and you talk to the engineer who has developed it. Yes, it is becoming easier with technologies, but we find that link very important, so we co-locate our manufacturing and R&D.⁸
- 3.9 Eighteen04, which runs a co-working space based at CSIRO Energy Centre in Newcastle,⁹ agreed that collaboration between co-located start-ups maintained the commercialisation momentum:

We are all the same: if a problem is too hard, the first thing we do is try to push it aside. It gets into the too-hard basket. You cannot

5 Mr Andrew Hudson, Director, Export Council of Australia (ECA), *Official Committee Hansard*, Sydney, 8 March 2016, p. 5.

6 Mr Matthew Brett, Senior Manager, Higher Education Policy, La Trobe University, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 36.

7 Mr Craig Roy, Deputy Chief Executive, Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Official Committee Hansard*, Canberra, 3 March 2016, p. 13.

8 Mr Neville Mitchell, Chief Financial Officer, Cochlear Ltd, *Official Committee Hansard*, Sydney, 8 March 2016, p. 24.

9 Eighteen04, *Submission 38*, p. 1.

allow that to happen in a start-up. They have no time to waste, because every day they are burning cash, usually. So every moment counts for start-ups and scale-ups.

... those of us who have got involved with trying to set [the working space] up are offering our time to support the entrepreneurs and provide experience and support where we can. Collaboration is absolutely critical both within a space and then connecting outwards ...¹⁰

Private Sector Incubators and Accelerators

- 3.10 Stone & Chalk was established in August 2015 with the aim of becoming ‘the fintech hub of Asia’. The hub provides start-ups with a physical location, ‘a high quality fintech peer group, access to capital, extensive education and mentorship’. There was also ‘opportunity to partner with and co-create’ with Stone & Chalk’s local and international partners.¹¹ The hub houses ‘some 65-odd start-ups in the City of Sydney.’¹²
- 3.11 Cloud Insurance P/L, a member of Stone & Chalk, described the incubator:
- [It] has been beyond my expectations as a runway into government conduits and in ensuring that I have the right sponsors giving advice on legal issues and a range of matters – cyber security, you name it. ...
- The incubator is an environment. I have a desk as a resident. Rather than me having one desk somewhere else in the world, I get to be in an environment where I am surrounded by change agents and people who are also trying to build solutions for the future. For me, that is a very positive thing because it inspires me¹³
- 3.12 Eighteen04 is another incubator, located in Newcastle and is focusing on early-stage start-ups in the clean-tech and smart-city technology area. The incubator has 10 seats and has attracted six start-ups from Canberra and Sydney.¹⁴ Eighteen04 is seeking to expand by moving to a larger location in Newcastle.¹⁵

10 Dr Gunilla Burrowes, Chair, Eighteen04, *Official Committee Hansard*, Sydney, 8 March 2016, p. 33.

11 Stone & Chalk, *Submission 30*, p. 1.

12 Mr Danny Gilligan, Cofounder and Managing Director, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 1.

13 Ms Joanne Cooper, Director, Cloud Insurance P/L, *Official Committee Hansard*, Sydney, 8 March 2016, pp 39, 41.

14 Dr Gunilla Burrowes, Eighteen04, *Official Committee Hansard*, Sydney, 8 March 2016, p. 28.

15 Dr Gunilla Burrowes, Eighteen04, *Official Committee Hansard*, Sydney, 8 March 2016, p. 31.

Attracting Finance

- 3.13 Reinventure described the four stages in financing a typical start-up company, from building a product through to establishing a global company:

[The] first phase of building a product is generally what we call 'family, friends and fools'. ... That is generally a couple of hundred thousand dollars that you need to pull together your initial technical team and build your first version of a product. [They are] people who put money in because they like you and they want to see you try something and be successful. They only put in an amount that they are happy to lose. ... The fail rate around that is incredibly high. ...

The next stage is what we generally call seed funding or angel funding, and it might be around half a million dollars. ... the best source of that capital is angel investors – high net worth individuals, professional angel investors, who might invest across 10 or 15 different ideas. ... They have surplus cash ... Each individual might cut a \$25 000 to \$50 000 cheque.

Then you qualify for what we call 'series A' capital ... your first institutional capital. ... Series A is between \$2 million and \$6 million. At that stage you have built a product, you have customers, you have revenues and you have traction. ... You build a more significant team and you start to gain scale. ...

And then you move into big institutional capital – series B and series C – which tends to be \$10 million to \$20 million cheques. ... That is really about scaling your company to a very large scale globally.¹⁶

- 3.14 The Department of Industry, Innovation and Science (DIIS) commented that:

... almost a third of innovative Australian businesses have identified a lack of access to additional funds as their biggest barrier to innovation. Innovation-active small and medium sized enterprises are also much more likely to seek debt or equity finance compared to their non-innovation-active counterparts.¹⁷

- 3.15 The DFAT also identified 'access to finance [as] a key constraint to business-led innovation,' particularly for small to medium sized enterprises (SMEs). Unfortunately, SMEs often had poor or no credit
-

16 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, pp 6–7.

17 Department of Industry, Innovation and Science (DIIS), *Submission 31*, p. 25.

ratings and was often without 'the resilience that diversification affords larger enterprises and... the depth of resources to withstand a downturn.'¹⁸

- 3.16 The DFAT added that traditional sources of finance such as bank lending would continue to be the majority of finance available to SMEs, but there were also 'a number of non-traditional' finance sources such as 'alternative debt (corporate bonds), crowd funding, hybrid finance instruments and equity finance (venture capital and business angels).'¹⁹

Debt Financing

- 3.17 In seeking out options for attaining start-up capital, Eighteen04 commented that 'banks are not the first place start-ups tend to go to look for finance'. Eighteen04 added:

Part of the reason why banks cannot become involved at that stage is that often you are giving away equity in the start-up itself.

Banks are not usually at that place, because all the start-up has to offer is equity in this potential company. When you start growing and employing critical people within the start-up, there may be a little salary or wage, but you are also generally offering some equity in your company.²⁰

- 3.18 The Australian Chamber of Commerce and Industry (ACCI) explained that there are many different problems with access to finance and that there are different types of finance in different industries. The ACCI stated:

For a knowledge based industry, the big problem is lack of collateral. You do not have anything you can give to the bank which says, 'If we go belly up, you can sell this off.' That is the problem they face.

For manufacturing, because you generally have plant and equipment, the problem is more one of cash flow. When you are growing really fast, you have to make the investment in building the product and buying the inputs before you get the money from selling it. The question then is whether the government can do anything to make it better. In a perfect world a bank would make a decision based on which business proposition sounded the best, that had the most potential. But they have to think about their loss

18 DFAT, *Submission 44*, p. 10.

19 DFAT, *Submission 44*, p. 10.

20 Dr Gunilla Burrowes, Chair, Eighteen04 Inc., *Official Committee Hansard*, Sydney, 8 March 2016, p. 29.

if their borrower defaults. If the choice is between a really amazing business with no collateral or an average business with collateral, they are going to pick the one that has the collateral. If government were to guarantee that, maybe the banks would be more even-handed, but there is also the risk that that guarantee would encourage them to undertake riskier investments without taking into account the potential for loss. So it is not a simple issue to solve. But there is that role for improved intermediation, improved expertise. Often the businesses we talk to just have problems with the application process. It is very long, it can be very complicated and it is different from what they do day to day.²¹

Equity Financing

3.19 The *Australian Innovation System Report 2015* confirmed that 'innovation active start-ups are particularly reliant on equity finance', but that the 'limited scale and scope of venture capital, in particular, may be hindering these start-ups in reaching their full potential.'²²

3.20 The DIIS reported that unlike 'in the United States, Israel and many other countries' Australian venture capital investment had not recovered since the global financial crisis (GFC):

In 2014 such investment was 40 per cent of its level in 2007, with a substantial decrease in the amount being put into new companies. The success rate of firms applying for venture capital investment has fallen from three per cent in 2005–06 to just over one per cent in 2013–14 even though the number of proposals has recovered to pre-GFC levels.²³

3.21 The DIIS added that Australia has the 'lowest proportion of venture capital invested in high-risk, early-stage venture capital (ie seed, start-up and other early-stage investment) compared with other OECD countries.' While investments are most numerous in start-up and early expansion stages, the bulk of investment is in late expansion and turnaround²⁴ stages.²⁵

21 Mr Tim Hicks, Acting Director, Economics and Industry Policy, Australian Chamber of Commerce and Industry (ACCI), *Official Committee Hansard*, Sydney, 8 March 2016, p. 22.

22 DIIS, Office of the Chief Economist, *Australian Innovation System Report 2015*, p. 12.

23 DIIS, *Submission 31*, p. 25.

24 Turnaround investment enables the financial recovery of a company that has been performing poorly for an extended time. Investopedia, *Turnaround*, <http://www.investopedia.com/terms/t/turnaround.asp> Accessed 6 April 2016.

25 DIIS, *Submission 31*, p. 26.

- 3.22 The CSIRO stated that, in contrast to the ‘approximately \$30 billion expended on R&D and over \$2 trillion in capital investment for established businesses’, there was ‘only \$0.3 billion in venture capital funds available and \$1.96 billion in private equity.’ The CSIRO added that just 0.1 per cent of the capital invested in established businesses would provide an approximate tenfold increase in available venture capital and private equity.²⁶

Crowd-Sourced Equity Funding

- 3.23 The DIIS advised that the National Innovation and Science Agenda (NISA) included the introduction of a new regulatory regime which would allow companies to access crowd-sourced equity funding (CSEF).²⁷
- 3.24 On 3 December 2015, a bill to amend the *Corporations Act 2001* was introduced to Parliament²⁸ to enable ‘entrepreneurs to raise funds online (up to \$5 million per year) from a large number of individuals in return for equity in their company.’ Individuals could use CSEF to contribute up to \$10 000 per company per year across multiple companies, provided that the companies were public companies. Concessions provided to companies which became public in order to access CSEF included ‘up to a five year exemption from obligations to hold Annual General Meetings, produce audited financial statements and provide an annual report to shareholders.’²⁹
- 3.25 The Corporations Amendment (Crowd-Sourced Funding) Bill 2015 was passed by the House of Representatives on 10 February 2016,³⁰ and was introduced into the Senate on 22 February 2016.³¹ The Bill lapsed due to the prorogation of the Parliament on 15 April 2016.
- 3.26 Reinventure cautioned those who might wish to respond to crowd funding requests and stated:
- ... one of the risks I see around crowd funding is that the kinds of ventures that pursue crowd funding are the ones that could not attract institutional capital and, therefore, is there a risk of negative selection bias[?] ... I personally think crowd funding is better directed to ... the good businesses that would deliver a two

26 CSIRO, *Submission 43*, p. 6.

27 DIIS, *Submission 31*, p. 27.

28 House of Representatives, *Votes and Proceedings No. 166*, 3 December 2015, p. 1806.

29 National Innovation and Science Agenda (NISA), *Factsheet 29, Making it easier to access crowd-sourced equity funding*.

30 House of Representatives, *Votes and Proceedings No. 172*, 10 February 2016, p. 1895.

31 Senate, *Journals of the Senate, No. 138*, 22 February 2016, p. 3758.

to three times return. There is a much lower risk of failure, but a much lower likelihood of a major outcome.³²

Angel Investment

- 3.27 Angel investors are less risk-averse than venture capitalists and are now beginning to deal with the risk associated with early stage start-up companies. Eighteen04 observed that once these start-up ventures have 'emptied their pockets, and the pockets of the family members who are willing to put some cash up, they then move towards angel investors.' Such investors are 'a very important part of the [innovation] ecosystem that is only really beginning to develop in Australia.'³³
- 3.28 Eighteen04 stated that individual angel investors often operate as a group because this 'not only helps de-risk the decision process a little it also allows an angel investor to spread their investments across more start-ups (to help de-risk their portfolio).' Eighteen04 added that:
- Individual angels invest from \$10k to \$100k which are often incorporated with other angel investors to obtain the typically investments of up to \$500k.
 - Angel investors take an equity stake in the company – generally less than 30%.
 - Typical agreements take the form of an ordinary share structure.
 - Angel investors tend to become an active part of the company, either as a director, advisor and will provide networks, expertise and skills needed in the company.
 - Angel investors typically make two new investments a year.³⁴

Venture Capital Funding

- 3.29 Like angel investments, venture capital fund investments are usually high risk. Reinventure explained:

Within the VC community, only one or two VCs will make all the returns in industry and the rest will probably lose capital. Within the portfolios of those VCs, only one or two companies will return all the returns of the fund. ... generally two or three or five great companies emerge each year. If you are not an investor in those great companies, you are almost guaranteed to lose money across your portfolio.³⁵

32 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 3.

33 Dr Gunilla Burrowes, Eighteen04, *Official Committee Hansard*, Sydney, 8 March 2016, pp 28–29.

34 Eighteen04, *Submission 38.1*, p. 1.

35 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 3.

- 3.30 Reinventure recounted two adages concerning the difficulty of becoming a successful venture capitalist:

One is: 'This is the last job you'll ever have, not the first,' as in you need to accumulate a lot of different life skills to gain the pattern of recognition and the scar tissue that you need to be able to advise companies through this generally very emotionally challenging journey. The second one is: 'It takes \$50 million to train a VC,' as in you need to make \$50 million of mistakes and to have learnt from those mistakes before you can start being a good VC. ...

Generally, it is other people's money, but if you lose \$50 million of other people's money you often do not get another shot at it.³⁶

- 3.31 Reinventure funded about four companies each year from about 200 applicants.³⁷ Selection was based on negotiation between the entrepreneur and the venture capital Reinventure stated:

They sell you the dream and you try and pop the bubble. You land at a point in the middle. Once you have made that investment, you are both trying to sell the dream.³⁸

- 3.32 Many people, Reinventure observed, are unaware about where their idea or product fits in the commercialisation pathway and also whether they are candidates for venture capital fund investment. Reinventure explained:

A lot of people have ideas for companies. That is not the same as a company. So a lot of people who seek funding seek it too early, and they are just not fit to be funded in any capacity, whether it be by a bank, a VC, angel investors et cetera. ... even if people do build a product or an idea, it might be a good business but it does not mean it is venture capital backable. ... we tend to work at the high-risk end of the start-up spectrum, which means we are looking for things that are going to be true game changers. We take a lot of risk in our portfolio, and about half of the things that we invest in will fail completely. To make the economics of that fund work, the other half have to make absolutely stellar returns. ... just backing a good business that is going to give you two or three times your return is not suitable for venture economics. ... There are other forms of finance, particularly from high-net-

36 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 3.

37 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 2.

38 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 8.

worths, family offices or angel investors, who are better suited to funding those kinds of businesses.³⁹

- 3.33 Reinventure added that it aimed to make an internal rate of return of 'somewhere between 25 and 35 per cent over five to seven years [or rather] turn \$50 million into \$200 million.'⁴⁰
- 3.34 Start-up financial services technology (fintech) company, LOKE Digital P/L commented that 'a lot of the venture funds in Australia either do not have any funds available right now or are investing a lot overseas.' LOKE Digital suggested that about 30 per cent of Australian venture capital funds are investing overseas, and that overseas companies 'are scared to invest into Australia' because of its isolation and small sized market.⁴¹
- 3.35 Reinventure, agreed that 'generally speaking there is a shortage of venture capital in this market',⁴² but there was 'absolutely no lack of funding for great companies'. In fact, a number of companies within its portfolio were raising money and there was 'an oversupply of capital trying to get into those companies'.⁴³ Reinventure observed that more overseas investors are focusing on the Australian market and visiting Australia, and that global investors are needed for businesses with global aspirations.⁴⁴
- 3.36 The ANZ Bank agreed, stating that to realise the full potential of Australia's technology and innovation capabilities requires Australian companies to invest in and grow businesses offshore⁴⁵ The ANZ Bank Stated:
- Ninety-eight per cent of the world economy is outside Australia's shores. So if you have an innovative technology-based Australian company, it has got to operate offshore. ... Born global, die local.⁴⁶
- 3.37 LOKE Digital P/L agreed that it was very important to 'make your product global from day one.'⁴⁷

39 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 2.

40 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 8.

41 Mr Thomas Booth, Managing Director, LOKE Digital P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 42.

42 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 5.

43 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 4.

44 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 7.

45 Mr Rob Lomdahl, Head of Government and Regulatory Affairs, ANZ Bank, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 2.

46 Mr Rob Lomdahl, ANZ Bank, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 6.

47 Mr Matthew Khoury, Managing Director, LOKE Digital P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 46.

- 3.38 The ANZ Bank were of the view that offshore companies that bring their profits back to Australia should not pay taxes twice. The ANZ Bank explained:

We are talking about where you go out and establish a real, legitimate business, earn profits and pay tax, and bring the profits home and give them to Australian shareholders. The profits should not be taxed again because they have already been taxed.⁴⁸

Involvement of Superannuation Funds

- 3.39 Reinventure suggested one of the challenges to obtaining the growth capital needed to drive innovation was the need to provide dividends, especially to superannuation funds:

... this is one of the core problems with super funds, particularly with the concentration of our superannuation industry. ... We are an economy that invests for the short term so that we can get our dividends, so that we can pay them back to super funds, because that is how they get their incentive. In the dividend imputation scheme, combined with the company tax rate, we have created a culture of addiction to dividends. What you need to drive innovation is growth capital, not yield capital.⁴⁹

- 3.40 The Australian Industry Group stated the problem was not 'unwilling capital'. For example Australian Super had close to \$100 billion in assets, but the amounts of investment needed by the start-up sector was 'a couple of million dollars here and there.' These amounts were too small. There was an opportunity, however, 'for intermediaries to jump in and aggregate many small potential businesses'.⁵⁰

- 3.41 The Australian Manufacturing Workers' Union (AMWU) agreed there was merit in the involvement of intermediaries to bundle projects into investment grade products. A problem, identified by the AMWU was the high management overheads arising from a portfolio of 'a lot of little SME investments'.⁵¹

48 Mr Jim Nemeth, Group General Manager, Taxation, ANZ Bank, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 3.

49 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 5.

50 Dr Peter Burn, Head of Influence and Policy, Australian Industry Group, *Official Committee Hansard*, Sydney, 8 March 2016, p. 21.

51 Mr Tom Skladzien, National Economist, Australian Manufacturing Workers' Union (AMWU), *Official Committee Hansard*, Sydney, 8 March 2016, p. 16.

- 3.42 Reinventure stated that superannuation funds were beginning to consider participating in the venture capital market as they saw 'emerging new managers who they think are worth backing.'⁵²
- 3.43 An example is the \$200 million biotech venture capital fund recently established by Brandon Capital Partners with four superannuation funds as investors. The fund is different from other venture capital funds because:
- ... the superannuation funds will be able to participate directly, in addition to their initial commitment, into later stage companies that [the fund] has invested, where the commercialisation risk has been significantly diminished.⁵³
- 3.44 Brandon Capital Partners stated that its fund was 'a transformative and unique investment model for the superannuation funds where private companies will get access to this type of funding.'⁵⁴
- 3.45 The fund had 'a first right to invest in discoveries' from approximately fifty Australian medical research institutes and hospitals which were collaborative partners of the fund. All partners would 'get a small share of the profits when one of the other partners earns a windfall' which would provide an incentive for collaboration.⁵⁵

Government Support for Innovation and Commercialisation

Innovation Hubs and Incubators

- 3.46 Professor Roy Green stated that Australia, when compared to other countries, had 'paid very little attention' to local innovation ecosystems. Professor Green stated:

We see many very successful local innovation systems around the world – the most obvious and public example is Silicon Valley, but also in large cities like New York with its Cornell Tech initiative and London with Tech City UK. We are seeing the growth of interesting clusters and technology hubs in our cities as well,

52 Mr Danny Gilligan, Reinventure, *Official Committee Hansard*, Sydney, 9 March 2016, p. 5.

53 Blake Industry & Market Analysis P/L, *Bioshares Edition 597*, April 2015, *Why the Fibrotech Acquisition Was a Pivotal Event for Australian Biotech*, p. 1.

54 Blake Industry & Market Analysis P/L, *Bioshares Edition 597*, April 2015, *Why the Fibrotech Acquisition Was a Pivotal Event for Australian Biotech*, p. 1.

55 The Sydney Morning Herald, *Brandon Capital raises \$200 million from four industry funds for medical VC*, 20 April 2015, <http://www.smh.com.au/business/brandon-capital-raises-200m-from-four-industry-funds-for-medical-vc-20150417-1mn3vl.html> Accessed 7 April 2016.

around the University of Melbourne in Carlton and around my university, UTS, with our creative digital precinct. These are important developments. They are partly spontaneous but require nurturing from universities, but also from policies and programs.⁵⁶

- 3.47 Eighteen04 stated that there was a 'recognised need to support incubators for start-ups' and that angel investing groups should be able to 'access grants and government support programs.' Such support could be in the form of administrative support and office rental, and the encouragement of academics and researchers to take secondments to support start-ups.⁵⁷
- 3.48 The Australian National University stated there was a case for the 'establishment of Research Translation Centres similar in nature to the UK Catapult Centres. These centres have long-term funding allowing new technologies, methods and processes to be developed.'⁵⁸ The eleven Catapult Centres have been established and managed by Innovate UK.⁵⁹
- 3.49 The University of Newcastle supported regional innovation hubs stating it would help fill the gap between the ideas generated by researchers and local capital providers. This would enable the creation of new products and services.⁶⁰
- 3.50 The University of Tasmania stated that its innovation agenda included 'building student entrepreneurs' and 'nurturing a "high through put" commercialisation culture to ensure rapid exploitation of [intellectual property].' The university advised that it was intending to have a key role in partnering with the Tasmanian Government to establishing:
- ... Entrepreneurship and Innovation Hubs in Hobart and Launceston to develop a pipeline of would-be entrepreneurs who may continue progressing spin-out enterprises supported at these hubs.⁶¹
- 3.51 The NISA has recognised the importance of incubators and included an Incubator Support Programme which was a new component of the Entrepreneurs' Programme.⁶² The DIIS stated that the Entrepreneur's Programme:

56 Professor Roy Green, Dean, UTS Business School, University of Technology Sydney, (UTS) *Official Committee Hansard*, Sydney, 9 March 2016, pp 28–29.

57 Eighteen04, *Submission 38.1*, p. 2.

58 Australian National University, *Submission 2*, p. 2.

59 Innovate UK, *How Catapults can help your business innovate* <https://www.gov.uk/government/publications/innovate-uk-how-catapults-can-help-your-business-innovate> Accessed 11 April 2016.

60 University of Newcastle, *Submission 10*, p. 4.

61 University of Tasmania, *Submission 34*, p. 3.

62 NISA, *Factsheet 7, The Incubator Support Programme*.

... will be able to support development of new incubators and accelerators in regions or sectors of high potential, boost the effectiveness of existing high-performing incubators, including support to expand their services and engage with commercialisation advisers to facilitate access through to other government services and programs. ... the measure will provide access to top quality research and technical talent through three to 12 months secondments ...⁶³

Direct Business Assistance

- 3.52 Eighteen04 suggested there are various possible ways to support start-ups:
- government guarantees enabling start-ups to borrow money from banks;
 - a scheme where borrowed money is returned as part of profits made in future years;
 - government co-investment with angel investors;
 - a centre link payment to entrepreneurs in their first year to provide a minimum salary; and
 - more workplace flexibility as start-ups begin to build their staff.⁶⁴

Manufacturing Finance Corporation

- 3.53 The AMWU advocated for the creation of a Manufacturing Finance Corporation (MFC)⁶⁵ and drew parallels with the Clean Energy Finance Corporation:

Advanced manufacturing technologies are also new and their potential and functioning is also little understood by the finance industry. Whether they be additive manufacturing, new forms of computation, design and censoring, new materials and their applications or advanced applications of biological breakthroughs, a large raft of new technological fields are revolutionising manufacturing globally, but Australian financial institutions are understandably reluctant to invest in these technologies ...⁶⁶

- 3.54 The AMWU added that a MFC would constitute an equity injection by government and stated that 'similar loan programs/corporations exist in

63 Mrs Jane Urquhart, Head, Science and Commercialisation Policy Division, DIIS, *Official Committee Hansard*, Canberra, 25 February 2016, p. 8.

64 Eighteen04, *Submission 38.1*, p. 2.

65 AMWU, *Submission 24*, pp 17–20.

66 AMWU, *Submission 24*, pp 17–18.

the UK, targeting SME businesses'. An example of this is the UK's Capital for Enterprise program.⁶⁷

- 3.55 The AMWU added that a MFC could also ensure that each firm receiving support entered a network of supportive institutions, businesses and researchers by providing a link to 'the relevant Industry Innovation Precinct, Enterprise Connect and the CSIRO industry liaison division.'⁶⁸
- 3.56 The AMWU recommended that the Government establish a MFC 'with an equity injection from government of at least \$5 billion.'⁶⁹

Entrepreneurs' Programme

- 3.57 Innovation and Science Australia commented that the Entrepreneurs' Programme 'is targeted at SMEs that are established, have prospects, and are interested and engaged in wanting to take their business to the next level.' A private sector adviser could be engaged to assess the business and whether it wanted to invest in having a researcher in the business. The adviser might also help with 'supply chain facilitation, or capital raising.'⁷⁰
- 3.58 The Entrepreneurs' Programme also provides access to Accelerating Commercialisation grants. To be eligible for a grant, a business had to have a 'combined annual turnover of less than \$20 million for each of the three years prior' to lodgement and have 'a novel product or service that [they are] looking to commercialise and trade to customers outside of the state or territory of [their] principal place of business.' Grants could be 'up to 50 per cent of eligible project costs.'⁷¹
- 3.59 LOKE Digital P/L was of the view that assistance with grant applications would have been useful and stated:

We do not have enough time to sit there and put 30 or 40 hours into applying for a grant that could potentially help us grow and not need funding from a VC firm. We are trying to run our business; every day, we have to try to sell our product. If we knew

67 AMWU, *Submission 24*, p. 18. In 2013, Capital for Enterprise became part of the British Business Bank, which states that it works through more than 80 finance partners, to unlock up to £10 billion of new finance' to provide greater 'choice and information on finance options to smaller businesses.' British Business Bank, *What We Do*, <http://british-business-bank.co.uk/what-the-british-business-bank-does/>. Accessed 12 April 2016.

68 AMWU, *Submission 24*, p. 18.

69 AMWU, *Submission 24*, p. 20.

70 Mr William Ferris, Chair, Innovation and Science Australia, DIIS, *Official Committee Hansard*, Canberra, 3 March 2016, p. 10.

71 DIIS, *Factsheet, Entrepreneur's Program: Accelerating Commercialisation*, <http://www.business.gov.au/advice-and-support/EIP/Accelerating-Commercialisation/Documents/AC-Factsheet.pdf>. Accessed 12 April 2016.

a contact within the right accounting firm who could help us put a grant application together, we would have applied for it many years ago.⁷²

- 3.60 The Incubator Support Programme (a part of the Entrepreneurs' Programme which is due to commence on 1 July 2016) will provide an online portal to 'help entrepreneurs access information on start-up support opportunities, activities and events across Australia.'⁷³
- 3.61 LOKE Digital P/L supported an online portal but was unsure how comprehensive it would be. LOKE Digital P/L suggested the portal would be useful if, when it provided information on:
- ... the type of business we are or filled out some sort of assessment sheet, it then provided a plan for the support that you can get. That would be not only grants or employee subsidies etc but also links to incubators, accountancy firms, lawyers or patent attorneys. People who come into this industry, even if they are fresh out of uni, do not understand how to commercialise their idea. So we need that basic step-by-step guide of who the partners are and how to build a business from the ground up.⁷⁴

Landing Pads Program

- 3.62 The Landing Pads Program is an initiative under the NISA which provides access for selected market ready start-ups 'to a workspace for up to 90 days within an established start-up accelerator located overseas.'⁷⁵ There will be up to five landing pads which will be supported by Austrade 'in conjunction with existing non-government programmes in that location'. The program is due to commence on 1 July 2016.⁷⁶
- 3.63 LOKE Digital P/L drew attention to internet payments infrastructure company, Stripe⁷⁷ which has released Stripe Atlas which assists companies who want to access the United States market. Businesses can use Stripe Atlas to incorporate in Delaware, open a business bank account, obtain tax and legal advice, and accept payments through Stripe.⁷⁸ LOKE Digital P/L

72 Mr Matthew Khoury, LOKE P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 46.

73 NISA, *Factsheet 7, The Incubator Support Programme*.

74 Mr Matthew Khoury, LOKE P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 46.

75 Australian Government Business, *Landing Pads Program*, <http://www.business.gov.au/grants-and-assistance/grant-finder/Pages/landing-pads-program.aspx> Accessed 12 April 2016.

76 NISA, *Factsheet 12, Australia's Global Innovation Strategy*.

77 Stripe, *Payments infrastructure for the internet*, <https://stripe.com/#> Accessed 12 April 2016.

78 Stripe, *Introducing Stripe Atlas. A new way to start an internet business anywhere*, <https://stripe.com/atlas> Accessed 12 April 2016.

suggested that the Australian government should provide similar support to Australian companies wishing to go overseas.⁷⁹

Encouraging Equity Investment

- 3.64 Eighteen04 suggested they needed to be new approaches to provide incentives for those investing and supporting start-ups, such as:
- income tax relief for investment losses;
 - a restructure of the capital gains tax so that angel investors could ‘obtain good returns from good investments to make up for other failed investments’;
 - variations to the regulation of directors of start-ups because they were dealing with different risks than those in the corporate sector; and
 - ‘tax relief for angel investors taking on directorships of start-ups’ to recognise the voluntary and risky nature of the position.⁸⁰
- 3.65 The DIIS drew attention to new initiatives in the NISA which provide tax incentives for early-stage investors, and new arrangements for early stage venture capital limited partnerships (ESVCLPs).⁸¹
- 3.66 Tax incentives for early-stage investors include:
- a 20 per cent non-refundable tax offset on investments, capped at \$200 000 per investor per year
 - a ten-year exemption on capital gains tax, provided investments are held for three years⁸²
- 3.67 The tax incentive applied to companies that:
- were incorporated for less than the three previous years;
 - were not listed on any stock exchange;
 - had expended less than \$1 million in the previous income year; and
 - had income of less than \$200 000 in the previous income year.⁸³
- 3.68 The new arrangements for ESVCLPs stipulated that:
- partners in a new ESVCLP will receive a 10 per cent non-refundable tax offset on capital invested during the year
 - the maximum fund size for new ESVCLPs will be increased from \$100 million to \$200 million
 - ESVCLPs will no longer be required to divest a company when its value exceeds \$250 million⁸⁴

79 Mr Matthew Khoury, LOKE P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 46.

80 Eighteen04, *Submission 38.1*, p. 2.

81 DIIS, *Submission 31*, p. 27.

82 NISA, *Factsheet 1, Tax incentive for early-stage investors*.

83 NISA, *Factsheet 1, Tax incentive for early-stage investors*.

- 3.69 The NISA also included other measures to assist start-ups and encourage start-up investment:
- Relaxation of the 'same business test' which would allow a businesses to access losses from previous years when they have entered into new transactions or businesses, where the business 'while not the same, uses similar assets and generates income from similar sources.'⁸⁵
 - Providing a 'new option to self-assess the tax effective life of acquired intangible assets that are currently fixed by statute' to 'better align tax treatment of the asset with the actual number of years the asset provides an economic benefit.' Faster depreciation enabled a start-up's intellectual property and other intangible assets to become a more attractive investment option.⁸⁶
 - Changing insolvency laws to reduce 'the current default bankruptcy period from three years to one year'. Protecting directors 'from personal liability for insolvent trading if they appoint a restructuring adviser to develop a turnaround plan for the company', and preventing contracts being terminated because of insolvency, provided the company is undertaking a restructure.⁸⁷
 - Establishing 'five "landing pads" (in Silicon Valley, Tel Aviv and three other locations)' to provide a location where 'entrepreneurial Australians and market-ready start-ups' can 'access the talent, mentors, investors and a wider connected network of innovation hubs in those locations.'⁸⁸
- 3.70 The DFAT highlighted the introduction of the Significant Investor Visa (SIV) and the Premium Investor Visa (PIV) which are intended to 'offer accelerated pathways to Australian residency in return for significant investments in Australia.' Applicants for a SIV would be:
- ... required to invest at least \$5 million over four years in complying investments, which must now include at least \$500 000 in eligible Australian venture capital or private equity (VCPE) fund(s) investing in start-ups and small private companies.⁸⁹
- 3.71 The PIV was an Australian Government invitation-only visa, designed 'to attract a small number of highly talented and entrepreneurial individuals who can translate those skills and talents into areas which deliver a long-

84 NISA, *Factsheet 2, New arrangements for Venture Capital Limited Partnerships*.

85 NISA, *Factsheet 3, Increasing access to company losses*.

86 NISA, *Factsheet 4, Intangible asset depreciation*.

87 NISA, *Factsheet 8, Insolvency reform*.

88 DIIS, *Submission 31*, p. 20.

89 DFAT, *Submission 44*, p. 18.

term economic benefit to Australia.’ The program would initially involve Australia’s top two-way investment market, the United States, but would then expand to ‘other top two-way investment markets.’⁹⁰

Research and Development Tax Incentive

3.72 In considering the mix of public and private sector investment in commercialising research, the National Health and Medical Research Council (NHMRC) commented:

... the tax system is the way for the Australian people to benefit from profitable companies. So what is needed is to support companies to develop and be profitable. Of course, that is the purpose behind the R&D tax incentive as well, that there is a tax incentive for companies to invest in their own R&D and become profitable. I think one of the negative aspects of taking a slice [of the equity of a new company] is that, the more you carve out of a business, the less attractive it is to other investors. At the earlier stages, with clear ownership of IP and clear dilution of equity as new investors come in, there has to be a good financial argument for the investor. If you slice out too much by returning to government too early then I think you potentially get in the way of an attractive investment to people, whether they are shareholders in a public company or private investors in a private company.⁹¹

3.73 The NHMRC considered that the tax system is the appropriate way for Australia to benefit from profitable companies, and the R&D tax incentive is a way to encourage companies to invest in their R&D and become profitable.⁹²

3.74 The R&D tax incentive is designed to encourage companies to undertake R&D, and comprises:

- a 45 per cent refundable tax offset for eligible entities with an annual aggregated turnover of less than \$20 million, (not controlled by income-tax exempt entities) for expenditure on eligible R&D activities in Australia; and
- a 40 percent non-refundable⁹³ tax offset for all other eligible entities for eligible R&D expenditure.⁹⁴

90 DFAT, *Submission 44*, p. 18.

91 Professor Anne Kelso AO, Chief Executive Officer, National Health and Medical Research Council (NHMRC) *Official Committee Hansard*, Canberra, 17 March 2016, p. 5.

92 Professor Anne Kelso AO, NHMRC, *Official Committee Hansard*, Canberra, 17 March 2016, p. 5.

93 A non-refundable tax offset can be carried forward to a later year if it meets the standard tax offset carry-forward rules. Australian Taxation Office, *Research and development tax incentive – refundable and non-refundable tax offsets*, <https://www.ato.gov.au/business/research-and->

- 3.75 The incentive applies to R&D expenditure of up to \$100 million. Beyond this, companies can claim a tax offset at the company tax rate.⁹⁵
- 3.76 In 2015–16, the Australian Government spent \$9.7 billion on science, research and innovation. Of this, the R&D tax incentive measures amounted to \$3.2 billion.⁹⁶ Professor Roy Green stated that the R&D tax concession had ‘increased from about 15 percent to about 30 percent’ of the overall research and innovation spend.⁹⁷
- 3.77 The Chief Scientist for Australia (Chief Scientist) commented that Australia was ‘unusual amongst OECD countries in the predominance of indirect – that is, tax-based – support for business R&D.’ The provision of tax incentives liberated businesses from grant funding cycles enabling them to undertake research at any time. Tax credits, however, were generally untargeted so reduced the government’s capacity to strategically focus R&D investment on priority areas and specific players.⁹⁸
- 3.78 Innovation and Science Australia, however, approved the fact that the scheme was ‘agnostic to sector and is entitlement based.’ If someone was spending money on legitimate R&D it was a great incentive.⁹⁹
- 3.79 CSL Ltd supported the tax concession as ‘a very significant incentive for commercial operations like CSL Ltd to conduct R&D onshore and maximise this investment.’¹⁰⁰ Sendle also commented that for start-ups like Sendle, the incentive was ‘a really excellent thing.’¹⁰¹
- 3.80 The Australian Industry Group (AIG) highlighted the value of the incentive, but called for stability:

The incentive plays an important role for many of our members and other businesses in enabling a higher level of R&D investment than might otherwise occur. While there are always areas for improving the incentive or targeting it more effectively, the policy

[development-tax-incentive/in-detail/fact-sheets--ato/research-and-development-tax-incentive---refundable-and-non-refundable-tax-offsets/](#) Accessed 13 April 2016.

94 DFAT, *Submission 44*, p. 14.

95 DFAT, *Submission 44*, p. 14.

96 DIIS, *Submission 31, Figure 1*, p. 4.

97 Professor Roy Green, UTS, *Official Committee Hansard*, Sydney, 9 March 2016, p. 32.

98 Chief Scientist for Australia (Chief Scientist), *Submission 49*, pp 2, 3.

99 Mr William Ferris, DIIS, *Official Committee Hansard*, Canberra, 3 March 2016, p. 8.

100 CSL Ltd, *Submission 37*, p. 8.

101 Dr James Chin Moody, Chief Executive Officer, Sendle, *Official Committee Hansard*, Sydney, 9 March 2016, p. 16.

has been through a lot of changes in recent years and stability is badly needed.¹⁰²

- 3.81 Connexion P/L drew attention to the changes in the requirements of R&D applications and the demands of writing applications especially for small companies:

We go for R&D every year. The R&D application five years ago and the terms in the R&D application today are so vastly different that you really do need an expert in research and development writing to be able to help you put that together. ... it is becoming more and more challenging to be able to present that what you have does constitute research and development. ... It is a real challenge to try and write those things. The big companies are okay. They have good lawyers to do it. Yes, we pay for lawyers to prepare ours, but that again comes back to the small business side of it, where your focus is on providing jobs for a number of people and your focus is not [solely] about making money. When you have to take that money away, shareholders and board members look at you quizzically as to why you keep investing in those things. ...

This will probably be the last year we do it because, if they change the rules again, it becomes more and more difficult.¹⁰³

- 3.82 La Trobe University suggested that the R&D tax incentive rates are quite important for the 'make or break' points for small businesses. Small changes in the rate are less of an issue for large multinational companies.¹⁰⁴
- 3.83 The Australian Academy of Science stated that the tax incentive does not favour small start-up companies. Instead the incentive encourages companies with 'sufficient existing capital to establish or undertake new research and development activities.' Small start-ups or spin out companies do not have access to such capital. As well, the incentive 'can be of limited use unless there is a strong expectation that the company will incur a tax liability from concurrent or future profit.'¹⁰⁵
- 3.84 Cochlear Ltd was concerned about the \$100 million cap on eligibility for the R&D tax incentive:

102 Dr Peter Byrne, Head of Influence and Policy, Australian Industry Group (AIG), *Official Committee Hansard*, Sydney, 8 March 2016, p. 17.

103 Mr Graeme Harrison-Brown, Chief Executive Officer, Connexion P/L, *Official Committee Hansard*, Sydney, 9 March 2016, p. 44.

104 Mr Matthew Brett, La Trobe University, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 40.

105 Australian Academy of Science, *Submission 3*, p. 9.

We spend about \$130 million a year, of which about \$100 million qualifies for the R&D tax concession. We want to continue to invest; but, obviously, if you have a look at somewhere like the UK, they have concessions which would kick in for that incremental amount. ... The issue with that is long-term. Your new R&D starts getting done outside of Australia and over time – 10 years or so – the value is attributed to somewhere else.¹⁰⁶

3.85 The ECA considered there should be a continuum in tax arrangements from the research phase, through development, to the commercialisation phase:

... if a particular program has met those first two elements of the taxation R&D program and is an approved project, the commercialisation of that project should be an as-of-right, automatic roll on and have access to the same taxation benefits as the research and the development currently have, rather than phasing into a completely new competitive grant application.¹⁰⁷

3.86 La Trobe University commented that the eligibility rules for the tax incentive excluded not-for-profit enterprises or those that are majority owned by not-for-profits. The exclusion limited the ability for the tax system to drive start-up businesses that were collaborations between a student and the university. There was the opportunity to design better ways to support graduates or PhD students who wanted to take cutting edge ideas into spin out companies.¹⁰⁸

3.87 The R&D tax incentive eligibility rules also exclude research in the humanities and social science. The Australasian Council of Deans of Arts, Social Services and Humanities,¹⁰⁹ and the Australian Academy of the Humanities did not support this exclusion. The Australian Academy of the Humanities stated that the efficacy of these provisions should be reviewed:

... to ensure that cultural industries, digital R&D, design for social innovation, and future service oriented industries embracing social enterprises are not disadvantaged by these tax arrangements.¹¹⁰

106 Mr Neville Mitchell, Cochlear Ltd, *Official Committee Hansard*, Sydney, 8 March 2016, p. 23.

107 Mr Paul Cooper, Deputy Chair, ECA, *Official Committee Hansard*, Sydney, 8 March 2016, p. 5.

108 Mr Matthew Brett, La Trobe University, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 38.

109 Australasian Council of Deans of Arts, Social Services and Humanities, *Submission 22*, p. 2.

110 Australian Academy of the Humanities, *Submission 33*, p. 3.

- 3.88 Several universities supported modifying the R&D tax incentive scheme to encourage collaboration between businesses and universities.¹¹¹
- 3.89 The Australian Technology Network (ATN) suggested that university/business links would be enhanced 'if businesses were able to claim the R&D tax incentive for work undertaken by a PhD graduate for a period of three years post-graduation'. The ATN acknowledged that this 'would be a significant shift for the Australian government to take'.¹¹²
- 3.90 The University of Melbourne suggested that:
- The R&D tax incentive could be modified to:
- Make it easier for SMEs to benefit from the tax incentive, especially where they utilise established research providers to solve their problems.
 - Encourage and leverage collaboration with public research providers and public research infrastructure.
 - Direct skills, resources and other supports for research in the catalytic phase of commercialisation, including in public research institutions.¹¹³
- 3.91 The Australian Government is currently undertaking a review of the R&D tax incentive scheme. The review panel comprises the Chair of Innovation and Science Australia, the Chief Scientist, and the Secretary of the Treasury.¹¹⁴

Intellectual Property

- 3.92 IP Australia stated that a 'well-functioning and effective intellectual property (IP) system is important to underpin Australia's innovation, trade and investment efforts' and the NISA.¹¹⁵ To this end, IP Australia provided the following online services:
- the Patent Analytics Hub containing over '80 million patent records', providing the information 'in a form that allows for an understanding of relationships and trends to inform business strategy';

111 Australian Technology Network, *Official Committee Hansard*, Sydney, 8 March 2016, p. 59; Curtin University, *Submission 20*, p. 1; La Trobe University, *Submission 39*, pp 4–5; Regional Universities Network, *Submission 11*, p. 2. University of Adelaide, *Submission 39*, p. 3; University of Melbourne, *Submission 41*, p. 19; University of Tasmania, *Submission 34*, p. 3; Western Sydney University, *Submission 23*, p. 3.

112 Ms Renee Hindmarsh, Executive Director, Australian Technology Network (ATN), *Official Committee Hansard*, Sydney, 8 March 2016, p. 59.

113 University of Melbourne, *Submission 41*, p. 19.

114 Australian Government Business, *R&D Tax Incentive Review*, <http://www.business.gov.au/grants-and-assistance/innovation-rd/RD-TaxIncentive/Pages/randd-tax-incentive-review.aspx> Accessed 13 April 2016.

115 IP Australia, *Submission 15*, p. 1.

- Source IP, a 'portal for information sharing, licensing preferences and facilitating contact in relation to IP rights generated by Australia's public research sector'; and
 - the IP Toolkit for Collaboration which 'provides tools and guidance to simplify discussions relating to the use and management of IP in collaborative ventures.'¹¹⁶
- 3.93 IP Australia also participated in the global patent prosecution highway initiative which:
- ... provides fast-track patent examination in 20 countries, on the basis of a decision taken in any of those countries, allowing Australian inventors the option to quickly acquire rights across the major global markets such as Japan, Germany, the UK and the USA.'¹¹⁷
- 3.94 Australia is also a signatory to the Patent Cooperation Treaty which allows the filing of an international patent and subsequent protection in 148 countries.¹¹⁸
- 3.95 IP Australia commented that a patent did not inhibit innovation. The patent granted a monopoly, but in return 'must disclose the invention, how it operates and the best method of operating it.' This was 'partly to ensure that follow-on innovation can occur.'¹¹⁹ The ability to use patented material and goods for research was confirmed in the *Intellectual Property Laws Amendment (Raising the Bar) Act 2012*. Once researchers started commercialisation, however, they had to look at obtaining a licence.¹²⁰
- 3.96 In comparison to the cost of filing, the substantial cost of obtaining a patent lay in writing the specification which had to describe the invention and 'the part that is novel, inventive and useful that you will claim exclusive right for.' IP Australia summarised the costs:
- It costs you a couple of hundred dollars to file, it costs you a couple of hundred dollars to get it examined but the total cost, and these are rough estimates ... is between \$8000 to \$12 000 to get a

116 IP Australia, *Submission 15*, pp 2, 3.

117 IP Australia, *Submission 15*, p. 3.

118 IP Australia, *Submission 15*, p. 3; World Intellectual Property Organisation, *PCT – The International Patent System*, <http://www.wipo.int/pct/en/> Accessed 14 April 2016.

119 Dr Andrew Wilkinson, Director, Domestic Policy, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 17.

120 Dr Frances Rowden, Acting General Manager, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 17.

patent through the system in Australia. We will make up maybe five to six per cent of that cost.¹²¹

- 3.97 Once a patent was granted in Australia, the global patent prosecution highway could be used to fast track patenting in other jurisdictions.¹²² The market where patent protection was needed determined where the patent was lodged. For example, IP Australia noted that there were Australian universities choosing to patent abroad because they considered that would be their major market.¹²³ A further example was provided by CSL Ltd which commented that when it decided to manufacture products in Switzerland it had transferred the IP for those products to that country.¹²⁴
- 3.98 In sectors where Australia comprised an important market, for example in mining, pharmaceutical, chemical, and heavy machinery, overseas companies were filing patents in Australia.¹²⁵
- 3.99 IP Australia commented that ‘90 percent of the patent applications in Australia are filed by non-residents’ – companies were importing their technology for use in Australia.¹²⁶ In the Australian start-up sector, about 50 companies patented in a year.¹²⁷
- 3.100 LOKE Digital P/L commented that it was difficult to patent software and its strategy was to be a first-mover into the market, ‘strengthening our core technology through integrations with other businesses and becoming a backbone of their technology and/or business as well.’¹²⁸ Sendle agreed that speed was important for success:
- ... it used to be that the big eat the small; now it is that the fast eat the slow. The key thing for a lot of businesses is: how fast can you move?¹²⁹

121 Dr Benjamin Mitra-Khan, Acting General Manager, Chief Economist, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 13.

122 Dr Benjamin Mitra-Khan, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 13.

123 Dr Benjamin Mitra-Khan, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 14.

124 Ms Sharon McHale, Head of Public Affairs, CSL Ltd, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 13.

125 Dr Benjamin Mitra-Khan, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 15.

126 Dr Benjamin Mitra-Khan, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 15.

127 Dr Benjamin Mitra-Khan, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 13.

128 Mr Matthew Khoury, LOKE P/L, *Official Committee Hansard*, Melbourne, 10 March 2016, p. 45.

129 Dr James Chin-Moody, Sendle, *Official Committee Hansard*, Sydney, 9 March 2016, p. 18.

Patent Boxes

- 3.101 Patent boxes are policies which apply to the 'income generated from certain types of qualifying intellectual property, particularly patents.' The policy targets the final stage of the innovation pathway, namely commercialisation. 'Tax relief can be given either as a reduced tax rate or a tax break for a portion of the patent box income.'¹³⁰
- 3.102 The DFAT stated that 11 European countries and China had introduced patent boxes while other countries including the United States were considering their introduction.¹³¹
- 3.103 The Australian Innovation and Manufacturing Incentive (AIMI) proposed 'a system based on the UK's patent box, but tailored for Australia.' The AIMI stated that recently there had been an 'international focus on patent box regimes to ensure they are not contributing to "base erosion and profit shifting."' Consequently a number of jurisdictions have committed to ensuring any patent box tax benefits are directly related to R&D activity carried out in the host country. The AIMI stated that its policy is consistent with these developments.¹³²
- 3.104 The proposal would:
- ... provide an offset against the tax payable on profits derived from the innovation and manufacture in Australia of qualifying patented/licensed products. The patents/licenses would have to [have] a connection to Australia to qualify. ...
- ... qualifying IP profit would be taxed at the lower rate (10%) with the standard corporate tax rate to be applied to other income.¹³³
- 3.105 Cochlear Ltd supported the patent box approach, but cautioned that it needed 'to be part of a broad, holistic approach to incentives. It [is] not a panacea on its own'. Cochlear Ltd added that under the UK patent box model, the benefit to business has to be linked to providing extra employment.¹³⁴
- 3.106 The AIG considered patent boxes to have some merit but it needed 'careful examination and design.' The AIG added:
- Something that is well designed, that works simply and effectively, and that takes the best from the experiences of the UK

130 DFAT, *Submission 44*, p. 15.

131 DFAT, *Submission 44*, p. 15.

132 Australian Innovation and Manufacturing Incentive (AIMI), *Submission 25*, pp 1, 2.

133 Australian Innovation and Manufacturing Incentive, *The AIM Incentive*, <http://www.aimincentive.com.au/learn-more/the-aim-incentive/> Accessed 14 April 2016.

134 Mr Neville Mitchell, Cochlear Ltd, *Official Committee Hansard*, Sydney, 8 March 2016, p. 24.

and other European countries is well worth having a go at. I do not think it is a magic cure; it is a part of a bigger story.¹³⁵

3.107 The ACCI considered the concept was worth exploring, but it was a matter of priority. A patent box system would create ‘an artificial measure to counteract some of the other disincentives to locate in Australia.’ The ACCI preferred to instead focus on those framework issues.¹³⁶

3.108 IP Australia stated that research has not shown that patent boxes have increased the overall level of innovation:

In the last 2½ years we have seen about 10 big academic studies come out on the effect of patent boxes. The latest one is from the European Commission. They all seem to say roughly the same thing. ... you are incentivising people to maintain the patent monopoly ... because you are giving them a tax break, unlike R&D tax credits ... there is no good evidence to show that [a] patent box increases innovation or innovative activity in a country. There is decent evidence that says that a small group, mainly of large companies, gain a tax benefit. Within Europe ... there is decent evidence to show that people who can move their taxable IP will do so as a response to it, but they will not necessarily move their R&D.¹³⁷

3.109 IP Australia added that a patent box has been in place in the UK since 2013 and ‘more than 10 years’ in parts of Europe. The patent box has been an expensive policy for the UK, being costed ‘at something like £1.1 billion when they first did impact assessments ... about \$2 billion a year’. The UK has decided to close its current patent box for new entries in July 2016 and redesign the system. IP Australia was unsure as to whether the UK would abolish its patent box system.¹³⁸

Advanced Manufacturing Tax

3.110 CSL Ltd provided a detailed proposal¹³⁹ for an Advanced Manufacturing Tax ‘of not more than 10 per cent on new advanced manufacturing undertaken in Australia’.¹⁴⁰ CSL Ltd stated that, unlike a patent box the ‘proposal would not diminish existing tax revenues, would only apply to

135 Dr Peter Burn, AIG, *Official Committee Hansard*, Sydney, 8 March 2016, p. 21.

136 Mr Tim Hicks, ACCI, *Official Committee Hansard*, Sydney, 8 March 2016, p. 21.

137 Dr Benjamin Mitra-Kahn, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 12.

138 Dr Benjamin Mitra-Kahn, IP Australia, *Official Committee Hansard*, Canberra, 17 March 2016, p. 13.

139 CSL Ltd, *Submission 37*, pp 13–15.

140 CSL Ltd, *Submission 37*, p. 14.

investment that would not otherwise take place in Australia, and requires IP to be tied to advanced manufacturing.¹⁴¹

3.111 To qualify as advanced manufacturing for the purposes of the new tax, CSL Ltd suggested:

- There must be new investment in a manufacturing facility.
- The manufacturing facility should generate substantial entrepreneurial value such that the value of its products should be much greater than the costs (including capital costs).
- The value-add must arise from identifiable and valuable IP ...
- The relevant IP should be either developed in Australia or acquired and then significantly enhanced through further development while under Australian ownership.
- The Australian owner must have taken risks in the development of the IP.
- The preferential tax rate would not apply to profits earned on royalties, licence fees or sales of Australian owned IP, as these do not arise from advanced manufacturing in Australia.¹⁴²

3.112 CSL Ltd identified a number of safeguards in its proposal:

- there was no need for government funding or to 'cannibalise existing tax revenues';
- there was the requirement to manufacture in Australia;
- the exclusion of 'most investment in other industries' reduced the likelihood that investment would have occurred in Australia anyway – such as in resource extraction;
- the requirement for substantial value adding in Australia;
- the proposal would not distort business behaviour – a criticism of some types of patent boxes was that IP ownership was transferred from one jurisdiction to another without creating new economic activity; and
- it would be limited to those enterprises which had generated valuable IP and invested in manufacturing in Australia.¹⁴³

Concluding Comments

3.113 The Committee recognises the difficulties and risks of commercialising innovation. The Committee was impressed by the calibre of the start-up

141 CSL Ltd, *Submission 37*, p. 13.

142 CSL Ltd, *Submission 37*, p. 14.

143 CSL Ltd, *Submission 37*, pp 14–15.

and spin-out companies and those in the venture capital sector who contributed to the inquiry.

- 3.114 The Committee agrees that being involved in a start-up or spin-out company is challenging because of the commonly high rates of failure for such entities. Starting a business from scratch, seeing it fail, and relaunching another can be a challenging learning experience and only those who persist will be successful. Similar challenges are experienced by angel investors and venture capitalists.
- 3.115 The Committee acknowledges the move by the superannuation industry towards investing in start-up portfolios created by intermediaries. The Committee anticipates that market forces will determine whether this form of finance will increase and broaden.
- 3.116 The Committee recognises that the Government, through the NISA initiatives is providing support measures for incubators, start-up businesses, and capital providers, with the broader aim of modernising the Australian economy to make it more globally competitive.
- 3.117 The Incubator Support Program is intended to provide information to assist entrepreneurs and prospective entrepreneurs. The Committee acknowledges the comments of LOKE Digital P/L concerning what such a portal might provide and suggests the Government's portal should provide such information.
- 3.118 Taking into consideration the issues raised around NISA such as its adequacy and robustness, the Committee believes the NISA initiatives should be reviewed after an appropriate period to determine their effectiveness and adequacy.
- 3.119 The Committee is attracted to the use of a patent box as a way to encourage R&D and believes that such a measure warrants close examination. The patent box is an expensive measure, however, which can be manipulated, and the increased innovation outcome is uncertain. The Committee understands that the UK's patent box, introduced in 2013, closed after three years in operation and is currently being reviewed.
- 3.120 If a patent box measure were to be introduced it should be subject to a sunset clause followed by a review of its effectiveness and whether it should be extended and for how long.
- 3.121 The Committee has received two separate proposals aimed at encouraging advanced manufacturing in Australia. A Manufacturing Finance Corporation (MFC) which has been proposed by the AMWU would be modelled on the Clean Energy Finance Corporation, but would concentrate on investing in advanced manufacturing.

- 3.122 The Advanced Manufacturing Tax (AMT), which can be seen as a taxation variant of the patent box, (as proposed by CSL Ltd) attempts to link tax breaks for advanced manufacturing companies to activity in Australia.
- 3.123 The Committee has received insufficient evidence, however, to thoroughly test the concept of a MFC or an AMT but considers both options warrant close examination by the Treasury. If either option is introduced it should be reviewed after a suitable period to ascertain its effectiveness. If an AMT were to be introduced it could have a sunset clause with a review before renewal.

Recommendation 3

- 3.124 **The Committee recommends that the initiatives introduced as part of the National Innovation and Science Agenda be reviewed after three years of operation to determine their effectiveness and whether the programs should be expanded.**

Recommendation 4

- 3.125 **The Committee recommends that the Treasury undertake a close examination of a patent box scheme. If a patent box is introduced, it should be subject to a sunset clause after three years of operation. A review should be undertaken to determine the effectiveness of the patent box scheme and whether it should be extended and for how long.**

Recommendation 5

- 3.126 **The Committee recommends that the Treasury undertake a close examination of the proposal for a Manufacturing Finance Corporation. Should such a corporation be established, it should be reviewed after a period of five years to determine its effectiveness.**

Recommendation 6

- 3.127 **The Committee recommends that the Treasury undertake a close examination of the proposal for an Advanced Manufacturing Tax. Should such a tax be introduced, it should be subject to a sunset clause at which point a review should be undertaken to determine its effectiveness and whether it should be continued.**

Mr Ken O'Dowd MP
Chair
2 May 2016