

# What is the Appropriate Role of Government in Supporting Innovation?

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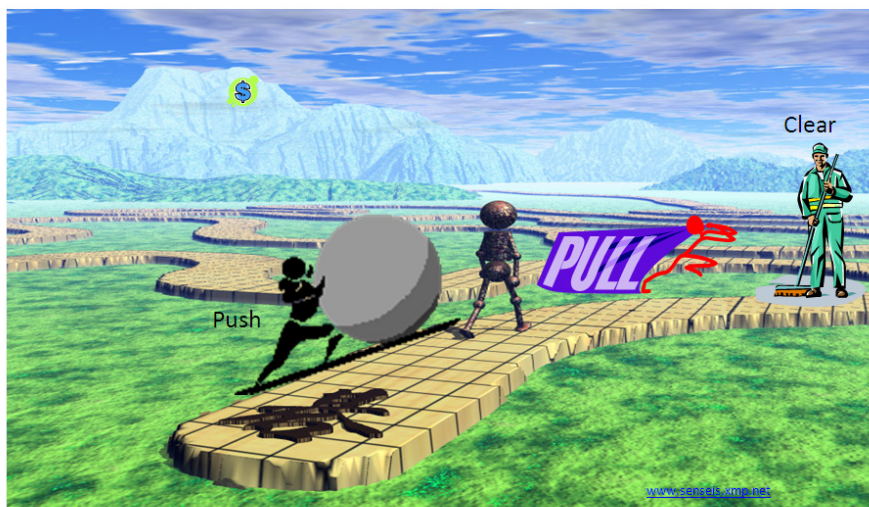
Presented at a  
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Good afternoon. It is a great pleasure to have the opportunity to discuss this topic, which is of such importance to the future of Australia. I am delighted to see some of my former students from the Master of Business (Science & Technology) program in the audience. Some of you may remember that when I was the lecturer for the Pathways from Science to Wealth unit in that program, one of my lectures was on the role of Government Policy in creating wealth from science.

In that lecture I used this slide (slide 1) to illustrate the three categories of role played by government policy on the path to wealth creation from scientific discover. The first category “Push” relates to active government involvement in fostering economic advances from innovation, such as providing scientific infrastructure, commissioning scientific research and purchasing Australian made high technology products.

Slide 1:

Policy on the Pathway from Science to Wealth



The second category “Pull” involves providing incentives for the creation of wealth from innovation, with initiatives such as the 20 year patent monopoly, Commercialisation Australia grants and the R&D tax incentive.

The final category, “Clearing the way” involves not creating, or removing obstacles to the creation of wealth from innovation; obstacles such as corruption, red and green tape and non-competitive regulation.

Aiming to be a good lecturer, I took what I thought was a balanced and unbiased approach to the topic of the government’s role in the creation of wealth from innovation. In this talk, I’m going to take an unashamedly biased, narrow personal view of the topic. First of all I’m going to take it as a given that innovation is good, in that it is good for the economy and that if Australia is going to be more than a mine and a farm then it needs to better integrate innovation into the economy and into the creation of the nation’s wealth. I shall though be happy to debate this assertion in question time.

Today, my narrow view of the topic involves the following themes (Slide 2): Entrepreneurs, Markets and Superannuation, the part that they play in the process of creating wealth from innovation and the part that governments play, or that I think they should play, in this process.

Slide 2:

## Themes

- Entrepreneurs & Innovation
  - Markets & Innovation
    - Free markets
    - Market failures
    - Market distortions
  - Superannuation & Innovation
- The role of  
Government**

Let’s start with Entrepreneurs. In my view it is almost a truism that entrepreneurs are the drivers of innovation. Indeed, one of the most notable economist in the field of research into the creation of wealth from innovation, Joseph Schumpeter, in his remarkable 1934 book, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit,*

*Interest, and the Business Cycle*, essentially defined entrepreneurs as<sup>1</sup> “innovators who implement change within markets, where entrepreneurial change has 5 manifestations: 1) the introduction of a new (or improved) good; 2) the introduction of a new method of production; 3) the opening of a new market; 4) the exploitation of a new source of supply; and 5) the re-engineering/organization of business management processes.”

Yet despite this critical role in economic development, the entrepreneur receives scant consideration from government. Remarkable to me was the fact that in the 2009 government commissioned study, “Pioneering Ideas – An innovation agenda for the 21<sup>st</sup> century”, “Entrepreneurs” were only mentioned once and not in the context of proffering any ideas on how to facilitate their creation of economic wealth. It is also interesting to do a search for the word “entrepreneur” in government legislation or, even more revealing, explanatory memoranda for bills, to find that governments pay little attention to the role of entrepreneurs in the economy. At the very least governments should consider entrepreneurs in the Schumpeterian sense when developing strategy and policy.

As a venture capitalist I work with entrepreneurs involved in high tech innovation. These range from 20-something year old IT geeks through to entrepreneurial senior scientists here at Monash. On a day-to-day basis I see the benefits of some worthwhile government policies, such as the R&D tax incentive. I also know that life for a high tech entrepreneur in Australia is tough for a range of reasons. Today I am going to focus on just one, which I believe results from a government induced market distortion associated with a market failure.

I am generally a strong believer in the free market. With the onset of the global financial crisis many were quick to infer the death of free market capitalism, especially in the United States (Slide 3).

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<sup>1</sup> See “Defining Entrepreneurial Activity”, N Ahmad & R G Seymour, <http://www.oecd.org/dataoecd/2/62/39651330.pdf>

“The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle”, J A Schumpeter, 1934

## Slide 3:

# The end of the USA & the free market?

History may show that right now Uncle Sam is past his peak

PRINT: CANBERRA TIMES | 20 MARCH 2009 | PAGE 013

End of the world as we know it: Bishop

03 MARCH 2009 | PAGE 008 |

In her first major outing in the shadow foreign affairs role, Deputy Opposition Leader Julie Bishop has outlined a doomsday new world order, with the United States in serious decline and a resurgent Russia.

## Kevin Rudd's plan to rescue capitalism: essay

DENNIS SHANAHAN, POLITICAL EDITOR *The Australian* January 31, 2009 12:00AM

KEVIN Rudd has declared a new era of financial reregulation and government intervention in world markets to restore confidence and stop capitalism "cannibalising itself" as a result of the global financial crisis.

The Prime Minister has vowed to use the "greatest market failure" in 75 years to commit his Government to sensible new market regulation and intervention to stabilise the economy and save jobs.

"The time has come, off the back of the current crisis, to proclaim that the great neo-liberal experiment of the past 30 years has failed, that the emperor has no clothes," Mr Rudd says in a lengthy essay for *The Monthly* magazine, to be published next week.

While there has been a need for some strengthening of regulation and there has been massive government intervention in the US economy, the fundamental strength of the United States as a free market innovator has continued. Back in 2008/9 I fundamentally disagreed with views such as those on the screen and wrote in an internal Innovation Capital paper in October 2008: "I conclude that the deleveraging structural change could lead the US into a period of increased innovation, entrepreneurial activity and productivity....".

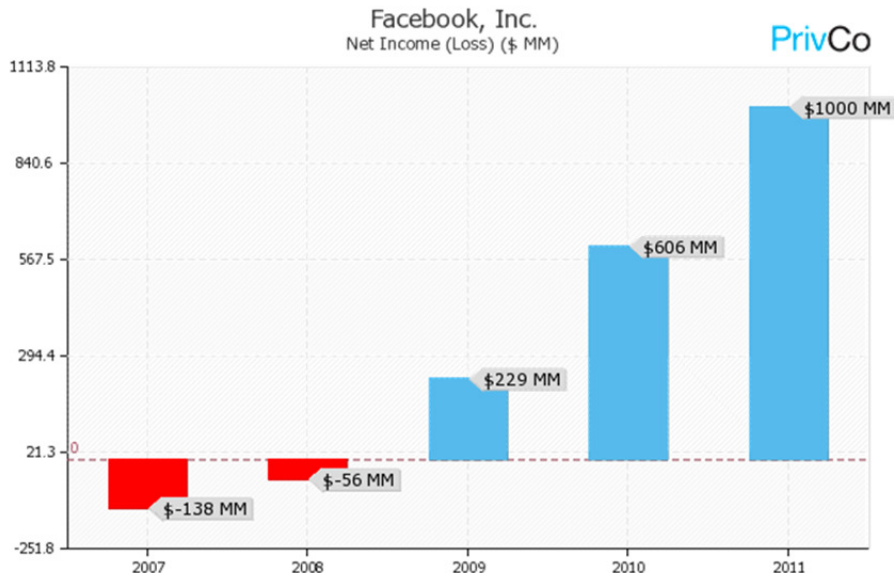
As just one example of the outworking of this view, during the global financial crisis the extraordinary creation of wealth shown in this slide was occurring in the United States (Slide 4). In the eight years from 2004 to 2012 Facebook has grown from a dorm room start up to being valued at around 100 billion dollars. I contend that such creation of wealth from innovation would not take place in Australia and this is partly as a result of a government induced market distortion.

## Slide 4:

### FINANCIAL REVIEW

# Facebook IPO set to value it at \$100bn

PUBLISHED: 02 FEB 2012 00:04:39 | UPDATED: 02 FEB 2012 08:49:09



Facebook did not grow solely through the entrepreneurial activities of Mark Zuckerberg. It also required capital. You can see in the chart that it lost \$138 million in 2007 and \$56 million in 2008. Where did this capital come from? The answer is largely from venture capital, (Slide 5); in fact large amounts of venture capital.

## Slide 5:

### Facebook Venture Funding

2004	Seed (Equity/Debt)	\$800k
2005	A Round Venture Capital	\$13.7m
2006	B Round Venture Capital	\$27.5m
2007	Venture Debt	\$30m
2007	C Round Venture Capital	\$372m
2008	Venture Debt	\$100m
2009	D Round Venture Capital	\$200m
2011	E Round Venture Capital	\$1.5b

In Australia, angel investors and venture capitalists might manage the \$800,000 seed rounds but would probably struggle to pull off a \$13m

Series A round in a company like the early Facebook. In fact Australia is fairly bereft of venture capital. According to the Australian Venture Capital Association Year Book<sup>2</sup>, only \$120m of new venture capital funds were raised in fiscal year 2011, a continuation of the annual decline since the \$357m peak year of 2007. This can be compared with the roughly \$8 billion invested annually by the Commonwealth Government on research, of which roughly \$5 billion is spent in the higher education sector<sup>3</sup>. There is an enormous mismatch between the amount that is spent on research and the amount that is available to be invested in innovative entrepreneurial activity to create economic wealth from that research.

Where might we expect venture capital to be sourced from? One of the biggest pools of savings in Australia is in the superannuation system, which in many ways is a triumph of government policy. Australia has one of the largest and fastest growing pension systems in world (Slide 6) as a result of its compulsory and tax advantaged nature. Given this, it might be expected that superannuation funds would be major investors in Australian venture capital as is the case with US pension funds in US venture capital. This is not the case. For example, in fiscal year 2011 contributions to superannuation amounted to \$105 billion<sup>4</sup>, while, as I just mentioned investments in venture capital in the same period were just \$120m, of which at least half came from non-superannuation sources, including the Commonwealth Government through its IIF scheme.

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<sup>2</sup> <http://www.avcal.com.au/stats-research/yearbooks>

<sup>3</sup> 2008-2009

[http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/FE58F9E5232F039BCA2577B6001601AF/\\$FILE/81120\\_2008-09.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/FE58F9E5232F039BCA2577B6001601AF/$FILE/81120_2008-09.pdf)

<sup>4</sup>

<http://www.apra.gov.au/Super/Publications/Documents/June%202011%20Annual%20Superannuation%20Bulletin.pdf>

Slide 6:

## One of the world's biggest and fastest growing pension systems

	2010 Total Assets \$US bil.	2010 Assets as % GDP	% Change 2000 – 2010 % GDP
USA	15,265	104	2
Japan	3,471	64	12
UK	2,279	101	16
Australia	1,261	103	33
Canada	1,140	73	-19
Netherlands	1,032	134	20

Source: Towers Watson Global Pension Asset Study 2011

This is a serious issue. Treasury estimated<sup>5</sup> that in 2007-8 the cost to revenue of the superannuation tax concessions was \$26 billion. We must ask if this tax concession is good for the economy or would the tax revenue be better employed in otherwise driving economic growth?

Where is the concessionally taxed superannuation investment going? Well, a large percentage of it is going into Australian listed equities. That is into companies trading on the Australian securities exchange, a large percentage of which is invested in Australia's largest companies, such as the banks and big miners. Indeed Australia has one of the highest concentrations of pension fund investment into its domestic equities market of any of the world's major pension systems (Slide 7).

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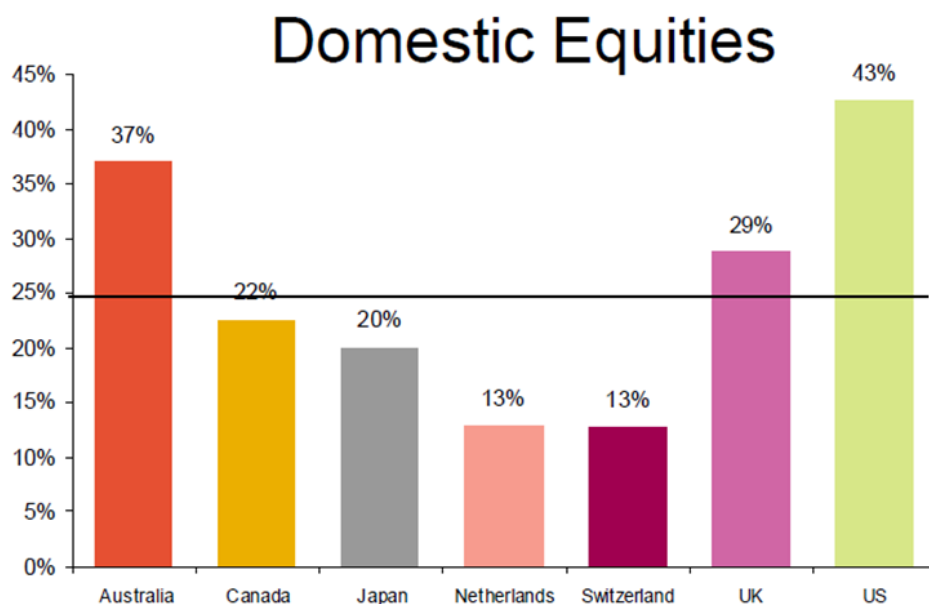
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[http://www.taxreview.treasury.gov.au/content/ConsultationPaper.aspx?doc=html/publications/Papers/Retirement\\_Income\\_Consultation\\_Paper/Chapter\\_3.htm](http://www.taxreview.treasury.gov.au/content/ConsultationPaper.aspx?doc=html/publications/Papers/Retirement_Income_Consultation_Paper/Chapter_3.htm)

Slide 7:

## One of the world's most distorted pension systems

2009 Asset allocation to:



Source: Towers Watson Global Pension Asset Study 2010

This, I consider to result in one of the world's most distorted pension systems, in which the value of large listed companies is propped up by the compulsory superannuation investment system. In 2010 I wrote a paper on this distortion and some of its potential consequences. The paper was entitled<sup>6</sup> "The Great Australian Superannuation Ponzi Scheme", capturing what I consider to be the seriousness of the matter and the theme has recently been picked up in quite vigorous debate about the correct asset allocation for superannuation funds.

The distortion arises largely as a result of governance and agency issues around the management of superannuation and into which, for a range of reasons, government is reluctant to intervene in a manner which might fix the problem. Rather, the Federal Government's latest superannuation policy initiative, the introduction of the simple, low cost MySuper, is likely to exacerbate the problem with superannuation managers swinging further into investment in low cost, listed assets rather than choosing to invest in the more complex asset class of venture capital.

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<sup>6</sup> Innovation Capital Associates 2010.



While I have termed the situation shown on the slide a market distortion, superannuation funds not investing in innovation also has elements of a market failure. For although superannuation investment should be long term, especially in the case of younger superannuation savers, investment in innovation, such as in bringing a new drug to market, can be very long term. The legal obligation of superannuation fund trustees is to invest in the best interests of their members, not in the best interests of the members' children, grandchildren or the Australian economy. There are thus elements of a market failure in having one of our largest sources of investment cut off from opportunities to create long term wealth from innovation.

Whether it is a market distortion created by the government or a market failure or both, it is the government's role to do something about the problem. What should government do?

As mentioned, it is unlikely that the government has the political will to address this problem in a creative, big picture restructuring. Certainly any change that results in a reduction in tax benefits or is seen as interfering with the role of trustees in managing super is likely to be politically too hard. So rather than using the stick, let's consider a carrot. The government has already become unpopular by reducing the superannuation concessional contribution caps from \$50,000 to \$25,000, depending on circumstances and compounding this by deferring indexation of the caps for a year in 2013-14.

This reduction of concessions has been criticised by many in the superannuation industry such as in this article (Slide 8). While I agree with the overall sentiments of this article, clearly I have some disagreement with the arguments based on investment being predominantly in productive assets and I have some sympathy with the government in seeking to save <sup>7</sup> around \$485 million of tax revenue from just the deferral of indexation of the caps. But how about allowing superannuation investors an increased concessional cap for investments in innovation? That is to provide an incentive to encourage a flow of funds to entrepreneurs who will bridge the gap between the output from the billions of dollars spent on research and the national economic wealth that can result from innovation.

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<sup>7</sup> [http://www.budget.gov.au/2011-12/content/myefo/html/08\\_appendix\\_a\\_revenue-07.htm](http://www.budget.gov.au/2011-12/content/myefo/html/08_appendix_a_revenue-07.htm)

Governments have an important role to play in supporting innovation but in the themes that I have been discussing they have been found to be wanting. I hope that today's discussion might stimulate some thinking that will end up in the hands of creative and bold politicians.

Slide 8:

**The impact of reducing concessional contributions caps**

*8 January 2012, The Canberra Times*

This week, the Financial Services Council criticised the latest union and welfare group proposals for further reductions in the super tax concessions for higher income groups.

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The \$1.3 trillion currently in superannuation funds is predominantly invested in productive assets including shares, commercial and industrial property, infrastructure and corporate and government debt.

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In this overall context, given the large unfunded age pension burdens to be financed by future taxpayers, encouraging investment in super via tax concessions today could, as it has to date, provide benefits for future taxpayers as well as for the growth of the economy.

Daryl Dixon, Executive Chairman of Dixon Advisory.

Source: <http://www.dixon.com.au/News>