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**Competitive Advanced Manufacturing in Australia:
Quite Within Reach**

Good afternoon Ladies and Gentlemen.

Thank you, CEDA, for the opportunity to speak on this important topic today and thank you Dr Day for your introductory comments.

In this address I'd like to deal with a very Australian economic policy theme – the question of post-protection manufacturing and how this country can leverage the quality of its universities and highly educated work-force through research, innovation and advanced manufacturing.

I'll refer in part to the specific experience of CSL, where I think this relevant to broader policy issues. CSL is founded on the medical research and scientific capability of Australia, and the other countries in which we operate.

I'll outline a logical road map that Australia can readily adopt to capitalise on its well-known health and medical research strengths.

In relation to advanced manufacturing *per se*, what I will cover has much more general application to include sectors not connected with the health and medical spaces.

CSL's investment portfolio reflects Australia's current strengths and weaknesses. CSL undertakes R&D globally but, based on the education and research endowments that Australia now possesses, CSL's centre of excellence for R&D is in Australia.

Larger-scale investment further down the supply chain to advanced manufacturing, however, is another matter with the majority of our most value-adding manufacturing done offshore.

As CSL continues to grow – our market capitalisation is now well over \$40 billion - we have to make decisions on where to locate new advanced high-value manufacturing. We compare Australia, the US, Switzerland, Singapore, Ireland and a number of other potential investment locations.

Most recently, CSL decided to develop a completely new commercial scale manufacturing site for novel biotech products, in Switzerland. At the same time we decided to invest somewhat less capital in new capacity for existing products in Australia.

Australia was a contender for both projects and even the intellectual property at the foundation of the plant that went to Switzerland was largely developed by CSL in Australia. But it's fair to say that, despite its notorious general cost structure, Switzerland was more competitive.

CSL, like many large trans-national companies, has choices over where it invests on behalf of its shareholders. All such firms invest in locations that, given a broad range of factors, maximise the returns from their investment capital. These investments are often footloose in nature as they can be operationally located anywhere in the world.

If Australia is to see a rapid growth in advanced manufacturing, closer integration into global supply chains and greater exports of high value products, it must be able to attract and retain a greater share of this footloose investment.

CSL, as a result of its experience, may be in a good position to shed some light on policies that would do this.

Let me begin with the general observation that Australia is rightly regarded for its excellence in primary industries and agriculture. During the recent resources boom, the Australian economy grew rapidly and experienced unprecedented levels of investment.

Over the same period, Australia's manufacturing sector, particularly traditional manufacturing, declined, this being most apparent in the rapid demise of domestic car making.

Australia is not alone in experiencing a reduction in traditional manufacturing. Most developed economies have experienced some decline as the service sectors of their economies have advanced, but Australia's has been particularly rapid.

On the other hand, Australia possesses excellent universities and a highly effective research sector – especially in health and medical research - in large part as a result of governments' policies and support. This is complemented by a well-educated and skilled workforce.

These are essential building blocks for an advanced manufacturing sector capable of converting Australia's R&D efforts into high value products for global markets, and in turn building strong enterprises, high quality jobs and a virtuous circle supporting the foundation R&D infrastructure.

But while Australia has policy goals aimed at this end, and has developed some notable pockets of success, we haven't yet developed specialist, globally competitive enterprises to replace traditional manufacturing.

By and large, Australia is not an integral part of global supply chains. This is a frequent lament in Australia.

We have seen piecemeal measures over the years aimed at 'commercialising' Australia's research base, with varying degrees of effectiveness. Even so, growth in advanced manufacturing in Australia has lagged the economy as a whole and, over the last five years or so, failed to add new jobs to the economy.

At the same time, there are other economies in the world, which are *not* noticeably superior to Australia in terms of their research expertise or skills base, that have seen substantial growth in investment and employment in advanced manufacturing.

Global competition tends to require scale economies for cost effectiveness – especially important in capital intensive activities like manufacturing. This means that innovative products – which will often be appealing to global markets, must be manufactured at global scale often in a single or small number of large facilities. This increases the competition stakes.

Australian has a modest domestic market which means that it will rarely make sense to manufacture solely for national demand. Our physical distance from the major global markets is also something of a disadvantage, but, as logistics become more efficient and a proportionately lower part of the cost of goods, this is becoming less relevant.

The combination of these two industrial economics effects means that absent a strong drive to make Australia a more attractive location, we can expect that innovative manufacturing on our shores will continue to decline.

Commentators have suggested causes of Australia's lack of momentum is to do with relatively high Australian costs, lack of entrepreneurial capability in Australian management, or even a national preference for primary industry.

But surely our inability to grow advanced manufacturing has clear commercial causes that are not to be found in some deficiency of national character, or with poor or risk-averse management or any peculiar Australian preference for rocks and paddocks over test tubes.

The problem is this: even where Australia has genuine strengths – such as in health and medical research – we haven't made a serious, strategic effort to successfully bridge the research and commercial worlds.

In the health and medical research field, for instance, there are two major dimensions of policy failure. The first is that we do not progress a sufficient volume of our R&D discoveries to the point where they can realistically attract commercial investment.

We lack the translational research that harnesses new basic scientific insights to potential real world applications able to attract commercial collaboration. In other words, while our great research institutions and universities naturally keep to the basic science, it's not easy to progress these ideas towards the clinic so that partnerships can be forged with private investment.

Second, and this has broad application well beyond the health and medical research sector - is our inability to compete for investment in advanced manufacturing.

Notwithstanding our record, however, I believe that successfully exploiting Australian health and medical R&D through advanced manufacturing is well within reach if we made a genuinely strategic effort.

What would a serious national effort actually look like? There are five main features:

First, there is significant support for education, basic science and early stage research in which the private sector will not typically invest;

Second, there is continuing commitment through the National Health Research and Medical Council (NHRMC) in funding discovery, and pre-clinical research unlikely to prove attractive to the private sector;

Third, there is the need to address the dearth of translational research in order to increase the pool of sound research projects that firms like CSL can take forward; and

Fourth, continuing support for business R&D through tax offsets at current levels to encourage investment in clinical development in Australia;

Finally, the introduction of a competitive rate of taxation on advanced manufacturing undertaken in Australia that derives a large proportion of its value from intellectual property developed in Australia.

Australia is close to getting it right. We have three of these five areas covered, although I do believe that fiddling with the rate of business R&D tax offsets is a retrograde step with some potential to undermine the rest of the effort.

The fourth area – a significantly greater commitment to translational research – can actually be realised if we get the structure right of the proposed Medical Research Future Fund.

Translational research involves selecting discoveries and funding their transition to proof of principle in human clinical trials. Sitting at the intersection of the academic and commercial worlds, translational research is under-resourced in Australia. This is a key step to attracting commercial investment represents a potentially high impact use of the MRFF and is definitely within reach.

But the final pillar of a successful national strategy – and the one that would produce the full national benefits of all the effort we make with the first four pillars is the adoption of a competitive corporate taxation regime for advanced manufacturing investment.

This theme, which is by no means limited to health and medical activities, is what I want to develop in more detail for the rest of my address.

By advanced manufacturing I mean manufacturing products where the value derives in large part from intellectual property. This makes use of new knowledge and processes, and will usually employ a highly skilled, well paid workforce.

If Australia can achieve this, it will engender a broad range of interlinked economic activity and employment.

Unfortunately, Australia is not a competitive place from which to undertake advanced manufacturing. Global firms committed to advanced manufacturing, firms like CSL, have a choice over where to locate their new high-value facilities. When they compare locations, Australia often does poorly.

Perceptions of our industrial relations environment and a generally high cost structure are unhelpful, but one of the most significant impediments to Australia's competitiveness, at least as a location for advanced manufacturing for export markets, is its high corporate tax rate. The relevant corporate tax rate for footloose projects is fully three times that of some other jurisdictions that are suitable targets for new investment.

The competitiveness issue is now pressing in Australia for a number of structural and cyclical reasons. They include the end of vehicle manufacturing in Australia, the lack of any obvious manufacturing growth sectors, rising unemployment, a stalled resources sector, and the increasing reliance on fewer sectors for our national wealth.

Advanced manufacturing is in no position to take up the slack while Australia remains an uncompetitive destination for footloose investment in it.

Lowering tax rates on advanced manufacturing is not a silver bullet. It must be part of a broader competitiveness agenda since tax is not the only factor. But if Australia is to become competitive for advanced manufacturing, corporate tax must be a central element.

Here I want to dispel fears of what targeted tax competitiveness entails.

This is not a return to state subsidies for legacy industries in the hope that they will one day become globally competitive. Australia's record in this regard is poor, becoming increasingly so as Australia has evolved into one of the most open economies in the world.

Rather, it is a logical path for Australia to become truly competitive as a location for advanced manufacturing in a world where the alternative locations are not so much developing countries that compete on low wages but first world countries where standards of living, education and government support for research are as high or higher than ours.

Corporate tax is a tax on investment, so it is unsurprising that high rates deter investment. Investment is essential in order to create new skilled jobs, so corporate tax, albeit indirectly, also reduces growth in skilled employment.

The deterrent effect (from Australia's perspective) is least for those investments that must occur in Australia and greatest where investors have choice over where to invest.

Lower taxes improve Australia's competitiveness as a nation. Fundamental tax reform in this country must sooner or later re-focus on consumption, reducing pressure from production, investment and employment. Given the current state of the general tax debate, however, significant across the board reform certainly seems challenging.

So, in the meantime it makes sense to consider targeted, low hanging fruit which promises to create new, additional taxable income in the process.

Clearly, the obvious tax is one that applies competitive tax rates on investment to commercialise intellectual property that is largely developed here in this country. Introducing such a regime would signal at last that Australia was determined to close the historic chasm between our research and commercial worlds and in the process resolutely enter the global market for footloose advanced manufacturing investment.

Tax reform, then, is not about subsidising particular projects, businesses or sectors with government funds — the failed model for cars and textiles — but about selectively removing deterrents on investment where those deterrents are most distorting, while preserving essential government revenues. In short, making Australia an attractive place for investors in advanced manufacturing where currently it is not.

This reality has been recognised elsewhere, in Singapore, Ireland, the UK, and Switzerland to name four jurisdictions which, it should be noted, have in most part good education systems, secure R&D bases, and skilled workforces.

With these characteristics, affluent developed economies are our natural competitors where we should compete with them in a race to the top, to secure high wage, highly skilled employment.

Finally, would a targeted, tax competitiveness for advanced manufacturing amount to simply to picking winners, thereby re-committing industry policy sins that Australian governments have failed to learn from over generations?

I think this would misunderstand what is proposed. First, this is a measure to attract footloose investment based on risks taken here and innovations and breakthroughs that result here. It is sector neutral and the winners would be picked by investors, not governments.

Second, there is no implicit transfer or consumer subsidy involved. Rather, it's a simple equation where Australians ask ourselves - would we prefer 10% of something or 30% of nothing?

Let's paint a picture of what Australia might look like if we get this right. As with mining in Australia and dairy in NZ, Australia could develop clusters of world leading firms with highly paid and skilled employees based around advanced manufacturing businesses. These would capitalise on Australia's R&D and innovation engines.

We don't know which industries or companies would succeed or fail in this new marketplace, but a growing advanced manufacturing sector will complement the vibrant R&D sector, maximising its value and also 'pull through' additional R&D.

Australia will be a better destination for aspiring scientists and technologists to either study in Australia or remain here when they graduate; our science and technology base will be healthier, innovation more likely, and our university and research establishments stronger.

The benefits would disseminate to every sector of the economy. An economy is ultimately as strong as its pool of internationally competitive enterprises. We have seen the national benefits of the location of Australia's resource enterprises where, for example, a host of companies based in Perth have pioneered the exploration and early investment in African resource development.

Advanced manufacturing development is an achievable national objective. The history of CSL shows how successful Australian advanced manufacturing companies can be when they use local capabilities to develop opportunities offshore.

If we in Australia were serious about advanced manufacturing then more of what CSL does would happen here, and there would be many outward-looking, globally competitive enterprises flanking us – companies that don't yet exist - with great benefits for the nation.

I want to leave you with these final thoughts. In CSL's sector – the health and medical discovery, development and production sector - break-through industrial development is quite within reach for this country, especially if the dearth of translational research is resolved as well. With competitive targeted taxation, this sector and other forms of advanced manufacturing too can take root and thrive. The only real question is whether we want to be a serious player. If we do then it's not as hard as we think.

Thank you for your attention and I look forward to continuing the dialogue through Q&A.