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Date of Speech: November 6, 2011
Location: Midland, MI via Satellite
Topic/Title: Menzies Manufacturing Industry Roundtable

Remarks as prepared for delivery

INTRODUCTION

Good morning – and thank you, [Ian], for that kind introduction. When Menzies Research Centre invited me to participate in today's event, I was delighted to accept. But unfortunately, due to business obligations, I have to use technology to participate, rather than appear in person. I hope you do not mind.

I want to commend the Menzies Research Centre for highlighting the importance of manufacturing to the future of Australia. This issue, as you know, is one that I see as critically important, so it is reassuring to know that a think tank like yours has made it a priority. For that, I believe we all owe thanks to Tony Abbott for commissioning this roundtable – a great addition to other recent forums on related topics – and for his commitment to making manufacturing a part of Australia's future.

In the time I have with you today, I would like to give you my perspective as an Australian and a global businessman: I would like to describe how I see the global economy changing, and how I see companies and countries responding. And, of course, I would like to discuss what it all means for Australian manufacturing.

THE CHANGING GLOBAL ECONOMY

As I have said before, this is not just an uncertain world. It is a volatile one.

For some countries, that volatility has driven entire industries to relocate to the opposite side of the world. For others, it has meant the chance for extraordinary growth.

In many places, globalization has been a force for progress; but by its very nature, it is also a force of destabilization. In Australia and elsewhere, globalization has upended old economic models, creating imbalance where stability once reigned. You need look no further than the volatility of the dollar and our stock exchanges in the past few weeks.

Left to its own devices, globalization favors efficiency. Countries with the capacity and human capital to drive complex financial transactions – like the United States and the United Kingdom – will naturally see expansion in their financial and other service sectors. Countries like Australia that have abundant low cost reserves of natural resources will see growth in that sector.

The corollary is that less efficient sectors tend to erode. We see this in Australia and elsewhere – including the U.S., where Dow is headquartered – in particular with the loss of manufacturing jobs.



That leads to an imbalance within economies. Some say that is fine. They say that if we are adept at mining and agriculture, we ought to be content basing our economy on them. I disagree. I believe we must balance our economy. Because the truth is, not all sectors are created equal.

Manufacturing, in particular, has the power to create jobs and value and growth to a degree that no other sector can. Not tourism; not services; not the financial sector. Depending on the type of manufacturing, you are talking about creating anywhere between three and five jobs outside a manufacturing plant for every job you create inside the plant. That is an enormous multiplier effect, and unique to this sector.

So countries cannot afford to just sit back and let the forces of globalization drive them toward economic imbalance. Passivity is not a growth strategy.

Growth requires action; it takes thoughtful intervention.

When you look around the world, you see that the countries that are succeeding economically, even in these difficult times, are doing so by forming strategies for their future and executing against them. Brazil is not content to be a power in agriculture and natural resources alone; it is strengthening its other sectors too. China is not content to be the world's factory floor, especially in old-line industries; it is investing in innovation and education to create, innovate, and generation-skip into high-technology manufacturing sectors.

Singapore, Thailand, Germany – these countries are relentlessly building their capacity for long-term growth in ways similar to China, with Germany and Singapore as standout examples of modern, diverse economies. Germany has been doing this for many decades, but really accelerated 10 years ago as globalization took hold. Germany is now reaping and leveraging the rewards. The key to its success is its innovation capability. It can invent and fabricate like few other countries, something I see firsthand.

Other countries are struggling to catch up. The U.S., while it remains a great global leader in innovation, has only recently taken note of what other countries are doing so well, and has just begun to realize what is required to bring jobs back to its economy – belatedly, in fits and starts.

But the trend lines are clear, and there is no escaping reality. As I mentioned at the Australian Government's recent job forum, more and more, we see countries acting like companies: identifying their competitive advantages in true Michael Porter style and competing aggressively for business. Some governments are boosting business, creating a climate that attracts and rewards investment, spurs innovation and job creation, and appeals to companies that are less bound by national borders than ever before.

In my view, Australia ought to be doing more along these lines. We ought to be rethinking the model of Australian manufacturing. Our focus can no longer be on the kind of sub-optimal scale manufacturing that can only exist behind a high tariff wall, that in truth can only really serve a domestic market.



Instead, we need to think today about “advanced manufacturing,” about developing a series of clusters around industry areas where Australia has global competitive advantages – an industry aimed at global markets.

AUSTRALIA'S ASSETS

We know that Australia has remarkable assets.

We are an engine of global commerce. We have been dealt incredible resources below the ground. But we also have incredible intellectual resources above the ground. So the question, I think, is how do we maximize both to our advantage?

Partly, that requires a recognition that commodities markets are cyclical and volatile; and though our resources are diverse, we are not immune to outside forces. A resource economy makes sense in the boom times, but what about the down swings?

I believe we need to build an Australian economy that is far less dependent on the prosperity of others. An economy that more global businesses want to invest in.

Resources will be a big part of that. So will services. But it also requires a robust advanced manufacturing base that creates higher value-add products, especially those that use both our natural resources and our human capital.

What I mean by advanced manufacturing is a sector that takes raw inputs, combines them with intellectual capability, and adds value to a functionality the world needs – such as water purification, fuel-efficient transportation, solar panels, wind turbines, advanced agro-products, light weight nano-materials, vaccines and other pharmaceuticals, and more.

If we do this, as other countries have, our centers of innovation can become hubs of commerce. They will attract the best and the brightest. They will attract manufacturers who can commercialize products coming down the pipeline.

All told, this creates a virtuous cycle of economic activity, a supply chain of sustainable jobs, and the wealth of high value-add products. But this will not happen by default.

AUSTRALIA'S ADVANCED MANUFACTURING PLAN

It will only happen if Australia develops a manufacturing strategy, and executes against it relentlessly.

There are a number of ways to approach this, as I am sure you all know. But I would like to add the perspective of a company that operates 900 facilities and is present in over 150 countries and is constantly asking the all-important questions: Do I invest here? Do I build here? Or do I go elsewhere?



With that in mind, let me make five brief recommendations about additional steps Australia could take to create a stronger, more balanced economy.

The first and most important choice Australia can make is to invest more in innovation. Innovation and R&D are the precursors of a vibrant advanced manufacturing sector. You cannot build and sustain a manufacturing base unless you build an innovation base alongside it. It is as simple as that.

Increased investment in innovation would put Australia in the driver's seat for solving the greatest challenges the world will face over the next century.

Yet over the last decade, Australia has fallen from fifth to twentieth in the World Economic Forum's Global Competitiveness Index, largely because our spending on innovation has fallen nearly 25 percent since the early 1990s. This is a trend we have to reverse.

That means incentivizing R&D through tax benefits and direct grants, investing more in later-stage innovation – especially in demonstration projects – and focusing R&D spending specifically on advanced technologies, artfully funded by government. It means establishing clear frameworks for increased collaboration across the industry. And it means developing a true commercialization and financial system to help scale up and start models, and to manage risk.

I am not calling for Australia to start picking winners and losers among companies. I am saying that Australia should pick the sectors that are vital to its future and then support them aggressively with R&D. It is worth noting that most of the 20th century's greatest innovations started with government incentives to researchers, whether in academia, or through government institutions, or in the private sector.

Second, we need to acknowledge that an advanced manufacturing sector will not really be built until Australia maximizes its natural competitive advantages, especially when it comes to energy.

Take natural gas, for example. Right now Australia burns most of its natural gas for power, or liquefies it for export abroad. I am all in favor of exporting to generate short-term revenues. But I do think there's an even better additional use for natural gas – one that results in much more valuable exports.

When you burn a cubic foot of natural gas, you get power out of it. But you can only do that one time before it is gone. A one-time value add.

If you take the same cubic foot of natural gas and use it in a value-add chemical or petrochemical process like we do at Dow – if you create high-value chemicals and high-tech products with it – then you get, on average, an 8-times value add across the GDP of the entire economy. A much, much greater gain.



Today, Australia is one of the few gas-rich countries that has not adopted a strategy to give itself an advantage. Take Canada, for example, a country that uses its higher-value gas streams for domestic industry: All you have to do is visit the Province of Alberta to see the knock-on effect to the Western Canadian economy. Canada shares all our free enterprise, free trade values, but it knows how to execute an energy strategy.

Or take Saudi Arabia, which could be content to export oil and gas for another century. Instead, they are choosing to create a diversified economy to employ their citizens, and to diversify their export revenues. We at Dow have announced participation in a \$20 billion project to do that, which will create 15,000 direct jobs, and 100,000 indirect jobs on the Arabian Gulf.

Third, in the trade arena, advanced manufacturing relies on global markets – so access to those markets is critical. For that reason, Australia should accelerate negotiations with China, India, and the Gulf Cooperation Councils to get trade agreements signed. Australia's trade agreements should be focused on future markets, on exporting high-value products, not just resources and agricultural products.

Fourth, expanding access to new markets is just one of the ways that Australia can improve its business climate and attract the kind of investment I am describing. Australia should also redesign its corporate tax system to strengthen international competitiveness. And it should re-evaluate financial, environmental, and health care regulations to promote the greatest possible measure of competition, choice and growth.

And fifth, improving the climate for business requires genuine partnership between business and government. We should be working with each other, not against each other, to create a strong framework for growth.

The public/private collaboration should not bring discomfort to the Liberal side of Australian politics. I am not calling for greater interventions or necessarily higher public spending. If we make the right kind of investments, we can expect high returns.

This is the common thread running among countries that are succeeding in the global economy: a commitment to public-private partnership. You see it most of all in the planned economies – but free-market economies need to come up with their own, effective version if they want to compete.

In the U.S., for example, President Obama's Advanced Manufacturing Partnership – which I am privileged to co-chair – is starting to identify priority industry sectors and to develop strategies for each.

This new effort is a collaboration between the federal government, academia and industry, and is focused on advancing the technologies with the greatest potential impact. We are evaluating nanotechnology, robotics and advanced materials development, among others. Our overriding aim is to spur collaborative projects that will create a hotbed of innovation and commercial activity.



To succeed, efforts like these have to be supported by a commitment to educating and expanding your workforce. Advanced manufacturing jobs are high-skilled jobs that tend to require a background in science, technology, engineering and math. Global businesses go where the talent is, and we need to make sure that place is Australia.

That is going to require developing a new curriculum for engineering education and job training. It is going to require scores of new recruits to the ranks of qualified educators. And it is going to require new teaching techniques, new innovations in classrooms.

A great example is the ATSE STELR program, which provides students not just with theoretical scientific education, but with practical applications of science, too. It strives to do what I believe is incredibly important: to help Australian children fall in love with science again.

We are also going to need to revisit our immigration policy.

Australia has a small worker base. To build an economy run by the best and the brightest, we not only need an education system that can produce them, but an immigration system that can attract them.

CONCLUSION

This is an ambitious set of prescriptions. As I am sure you will caution me, there is not a single piece of it that is easy to accomplish. And it will take more than a single piece. It will take a holistic and strategic approach. That is a challenge. But I believe Australia is up for it.

In other countries, getting this done has taken the determination of people, businesses, and government, working in partnership under a clear, national framework. Often it takes a crisis to change people's thinking. This is human nature.

The truth is, we have such a crisis on our collective hands. It just so happens that right now, too many Australians see it as a short-term benefit.

There is the crisis that grows out of the global divide between rich and poor...the disappearing of the developed world's middle class... the social chaos of failing financial systems...the arrival of fast growing, previously emerging BRIC nations...and, of course, the resource boom leading to inflation.

These are all events that will deeply influence the Australian prosperity model. And so, at the very minimum, we Australians need to build a hedge against exposure to these new global tectonic forces.

As I have said, I believe that hedge should come in the form of developing a national advanced manufacturing sector that develops an innovation centric value add to Australia and its human capital.



I believe in Australia's greatness. I know, from my travels around the world, that Australia is an envy among nations. Now is our chance to be a leader among them, too. I, for one, stand ready to help do just that.

Thank you all. And with that, I am glad to take your questions.

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