2003

THE WARREN CENTRE

INNOVATION LECTURE

DELIVERED BY EVAN THORNLEY CO-FOUNDER and CHAIRMAN, LOOKSMART

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THE Warren CENTRE
FOR ADVANCED ENGINEERING

The National Innovation Awareness Strategy (NIAS) is a $35m initiative under Backing Australia's Ability. The strategy aims to increase our understanding of the importance and commercial potential of innovation in Australia, especially among small-to-medium sized enterprises (SMEs) and youth. It also encourages business decision-making based on an informed understanding of innovation, and motivates young people to pursue innovative and entrepreneurial careers.

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THE Warren CENTRE

FOR ADVANCED ENGINEERING

prologue

On the occasion of the 8th Warren Centre Innovation Lecture we have much to celebrate and even more to look forward to.

This year we marked our 20th anniversary with Innovation: Beyond the Idea at Sydney's Powerhouse Museum, which was described by the editor of the Process and Chemical Engineering Journal this month as "further illumination of blazing torches to be borne by the long distance runners in the world of science, engineering and technology…" We have several promising projects being developed and even more opportunities to promote "excellence and innovation in advanced engineering". In 1625 Francis Bacon stated "as the births of living creatures at first are ill-shapen, so are all innovations, which are the births of time."

How prophetic was this insight into the development of innovations through the initial hype, the valley of despair, the grind and guts to achieve recognition and investment and finally the exhilaration of success.

Evan Thornley, our 2003 Innovation Lecturer, has travelled this tortuous path as he took LookSmart from a good idea to a world leader in web directories and search-targeted marketing.

It's people like Evan whom we have chosen to honour by creating the Warren Centre Innovation Heroes to be launched at this year's innovation lecture. This award recognises the women and men of Australia who have grabbed an idea, engineered it into a marketable product and tirelessly fought against the odds until it was a success.

The Innovation Lecture presents our audiences with role models whose intellects challenge current orthodoxies and mindsets. This Innovation Lecture will certainly challenge the IT industry and provide useful insights into innovation policy from a user perspective. Sometimes it is not one individual but a team of synergistic like-minded people who achieve by "pushing the engineering envelope". Many of these are recognised in the book of this name published recently to celebrate two decades of Warren Centre achievement. I recommend you read it and I am sure, like me, you will be inspired.

Professor Michael Dureau
Executive Director
The Warren Centre for Advanced Engineering

evan thornley

Evan Thornley and Tracey Ellery co-founded LookSmart in October, 1995 and Evan served as Chair of the Board and CEO until October 2002 when Jason Kellerman was promoted to CEO. Tracey, Evan and their family returned to Australia at that time and Evan continues to serve as Chair of the Board. LookSmart is headquartered in San Francisco and has offices in Sydney, Melbourne, London, Tokyo and New York and has about 400 employees. LookSmart went public on the NASDAQ in August 1999 (NASD: LOOK) and was listed on the ASX (ASX: LOK) in February 2000. Revenue in calendar 2003 will be around A$200 and EBITDA profitability about A$20million with a further A$25million invested in R&D.

LookSmart has been recognised with various awards including:

> *The Best Search Engine category in 1998 and Most Entrepreneurial category in the 1999 AFR Australian Internet Awards;*

> *The 1999 BRW/Alcatel Business Award for Information Technology & Telecommunications; and*

> *The Australian Venture Capital Association Limited Chairman's Award for Most Outstanding Contribution.*

UPSIDE, the US Venture Capital magazine, named Evan one of the most influential people in the digital world in its UPSIDE Elite 100 list.

Evan Thornley

Prior to LookSmart, Evan was a management consultant with McKinsey & Company, the global consulting firm, in their New York, Kuala Lumpur and Melbourne offices. He has degrees in Law and Commerce from the University of Melbourne, where he also served as President of the SRC and as a founding officer of the National Union of Students.

Apart from Chairing the LookSmart Board of Directors, Evan spends his time on various private investments, philanthropic and social policy concerns. He is an active mentor to some promising Australian start-up companies looking to move into Silicon Valley and has been involved in policy development through vehicles like the ALP's Knowledge Nation Task Force. Tracey and Evan recently purchased Pluto Press, Australia's premier social issues book publisher.

THE MONEY OR THE BOX – LESSONS FROM LOOKSMART.
EVAN THORNLEY, CHAIR OF THE BOARD, LOOKSMART LTD.

Introduction

Firstly, thank you to the Warren Centre for the honour of this invitation to speak. In particular it is an honour to follow speakers from some of our leading value-added export companies like Cochlear, Vision Systems, ERG and Memtec. Whatever LookSmart's other successes, we are a modest contributor on the export team – we've created perhaps $50 million in export income for Australia, while these companies and others have created hundreds of millions. As you'll see, I think this is an important distinction.

In last year's lecture, Jim Fox spoke about Vision Systems starting with a goal of at least 75 per cent of revenue from exports and at least 10 per cent invested in R&D. He also pointed out that they spend twice as much – 20 per cent of revenue - on offshore sales, marketing and customer support. He spoke of the need for a clear national strategy with industry priorities. He distinguished business R&D from public funding as the key to success. I strongly agree with him on all counts.

In 2000, Catherine Livingstone spoke of innovation as 1 per cent inspiration and 99 per cent perspiration – that the idea was not the important thing, but rather the hard yards that turn that idea into a profitable company with sustainable competitive advantage. She noted that they are more a technology integrator than a technology maker and outlined their key processes with clarity and rigour.

Why … do we have barely a dozen companies that are really serious exporters of high value-added products?

I repeat these summaries because had I not read them in preparation for tonight's discussion, I would have said many of the same things. In a different way, you can get the same messages if you read John Button's memoirs .

So I thought I'd try to answer a different question – why are they being ignored?

Why have the messages that these successful leaders have outlined been so little understood in the Australian business community, so widely ignored by the Australian business press and so ineptly supported and often actively sabotaged by Australian governments ?

Why, despite $4 billion per annum of public money, the CSIRO, the CRCs, "Innovation Festivals" and the like, do we have barely a dozen companies that are really serious exporters of high value-added products?

Tonight I will argue that we need to choose the money, not the box. Exports as a focus, not R&D per se. I chose this title in recognition of Barry Jones, the father of Australia's desire for a knowledge economy, who demonstrated the power of knowledge on TV's Pick-a-Box in the 1960's. In some ways I believe Barry has succeeded almost too well – to a point where many are now so seduced by the excitement of ideas that we are distracted from the hard work of understanding the needs of customers and building channels to reach them.

I would like to explore this notion in four parts:

Firstly, I want to briefly recount some of the serious problems we face as a nation. These concerns are not original, but in proposing radical solutions, we must believe they are necessary.

Secondly, that the solution to these problems is clear – exports. High value-added, environmentally sustainable exports are the key to our self-determination as a nation in a global economy. They are the key to solving unemployment – the defining social challenge of our time.

Thirdly, that exports are fundamentally a customer-driven rather than technology-driven game and that customer research, sales, branding and distribution are all harder and more important than technology in isolation. We need to choose the money, not the box.

And finally, if all this is true, then a radically new role is required of Government – to lead more than to participate.

I will pepper this discussion with some of our experiences at LookSmart as illustrations.

1. WE ARE NOT "COMFORTABLE AND RELAXED", BUT WE CAN BE OPTIMISTIC

I'm not interested in being a merchant of doom but we must start this discussion with an accurate view of our circumstances. But these are not new, so I'll list them quickly and move on:

- Firstly, the economic and social trend lines are heading in the wrong direction. For example:
  Unemployment (and under-employment) is endemic and the root cause of most of our social problems through its devastating effect on the individuals, their families and their communities
  The disparity of wealth and income between our citizens is widening, now amongst the worst in the OECD – a trend entirely out of step with our egalitarian values
  We have widening trade deficits and growing foreign debt
  We have a small, ageing population that will have trouble supporting itself in a generation's time
- Secondly, we are reaping a legacy of environmental vandalism
  Our unsustainable land clearance and irrigation practices remain virtually unchecked
  We are disproportionate generators of greenhouse gases and contribute further through major exports of coal
- Thirdly, despite apparent prosperity in measured economic growth, our population is feeling increasingly insecure:
  We've torn up what historians now call "the Australian Settlement" – a world of high tariff barriers and protected, inefficient, domestically-focused industry. While some think we are coming to the end of the structural adjustment period, I believe we are only half way. We have decimated our domestic manufacturing base but have forgotten to build the export competitive industries and companies needed to replace it.
  We are a small, non-critical market for many global corporations who can force us to trade our environment, working conditions, consumer rights or tax revenue in exchange for a hopeful search for jobs
  Recent research by Hugh Mackay and others shows we feel declining optimism and increasing insecurity despite our continued growth in notional GDP/capita

I hope you are all feeling comfortable and relaxed after that list!

But I remain optimistic that we can solve these problems – if we have courage, imagination and commitment. And I have reason for optimism. Our experiences at LookSmart taught us that you can overcome great adversity with a bit of good old Australian "GnD" – guts and determination as the footy commentators would call it.

In our first four years at LookSmart, we walked through the Valley of the Shadow of Death many times. We went within two days of missing payroll nine times in a six-month period. We had a lengthy legal battle with Conrad Black. Tracey and I placed our family home on the line to stave off creditors for a couple more weeks while we tried to raise bridging finance. We made a virtue of necessity by using feeding breaks for 3-month-old twins at 4am to phone our investors in New York. And all this was before the internet boom and bust of 1999-2000.

And when Wall Street and Silicon Valley had caught a full dose of venture-capitalitis, we then faced 40 per cent of our customers going broke in 7 weeks in late 2000 and a fight to survive in the blood bath of the tech hangover.

So after 8 years of extraordinary challenges, we are now a company that will profitably generate $200 million in revenue and about $20 million in free cash flow, while also investing about $25 million in R&D and generating about 92 per cent of our revenue outside Australia. We are still about 45 per cent owned by Australians and about 40 per cent of the shares in the company are owned by our people – the providers of human capital - and 60 per cent are owned by investors who have provided the financial capital.

So after 8 years of extraordinary challenges, we are now a company that will profitably generate $200 million in revenue and about $20 million in free cash flow.

So experience tells me that "what doesn't kill us makes us stronger". Indeed I believe it is these quintessentially Australian characteristics that helped us at LookSmart through our darkest times in Silicon Valley. We have many challenges ahead and I hope we retain those qualities. So, with the problems articulated and some reasons for optimism that we can overcome them, where do we start ?

2. ONE WORD – EXPORTS.

When you look at our economic policy debate, there are a thousand different ideas competing for prominence. We need to separate the important from the unimportant and really focus on the important. I believe the most important thing is exports. Why ? Because of scale, growth and jobs.

- Where you are on the x-axis matters.

Australia is a small economy, geographically isolated from major customers. This is far from a new observation. But I don't believe that the profound impact of this reality has been grasped. Perhaps Blainey's "tyranny of distance" is becoming a "tyranny of scale".

Scale changes everything.

Scientists know this. If y=f(x), then where you are on the x-axis matters.

Information Technologists know this. A truly scalable technology architecture is the perennial challenge of most IT applications. Economists know this. Economies of scale were among the central driving forces of modern capitalism unleashed by the industrial revolution.

By accessing a global customer base, Australian companies have seemingly unlimited opportunities for growth and economies of scale.

For some reason, our public policy debate seems almost devoid of this insight and our business community consumes imported management theory from markets 30 times our size on the false assumption that what works there must work here.

In LookSmart's case, we knew it and went to America. Not because we didn't love Australia – we do with great passion – we went in search of scale. We are currently number three in our industry in the US. In Australia, we are the clear market leader. Yet our revenue in the US is 15 times what it is in Australia.

By accessing a global customer base, Australian companies have seemingly unlimited opportunities for growth and economies of scale. It may be hard to do, but the size of the prize is huge. Not only that, but in many industries, there is no other way.

At LookSmart, our R&D budget is larger than our Australian revenue. Our business is one that had to have global scale just to compete at all. Domestic competitors in internet search have disappeared in Australia as a consequence, leaving only global players like LookSmart, Google, Microsoft and Yahoo, of which LookSmart is by far the smallest.

- Exports are unequivocally good

Firstly, exports enable growth without debt.

To make a dent in unemployment, we need rapid economic growth – the exact level depends on your assumptions on productivity growth. If you do that with domestic growth, you risk sucking in imports, blowing out the current account, having to increase interest rates to attract capital to fix it and then reducing growth as a consequence.

When you grow through exports, you have no such constraints. Of course, some exports are better than others – greater value-add, lower import-components. But let's paint a broad brush and start here.

The good news is that while competing at an international level is hard, our small size works to our advantage. We are about 2 per cent of the global economy, so if we could steal just another 0.2 per cent of the global total, this addition to aggregate demand could permanently solve our unemployment problem.

Secondly, exporters are better businesses that create better jobs.

Our manufacturing exporters, for example, according to recent Austrade data , pay on average 40 per cent higher wages than domestically focused employers. The invest 2.3 times as much in training. They have higher employment growth rates and greater job security. They are truly the A-Team of Australian business.

And while there are many benefits, especially for shareholders, in Australian companies taking on global markets by investing directly in those markets, the job benefits of our foreign investments are limited compared to exports. That is why I say companies like LookSmart are not the most important role models – our presence in the US is largely as a result of investing there and less a result of exporting there.

- We have a yawning gap between our needs and our current delivery

Our manufacturing exporters … pay on average 40 per cent higher wages… invest 2.3 times as much in training … have higher employment growth rates and greater job security. They are truly the A-team of Australian business.

If our GDP is a tad over $700 billion and we wanted to add say 4 per cent to our aggregate demand through exports, to take a serious swipe at unemployment, that's about $28 billion of new exports required. But let's suppose that we might also need to exit our environmentally unsustainable, water-hungry rice and cotton industries and let's say a quarter of our mining is environmentally unsustainable as well, then we'd need about $40 billion in new exports to hit the target.

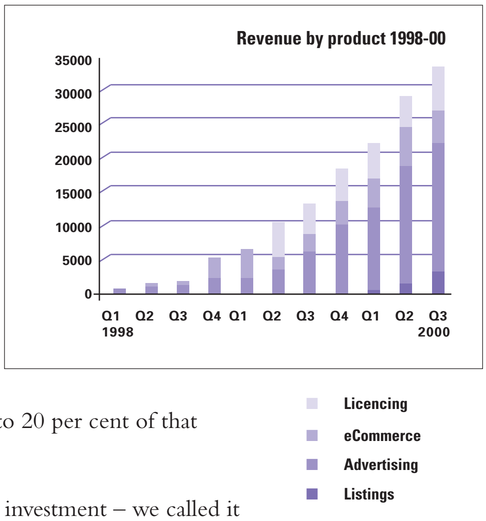
Given that our total exports are around $150 billion, it's a big ask. But when you look at our major value-added exporters, it is a daunting task. Great new higher value exporting companies like Cochlear, ResMed, CSL and our wine and surfwear industries are exciting prospects, but there are literally only about a dozen such companies. At a few hundred million dollars in revenue each, we need another 100-150 such companies to hit the target.

There are a number of ways to get there, however. Looking at our wine and dairy industries combined, their exports grew from under $1 billion to over $5 billion in the dozen years to 2002 driven by both technology and marketing savvy. Education is also a $5 billion earner. Perhaps most powerfully, while we may need 150 mid-sized exporters, but we'd only need one Nokia! The point is: it's a big target. So daunting as it might be, let's get on with it.

3. EXPORTS ARE ABOUT CUSTOMERS – CUSTOMERS DRIVE VALUABLE INNOVATION

- Customers are the starting point

Let me start with another story from our experience at LookSmart by sharing one of the several transformations in our business that was driven by understanding the needs of our customers. This graph shows the promising growth of our revenue up to the end of 2000:



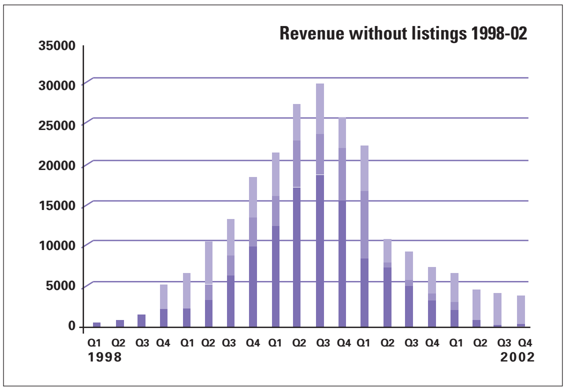
The growth was driven by banner advertising – effectively a print advertising product that was first generation on-line technology.

But this product was not delivering sustainable value to our customers. We realized that they couldn't justify their internet advertising expenditure on traditional "return on investment" criteria. It cost them up to $200 to generate a new customer on the internet compared with 10 to 20 per cent of that through traditional direct marketing.

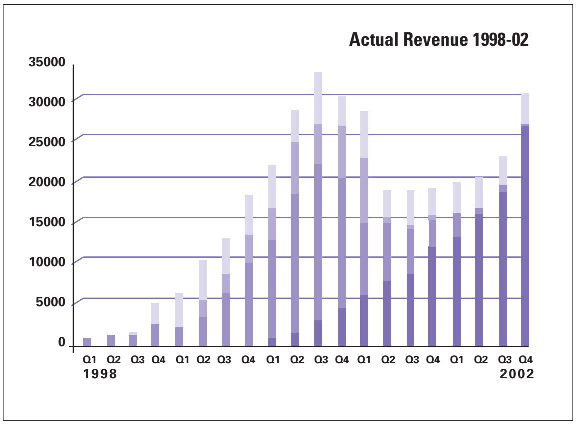
So we started developing a different product with radically better return on investment – we called it "listings" – having your links appear within the search results themselves only when a user is searching for that exact thing and only paying when a user clicked on the link and visited your website.

The "cost-per-customer acquired" economics for our customers improved by an order of magnitude due to the superior targeting ability of this technology.

The rest is history. If we hadn't made that change, our revenues would have looked like this:



As it is, I'm happy to report, our listings business grew by double-digit percentages every quarter for the next three years, saved our company and drove it to profitability:



Now we've developed a range of very sophisticated technologies that drive our listings business, but that is not the point of this story. The point is that customers drove our innovation.

Dr Terry Cutler, one of Australia's leading technology thinkers, recently confided that in his years heading strategy at Telecom as it then was, the two most valuable research projects he saw were studies of consumers' actual phone use patterns and some consumer choice modeling. He says "retailer-like" attention to detail in understanding customers is required to win in the most competitive situations.

- You need effective customer research, distribution and branding to win customers.

Finding, understanding, reaching, winning and retaining customers is essential … and hard.

Let me tell you about the CEO of the only great company in the internet's first decade – Meg Whitman of eBay. Whitman is not a technologist but an economics graduate and MBA who built her career in consumer marketing at Proctor & Gamble, Disney and toy company Hasbro perfecting Mr. Potato Head! When I did some quick Internet research for this discussion, the recurring theme I came across was Whitman's "Voice of the Customer" program that helped drive constant innovation.

At Fisher & Paykel, a terrific New Zealand-based appliance manufacturer that is making inroads into the US, "innovation" is things like upside-down fridges and double-drawer dishwashers. Many Australians would poo-poo this as lightweight innovation that didn't involve any rocket science. But these seemingly simple customer insights come out of years of intimate study and testing of thousands of ideas. Customer research matters.

At LookSmart the hardest thing over the years has not been the capital raising, the management recruiting, the technology or product development – it's been distribution. Analysts focus on our distribution deal with Microsoft as having massive downside risk and the possibility of similar deals with Yahoo or AOL as blue-sky opportunities. Distribution matters.

Talk to any exporter and they'll tell you that. The whole wine game is driven by it. Fosters bought Beringer not for vineyards, but for its shelf space in American retail outlets, though which we can now pump Australian product. BRL Hardy did a distribution deal with Constellation – the number 2 player in the US – that was so powerful that Constellation recently acquired its Australian partner. Southcorp's recent troubles have been all about its trade distribution in the UK. No one doubts that Australia is one of the high tech leaders in the global wine game, which is terrific, but I rest my case in terms of distribution being critical – and hard to do well.

When Nokia set to try and take the US market out from under local giant, Motorola, it had a brand recognition deficit of 10 per cent versus 63 per cent. They set out, and I quote, to "improve Nokia brand recognition in the key export countries". By 2000, Nokia had been rated as among the five most valuable brands in the world. Branding creates a barrier to competition that grows with scale. At Nokia, brand management is "a necessity in the class of technological leadership and low-cost manufacturing for us. It is an element of survival and prosperity in our business." Branding matters.

But in most Australian debate, we have a production-centric mentality that lumps all the above in a bucket called "commercialisation" and we frequently confuse "innovation" as a customer-driven process with new technology development.

I think it started from being focused on commodity industries. We tend to value the production inputs and debate them endlessly – R&D, labour market reform, education spending, but add customer research, branding and distribution as an after-thought.

This is exacerbated by an economy that has dominant domestically-focused monopolies or oligopolies. Look at our retail, banking, telecommunications or media sectors for example. When you have a truly competitive environment, customer research, branding and distribution come to the fore. Many of our largest industries and companies have not had to work too hard on these dimensions. This shows when they finally reach out into the harsh light of day of international competition. The performance of our banks, insurance companies, telcos and many others in their overseas forays shows that they haven't had to do the hard pre-season training of domestic competition before trying to play in the global A-grade, and they have failed as a result.

The notion of a thousand flowers blooming will not see any of them get to critical scale for global competition.

- The owners of customers can outsource R&D to minimise risk.

Catherine Livingstone talked of Cochlear as a technology integrator not a technology maker. So is LookSmart. We've outsourced much of our R&D by acquiring what we need. When we realised the need for sophisticated customer tracking, reporting and data warehousing capabilities, we bought a company called Primary Knowledge for less than $1M. They had the best technology in the market. They'd spent $22 million of venture capital getting there but ran out of runway in "commercialisation". So we bought them at a 95 per cent discount to cost and with almost all the risk taken out. When you own the customers, you become the natural owner of the technology. We have made four such acquisitions in the last four years.

My point is not that we shouldn't do R&D, but that if we have no tie to customers, the best we can hope for is to be acquired by someone who does and the more likely outcome is that most is left on the cutting room floor.

This presents a salutary lesson to the proponents of the technology-first versus customer-first approach. As a primary symptom of venture-capitalitis, the myth of First Mover Advantage was pervasive in Silicon Valley, but without customers, it's bogus.

4. GOVERNMENT SHOULD TAKE UP THE ROLE AS LEADER, MORE OFTEN THAN PARTICIPANT, IN THIS PROCESS

I am not an advocate of big government and throwing money at problems. Rather, I believe in powerful government that understands national interest and delivers it.

- ***Government must start to lead by having a strategy***

Jim Fox made this point with reference to the Irish focus on pharmaceuticals, electronics and software, but I will re-iterate it – we need a strategy. We need some focus. The notion of a thousand flowers blooming will not see any of them get to critical scale for global competition. In particular, our R&D must be focused to ensure we generate deep expertise in a limited number of key fields where we have access to customers, pressing social needs or both.

Firstly, given that we have established that it's really hard to get sales and distribution channels in place to capture global customers, the logical place for us to start is in the industries that already have globally significant market share. The Government's recent direction statement supports this transformation argument, though without great distinction between domestic and export industries .

Let's transform our existing successful export industries into higher value roles. We are market leaders in the global export market for wool. What a fantastic position to be in! And yet our participation in the value chain is profoundly limited and little of it extends beyond the farm gate. I know this is not a new example, but until we address it, it remains a shocking one.

Rather than picking winners, as Government involvement in commercial activity is frequently derided, we need to back the winners we already have – industries and companies that are winning global customer bases. We have moved up to number five in the world in wine exports in the last 20 years. Let's not rest until we're number one. And let's not rest then!

Secondly, there are some domains of direct government involvement that are important – education, health and defence. In these areas where the Government is the only game in town, it makes sense for it to sponsor R&D to satisfy community needs and then potentially participate in creating export opportunities – indeed these are some of the largest.

But otherwise, there is a danger that politicians, public servants and academics – collectively the non-playing coaches of the Australian economy – will sponsor R&D according to an academic model of great diversity. Outside these core domains of public interest, the better role for government is the creation of a competitive environment.

Rather than picking winners … we need to back the winners we already have.

■ ***Government to create the environment for success***

Governments of both persuasions in Australia have had a history of throwing money at problems rather than using the "bully pulpit" to focus attention and using no-cost tools to encourage and reward behavioural change. Having chosen a clear and focused strategy, we need Government to create an environment that encourages and rewards customer-focused export businesses.

That environment would have the following characteristics: it would be vigorously competitive, it would have strong and transparent corporate governance, it would encourage new leadership, it would generate superior investment returns and it would share the gains broadly.

■ ***What sort of policies might be required to achieve this environment?***

Well I don't think what we have to date is getting us there. I'll give two examples – publicly funded R&D and labour market deregulation.

Diverse publicly-funded R&D.
Let me briefly reiterate what I said before about Silicon Valley's terminal dose of venture-capitalitis in 1999 and 2000. The internet boom chewed up literally trillions of investment dollars and yet, eight years on, has produced only one great company – eBay. This was despite, or rather because of, the flood of money from investors rather than customers.

If you confuse funding sources and capital markets with customers, you get into very bad habits. You fund things that sound sexy but aren't essential to customers. You get loose spending habits without clear profit targets as you chase revenue growth. Your organisation gets internally focused and your corporate governance can be dominated by the needs of financiers rather that long-term shareholders whose wealth will be created by satisfying customer needs.

While I am describing Silicon Valley in boom time, there is a danger you could say much of the above about Australia's increasing commitment to widespread publicly funded R&D institutions.

We are currently spending in excess of $4 billion of public money per annum in Australia on R&D, much of it justified by the twin false-prophets of "innovation" and "commercialisation". I say this not because of a lack of good intentions, but because they occur in quasi-commercial, primarily government funded organisations that have few established customer bases or product lines to drive commercial innovation. It's mostly greenfields stuff.
Let's quickly review some current spending levels. If we take the $5.426 billion in this year's budget allocated to science and innovation and remove the obvious Government domains of Defence ($362 million), Health ($518 million) and Education ($1634 million) that leaves about $3 billion in areas that are related to private sector industries. The States probably round this up to $4 billion. That is about what the Federal Government spends on higher education, more than 10 times what it spends on environment protection; about 20 times what is spent on Austrade and around 30 times what is spent on promoting tourism – our number one export industry.

We can also cut it on the agency and activity axes. The CSIRO for example, has 20 divisions and 224 projects, including their very own search engine. There are, I think, 61 Co-operative Research Centres. I worry about how many of these activities are truly part of a critical mass of expertise in areas of most pressing national focus or driving successful solutions to known major customer problems.

If this were Silicon Valley, we'd say we are running the world's biggest and most diverse start-up – with a $300 million per month "burn rate" and a hope that it will J-curve its way into a strong return on investment over years to come. I read recently a report boasting that since 1980, 100 companies had spun out of CSIRO with a total of $200 million in revenue between them . While the CSIRO has a range of roles beyond this, as an investor I would not be excited by that rate of return so far on the more than $6 billion that would have been invested in this period. Against the scale of our national needs, it is the sound of one hand clapping.

I'm not saying that the idea-first, commercialise-second approach never works. It's just that it delivers lower returns. When the industry base is wide-ranging and lacking strong existing customer bases, it will be lower still.

… we are running the world's biggest and most diverse start-up – with a $300 million per month "burn rate" and a hope that it will J-curve its way into a strong return on investment over years to come.

If this approach works anywhere, it's probably bio-medical where at least an end-customer need – those of actual patients – is pretty easy to identify and this can help focus research. Indeed Australia's few successful examples of "idea first, commercialise-second" are companies like ResMed and Cochlear which are in bio-medical fields, and they are terrific companies.

Customer-driven innovation in existing companies with strong sales and distribution is a much lower risk investment. Indeed to see corporate R&D showing the way, look at Finland. In 1982 the Government announced its intention to move total R&D from 1.2 per cent to 2.2 per cent of GDP over the next decade. By the late '90s in fact it was nearly 3 per cent, but driven off the back of the high R&D to Revenue ratio of one company, Nokia, much more than a dramatic lift in public institutional spending .

Labour market deregulation.
In my view, this is another red herring issue that seems to have vastly disproportionate importance. I'm not going to debate whether it's good, bad or indifferent because I believe it's a tenth-order issue.

If manufacturing exporters pay on average of 40 per cent higher wages than their domestic counterparts, then it is clear that wage levels are not, in fact, prohibitive of global competitive success. It's another production-centric furphy.

The calls for lower wages come largely from domestic players who are used to winning by driving down input costs, not finding new customers. They argue, effectively, that a global "race to the bottom" on wages is somehow in the national interest. I disagree.

If you doubt that, read Barbara Ehrenreich's Nickel and Dimed in America and see what life for the 50 million working poor in that country is really like.

Rather, it turns out, that the real issue in productivity is scale not wages. For every 1 per cent increase in output volume, you see a significant rise in labour productivity in the average manufacturing operation – some argue up to 0.5 per cent . This can't be a surprise. Such is the nature of fixed and variable costs and economies of scale. So superior productivity in the US is less driven by labour conditions and more by their market being 30 times our size.
Where you are on the x-axis, as we discussed earlier, changes everything. And that is why we need to focus on exports where the x-axis is wide open.

So if these current orthodoxies are not delivering the goods, what are the alternatives?
I don't have the answers to that – at least not with the rigour of analysis that would be required before

taking any serious action. But tonight I wanted to give some examples of the degree to which policy responses could be much more radical than we have seen to date – reflecting the extreme nature of the challenge.

- ***Examples of some ideas that might at least stimulate debate are:***

Tax rebalancing.
Let me give some radical examples that would alter behaviour significantly but not cost one dollar in terms of fiscal impact.

Let's say we simply cut the corporate tax on earnings from exports in half. That would capture the attention of both management and the investment community. It would change the after-tax RoI calculations for managers and it would change the after-tax returns for investors.

Let's say we simply cut the corporate tax on earnings from exports in half. That would capture the attention of both management and the investment community.

A quick "back-of-the-envelope" calculation suggests that, worst case, you could pay for this with a consequent small rise in tax on domestic earnings – from 30 per cent to a tick over 32 per cent. But even this much is not necessary. Since a large portion of our exports are currently low-valued added or environmentally unsustainable, you could probably leave them out and then the bill would only require a tiny increase on the other side.

This approach has another benefit: it increases the market value of those companies – a critical weapon in the battle for corporate control.

Remember, Fosters bought Beringer for their distribution. Giving Australian exporters a stronger corporate currency will enable more of same. As an example, CSL is currently battling to justify the price required to complete a potentially crucial acquisition of French company Aventis Behring. A lower tax rate on export earnings would earn such companies a higher P/E (price: earnings ratio) from the market and they therefore become the natural owners of these assets and consolidators rather than consolidatees in export markets.

Given that the tax break would only apply to export earnings, not foreign investments, that would actively encourage operations then being moved back to Australia wherever possible rather than the reverse, as happens when our companies are taken over. Witness the example of Memtec a few years ago.

Unlike R&D, which is both harder to define (and therefore at greater risk of rorts) and has much higher risk, tax reductions on the profits of exporters only reward proven success with customers, rather than a well-meaning hope for same. Since this is a culture-changing exercise, I don't imagine we'd need to do it forever, but let's try it for say 10 years. I can also imagine it may fall foul of the WTO and/or the coming round of Free Trade Agreements – that's the topic of a separate debate about what in Cold War days was disparagingly called unilateral disarmament!

Secondly, we need to encourage a longer investment horizon by investors. If the institutions have a longer horizon, then managements will also be able to adopt one – indeed they will be forced to. So let's significantly increase the tax on short-term and speculative capital gains and decrease it on longer-term gains. Individuals currently get a version of this - we should extend it to corporate investors as well. This can also be a fiscally-neutral device.

Competition policy.
Secondly, competition policy is essential if we are to produce battle-hardened companies and leaders capable of playing the A-grade of international markets. Predatory pricing must be truly outlawed – our domestic oligopolists should grow their profits by investing in exports not crushing domestic competitors. Banking needs further action – the profits of that sector currently are testimony to its oligopolistic nature and are a drain on the productive capacity of business and an unfair price burden on consumers.

The argument is sometimes advanced that Australia's bigger businesses cannot afford a tough competition policy regime if they are going to invest to grow international markets. I'm suspicious of that argument because I believe competition is exactly what's needed to learn to compete, but let's assume for a moment that it's true. Let's offer partial exemptions to dominant domestic players if they continue to demonstrate 15 per cent compound annual export growth.

Corporate Governance.
Corporate governance has to be fixed. Governance problems are endemic in the incestuous corporate Board environments and the poor regulatory and prudential environments that we currently have. Look at HIH, Harris Scarfe, OneTel, AMP and many others. Closer to home for this argument, the greatest disappointment of recent times is that, of the tiny number of Australian exporters with any scale, many – Globe, Aristocrat and Southcorp to name a few — have fallen victim to failures at the CEO level, raising the question of whether the boards were really on top of their job.

Let's get serious about it. The Australian Shareholders Association suggests no one should serve on more than five boards, only two if they are performing poorly, and a chair position counts for three CEOs shouldn't sit on each other's boards. Executive and board compensation should be transparent and approved by shareholders, preferably in advance.

Immigration.
If we need 150 new $250 million exporters, then we need 150 new founders and CEOs. Migrants are risk takers. Most of the successful businesses in Australia in the last 50 years have been built by migrants. It's a point Dick Pratt makes passionately, and with personal credibility . He notes further that the Canadians – a country much closer to us on both the x-axis and in cultural terms – have double our per capita immigration rate and the focus is on finding risk takers with links in foreign markets. Interestingly enough, the Innovation section of the Canadian Government's web site can be found within the Immigration section,.

So, I have a simple suggestion. Instead of our overseas students and European back-packers having to leave, why don't we encourage them to stay? Here we have a group of highly educated young people – human capital already paid for, as the Americans would say, on someone else's nickel – at the beginning of their working lives. They would lower our population's average age and shortly, when they have kids, lower it further.

Employee Share Ownership.
When my administration assistant at LookSmart, who'd worked as hard as anyone over many years, was able to pay cash for her house from her shares in the company, I knew we were doing something right! That said, I've come to realise that the bog-standard Silicon Valley stock option scheme we have is also significantly flawed. Rewards are somewhat random due to stock price volatility, those who leave the company sometimes get rewarded earlier than those who stay and so on.

But it is certainly an advance on most companies in Australia who stick by the old 1848 labour-capital dichotomy. The current regulatory environment further hampers access to broad-based equity compensation relegating the concept to a tax dodge for the elite. If increasingly we all need to feel like we're members of "Team-Oz", then people are likely to work harder and better if they also own a direct share of the rewards. This has not been a priority for either political party. It's not without risks or complexities – I've seen them first hand – but it's part of helping create a competitive culture where we all realise we've got to play in the global A-grade together.

Conclusion

I have spoken little tonight directly about innovation and about technology or R&D hardly at all. That is not because they are not important, but rather because, as I said at the beginning, the best advice available, from business leaders far more successful than I, has been largely ignored. I have tried to analyse why and propose some tentative solutions that will invigorate that debate. I hope you have found that equally valuable.

So, should we choose the money or the box? As the anonymous insider "Deep Throat" said to Bob Woodward during the Watergate scandal that re-wrote American politics: "follow the money … just follow the money"! We need to apply "the Watergate principle" if we are going to solve our twin scandals of unemployment and environment – the defining challenges of our age.

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