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MAKING SENSE OF THE KNOWLEDGE ECONOMY

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MAKING SENSE OF THE KNOWLEDGE ECONOMY

It's possible to address my topic today more soberly than it was two or three years ago. An enormous amount of nonsense was talked by politicians and pundits about knowledge-intensive industries, the new economy, the information revolution and so forth. Painful lessons have been learnt as the high-tech bubble burst and investors discovered that the so-called new economy was subject to the same economic laws as the old.

I need no persuasion about the importance of knowledge and information technology. They are fundamental to economic progress, and in their various forms always have been – think of the Chinese invention of the abacus. Many IT businesses are represented on the Business Roundtable, ranging from domestic firms like Jade Corporation to multinationals like EDS, Ericsson, Hewlett Packard and IBM. One of my sons is a design engineer in IBM's research division in Boston, engaged in leading-edge product development in that exciting industry.

But there is nothing fundamentally new going on here. Knowledge is what hunters and gatherers needed to survive. Peter Drucker was writing about knowledge workers 50 years ago. Knowledge or human capital has long been a key feature of modern economies. An important reason for the rapid recovery of Germany and Japan after the devastation of their economies in World War II was the skills of their productive workers. We would do better to stop talking about the knowledge economy, at least in the sense of being some new phenomenon. Like other fashionable terms such as sustainable development, it lacks a hard core of meaning and isn't an aid to clear thinking.

Nor is there anything economically special about the so-called information revolution. Some researchers doubt whether its impact on productivity and economic growth is as big as the revolutions associated with electricity, the internal combustion engine, mass production or even water reticulation in cities. I wouldn't want to argue about relative

magnitudes. The impact of IT today is clearly huge, but as a major technological advance history is simply repeating itself. We don't need to hype it up.

There are endless myths around this topic. Some people tell us that economic rewards today depend on brains, not brawn or beauty. I'm not sure Jonah Lomu or Britney Spears would agree. Others suggest low-skilled jobs have disappeared, yet modern economies continue to churn out vast numbers of jobs that do not require higher qualifications. Of course we want more people in jobs that are better and higher paid, but often the best route to a higher paid job is to get a lower paid one first. Contrary to Steve Maharey's views on welfare, there is no such thing as a dead-end job.

The story at the national level is similar. A 1999 Organisation for Economic Cooperation and Development (OECD) study which benchmarked knowledge-based economies debunked some myths. For starters, it found that Germany, not the United States, tops the OECD's knowledge-economy table. Knowledge-based industries accounted for 58.6 percent of German business output in 1996, compared with 55.3 percent in second-placed America. Japan was third. In high-tech industries, where the United States is widely thought to be ahead, the OECD study has America coming in behind Japan. Yet Germany and Japan are in deep economic trouble: in the 10 years to 2002, Japan was at the bottom of the OECD league table for average annual growth in real gross domestic product (GDP) and Germany was third to bottom.

The OECD study also examined innovation, and made the point that spending on research and development (R & D) is only a fraction of total business spending on innovation. Statistics New Zealand has also looked at innovation and found that "the level of innovative activity carried out by New Zealand enterprises is at least equal, if not higher, than that of European (EU) countries." The level of innovation in the New Zealand manufacturing and services sectors was found to be higher than that of all EU countries. Research such as the OECD study has shortcomings but, as *The Economist* pointed out, it sheds more light on the knowledge economy than does endless drivel

from management consultancy firms (one recent New Zealand example was a report on R & D by McKinsey and Company which has mercifully sunk without trace).

There is little evidence that, overall, New Zealand is a technological laggard. OECD figures put New Zealand in the top group of countries for IT spending as a percentage of GDP – up with Sweden, Australia and the United States. New Zealand schools' provision of computer equipment appears to be among the highest in the world, with one computer for every six 15-year-old students (the OECD average is one for every 13). New Zealand typically scores well for the uptake of new technologies such as the internet. It is, of course, the use of new productive technologies by a country, regardless of whether or not it makes them, that does most to lift productivity.

There are other myths about the knowledge economy. One that is promoted by education sector lobbyists is that more education is the key to economic success. This isn't necessarily the case. The Soviet Union had excellent scientists and engineers but we now know it was an economic basket case. Wealthy Switzerland has the lowest university attendance and graduation rate in the OECD. Investment in education in Africa in the period 1960-1985 grew faster than in East Asia but GDP growth was much slower. An excellent book entitled *Does Education Matter? Myths about Education and Economic Growth* has been published this year. The author is Alison Wolf, professor of education at the University of London, who will be visiting New Zealand next year as a guest of the Business Roundtable. Wolf makes the point that because some of a thing is good, it doesn't follow that more of it must be even better – in other words we can over-invest in education just as we can in anything else. Moreover, a preoccupation with the economic benefits of education can narrow and distort the purposes of education.

Another myth also reflects a lack of economic understanding. People like Rod Oram and Howard Frederick are forever telling us that New Zealand is too dependent on commodity exports and should move to higher value-added products – as Frederick puts it, "If we don't do something now we may doom future generations of our country to a pastoral subsistence". This is just silly. Our land-based products typically have high levels of added value. The impact of new technologies can be as important in the 'old'

industries as in the 'new'. The bias against commodities is based on the old idea – which was behind New Zealand's inward-looking policies of import substitution – that the terms of trade are stacked against primary producers. Yet there has been no long-run terms of trade decline for primary products whereas the prices of many high-tech products – from semiconductors to telecommunications services – have fallen like a stone. Clearly good money can be made from commodities – just ask BHP Billiton, McDonalds' or Starbucks. This is not to argue against the development of high-tech, knowledge intensive industries in New Zealand – there is definitely a place for them. It is simply that no one can know where the best future opportunities lie and biasing the structure of the economy through industry policies is a mistake.

Promoters of industry policies always want us to follow some other country as a 'model'. Fifteen years ago it was Japan but we don't hear much about that model nowadays. More recently Finland has been fashionable: the 1999 Information Technology Advisory Group (ITAG) told us "Finland in particular provides an excellent model for New Zealand to follow". I have followed Finland's economic fortunes for 30 years and there are many things to admire about the country, but it is no standout performer. In the 10 years to 2001, Finland's average annual growth rate was 2.9 percent, behind New Zealand's average of 3.1 percent. Finnish unemployment averaged well over 10 percent in that period. Government spending in Finland is around 45 percent of the economy. At that level there is no likelihood of Finland achieving sustained per capita growth rates of 4 percent a year or more, the rate needed if New Zealand is to get back into the top half of the OECD income rankings.

Ireland is a better model, but Ireland is essentially a story of a country that has moved in free-market directions. People point to the aid it has received from Brussels, but the OECD estimates this accounts for perhaps half a percentage point a year of the nearly 8 percent annual growth Ireland has achieved over the past decade. Its domestic industry policies would at best have had a smaller effect, and the OECD has criticised them as harmful. Those who suggest Ireland's success is due to government interventionism never cite reputable economic research to back their assertions. The truth is that Ireland

is much more a story of the benefits of greater economic freedom, including openness to trade, a much reduced government share of the economy (government spending is now down to around 30 percent of GDP), low taxes – especially on foreign investment – deregulation, privatisation and good education (most of which is private). It has moved sharply up the international rankings of economic freedom and now occupies a high position.

There are real difficulties with industry policies. For a start, it is now generally agreed that governments are poor at picking winners. They react to political imperatives, not commercial imperatives. In fact it is often losers who pick governments, in the sense that struggling firms or industries look to governments for help and governments have a habit of obliging.

More fundamentally, for every firm that is helped, others are harmed. Capital, labour and other resources are bid away from firms that are profitable without subsidies to those that aren't. The economy's growth potential is set back by this misallocation of resources and by the economic costs of the additional taxes that are raised to fund the subsidies.

There are worse consequences. Robert Wade, a New Zealand economist working at the London School of Economics who was consulted by the prime minister after last year's Knowledge Wave conference, has argued that:

> The role of the government is to help to build profits in certain industries and firms that are going in certain directions that the government in consultation with corporate elites and labour elites has decided is the appropriate direction.

We have recently seen what happens when 'corporate elites' get too close to governments. The Business Roundtable has never been interested in deal-making with governments: I have often said that the best way to help small business is to keep representatives of big businesses out of ministers' offices. Its members supported the removal of subsidies and protection, even when their own businesses were affected,

because they understood such policies damage the wider economy. Wade ought to be far more conscious of the problems of crony capitalism in the Asian countries he has long admired. The pattern tends to be the same everywhere. Two years ago the government was chasing Motorola to set up a plant in New Zealand. The South Australian government offered it a bigger bribe, but the affair led to the resignation in disgrace of the state premier and was a factor in the government's election defeat last year. Also artificial inducements often don't work for long. Last year Motorola closed a Scottish factory employing 3,100 people, leaving the British government trying to recover about $50 million in regional aid payments to the company.

Some people who have given up arguing for policies to pick specific winners want governments to promote industry clusters. Harvard University professor Michael Porter was once in this camp, but is now less hairy-chested about government intervention. He stated recently:

> Where governments can't be involved is actually in the competitive process itself, that is, trying to steer competition or pick clusters. I think I have gotten a lot clearer on that.

Clusters happen for perfectly understandable commercial reasons: Hollywood and Silicon Valley were not made in Washington.

Those looking for lessons about the development of IT and other high-tech industries should not be looking in the first instance to countries like Finland, Israel or Ireland. The pre-eminent success story for more than 30 years has been Silicon Valley, and the reasons for its success are well known. A good account of them is a paper written a couple of years ago by T J Rogers, chief executive of Cypress Semiconductors, entitled *Why Silicon Valley should not normalize relations with Washington*. You will get the flavour of the paper from the following points Rogers makes:

> The political scene in Washington is antithetical to the core values that drive our success in the international marketplace and risks converting entrepreneurs into statist businessmen …

> Silicon Valley is an island of freedom and free markets, more in line with 1776 America … than with 1999 America and its interventionist government …
>
> The free market in Silicon Valley is not well ordered or predictable. People are free to quit, to start up their own companies and they often do. Yet, more often than not, start-ups end in failure. Three of four do not make it …
>
> Failure is OK in Silicon Valley because we truly believe that people are the key asset of any company and that the newly defeated will be quickly re-employed to start again. When one of our competitors had a large layoff, Cypress hired an airplane to fly over its headquarters, hauling a banner with our name and web address.
>
> The statist businessman wins by using the state to gain competitive advantage … lobbying for pork – those government-industry partnerships that allow him to continue in businesses that would not otherwise be economically justified …
>
> I do not want more government in Silicon Valley … [Government] extracts 20 percent of the yearly output of Americans in federal taxes, consumes much of it to run a grotesquely inefficient organization, and then allows us to fight to recover in the form of grants and subsidies the rest of what we first earned …
>
> Silicon Valley CEOs should withdraw from Technet, the high-tech lobbying association; oppose corporate welfare programs; and stand together to vigorously defend companies like Microsoft, Intel and other high-tech firms when they are under assault by the government.

When I last spoke on this topic I expressed concern about the implications for high-tech industries and business in general of what was coming out of Wellington. I made the point that over the previous decade some 5,200 new laws and regulations had been introduced and went on to say:

> What's more the flow hasn't stopped – the government has been busy this year promoting things like price controls for electricity, new restrictions under the Commerce Act, additional disclosure obligations on telecommunications and environmental regulations in areas ranging from energy efficiency to biodiversity. At the same time it has been making the tax system more complex rather than simpler, and it has failed to deal with

> obstacles to employment such as the Employment Court and the Holidays Act.

I was speaking in 1999 and referring to actions by the National-led government. Since then we have had a continuation of all these trends and more. The economy is still growing moderately thanks largely to moves to free it up 10 years and more ago, but it is growing more slowly than in the mid-1990s and is showing no signs of moving on to the growth path that the government is targeting. Many firms in the IT sector are finding the present environment very tough.

My conclusion is that the environment that IT and knowledge-intensive firms need to prosper is not very different from what other businesses need. Key factors, as T J Rogers mentioned, are low taxes and low regulation. Low taxes, including personal taxes, are important because high taxes reduce the expected returns on risky projects and curtail investment. Key regulations for high-tech industries include employment laws: if governments make it costly to lay off workers when ventures don't work out, they won't be started in the first place. Regrettably, we have been going in the wrong direction on both taxes and regulations.

In my view, the outlook for the IT industry and other businesses in New Zealand will be less favourable than it should be unless current policy directions are changed. Businesses should continuously strive to improve their own performance, but it is no use calling on them to lead the country forward when government policies are dragging them back. Mostly what the government should do is get out of their way – by lowering and simplifying taxes and regulations – and concentrate on its own core functions of ensuring the protection of property rights (including intellectual property) and the provision of public goods (which include public good science), basic infrastructure and rigorous and competitive education. I have yet to see convincing evidence that the government can achieve more with activist hands-on policies. Mainstream economic views have become conservative about any such roles: at most their contribution is small.

So I leave you with the observation that the New Zealand IT industry has come a long way; that New Zealanders are not slow to innovate and adopt new technology; but that we should be striving for a better environment for the industry to grow and prosper. I know of no one in business who thinks the government has a credible programme for achieving its commendable growth targets. If its Growth and Innovation Advisory Board has a different view it should be putting out its analysis for public scrutiny; otherwise it should be delivering the same message. New Zealand needs to take to heart what T J Rogers had to say about Silicon Valley. A few years ago Sir Gil Simpson had a similar idea for New Zealand. He wanted a Government Help Act passed which would prevent any New Zealand government from trying to help his business. I think what Sir Gil and T J Rogers were both telling us was that your businesses will do best if they are largely left alone.