

PRODUCTIVITY PERSPECTIVES

SINCE THE 1970s NEW ZEALAND'S PRODUCTIVITY GROWTH HAS BEEN CONSISTENTLY LOWER THAN IN OTHER DEVELOPED COUNTRIES. LOW PRODUCTIVITY BRINGS LOWER WAGES – THE MAIN REASON WHY 20,000 NEW ZEALANDERS A YEAR LEAVE TO LIVE IN AUSTRALIA. HIGHER PRODUCTIVITY MUST BE NEW ZEALAND'S PRIORITY FOR A BETTER ECONOMY.

An aerial photograph showing a multi-lane highway with several cars driving. To the right of the highway is a dense area of green trees and vegetation. The image is partially obscured by a red overlay at the top and a dark red overlay at the bottom.

A NEW ZEALAND PERSPECTIVE





The voice of business

COMMITTED TO NEW ZEALAND'S SUCCESS BY PROMOTING SUSTAINABLE GROWTH THROUGH FREE ENTERPRISE

Business NZ is New Zealand's largest business advocacy body representing the combined members of regional business organisations EMA Northern, EMA Central, the Canterbury Employers' Chamber of Commerce and the Otago-Southland Employers' Association, which offer services and support to 14,500 member companies. Business NZ also represents 60 national industry associations, with a combined membership of some 76,000 employers in the private sector, from large firms to the self-employed. Together, these employ around 80% of private sector employees. www.businessnz.org.nz

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PRODUCTIVITY PERSPECTIVES IS THE THIRD IN BUSINESS NZ'S PERSPECTIVES SERIES, A SERIES DESIGNED TO PROVIDE CLARITY ON SOME OF THE MOST IMPORTANT BUSINESS ISSUES OF OUR TIME, ALONG WITH RECOMMENDATIONS FOR CHANGE.

In today's highly competitive global economy the only way forward is to increase the size of the cake so that everyone can get a larger slice. Politicians agree, the union movement agrees and the business sector certainly does.

To increase the size of the cake in today's world we have to do things smarter and we must increase our productivity. It is easy to say but difficult to do, as there are many factors involved.

Workplace productivity is where most of the debate has been so far but we believe there is much more we can do. We must change our approach if we are to resume our place as a top performing country within the OECD. Improving productivity will get us there.

The Government is to be congratulated on starting the debate. It was not a politically easy thing to do. Business NZ appreciates the Government's move and part of our contribution is this publication.

In a competitive world, our productivity needs to be up there with the best. As an illustration, Australia is a more productive country than New Zealand and as a result Australians get paid 25% more than New Zealanders.

A more productive economy will see New Zealand wages rising and an increased standard of living for us all.



Terry Arnold
President Business NZ

I am pleased to be involved with the Workplace Productivity Working Group. This Government initiative is supported by both Business NZ and the Council of Trade Unions.

The Government is to be congratulated for grasping the nettle of productivity. Building consensus on the issues surrounding productivity is the most important thing we can be doing as a nation. The conclusion of a successful debate will mean that everyone will benefit.

The efforts of the business sector, employees and the Government need to be aligned. Everyone will need to concentrate on one target: what is best for New Zealand.

In this publication, we set out recent New Zealand experience with productivity, and compare it with Australia and the US, and in the final part of the book, recommend options: *What does New Zealand need to do?*

The intention is to build on the excellent work that has already been done, with a user-friendly, positive book, accessible to the layperson, championing the benefits of productivity improvement.



Phil O'Reilly
Chief Executive, Business NZ

PRODUCTIVITY: NEW ZEALAND HAS A UNIQUE COMBINATION OF CHALLENGES.

NO OTHER DEVELOPED COUNTRY IS AS FAR AWAY
FROM MAJOR MARKETS, AND OUR SMALL POPULATION
AND THIN CAPITAL MARKETS MAKE IT HARD
TO GROW EXPORT BUSINESSES.

This puts the onus on New Zealand businesses to be as innovative and creative as possible
and to improve their productivity – the only long-term route to growth.

Government can help, by creating an environment that fosters and celebrates business
and facilitates productivity growth.

New Zealand's productivity levels lag behind those of other developed nations –
a trend that must be reversed in the interests of a growing economy.

The first part of this book sets out the New Zealand experience with productivity
and outlines what is needed for productivity growth.

The second part gives the Business NZ perspective – action points that are required
for New Zealand to catch up with other developed nations in gaining productivity growth.

Productivity – the New Zealand experience

So far away

New Zealand is unique. Along with our many advantages and distinctive features, we have a combination of challenges not shared by other countries. No other developed country is as far away from major markets as we are. Distance and smallness create a huge challenge as we seek to make a living in the global marketplace.

Past decades saw an isolationist approach – a centrally planned economy featuring industry assistance, tariffs, import substitution, and reliance on a single market for products that lacked differentiation as a result of that very isolation.

Advances in transport and communication improved our connection with the rest of the world, and the loss of Britain as our sole market in the 1970s spurred diversification of products and markets. But our vast distance from market remains a most significant challenge.

Smaller than a city

Absence of scale is another critical challenge. A population of just over four million – smaller than many of the world's large cities – brings difficulties. This size of population makes it imperative that we export to survive. But 4 million may not be big enough to create a domestic market from which all producers can springboard into markets overseas.

Small population brings other challenges, including thin capital markets leading to a shortage of business investment. It can mean the almost complete absence of some types of industries that bring compounding production and wealth in other countries.

Proximity to other producers working in a similar field helps to spark improvements and new methods, and helps specialisation. In a small population, there are fewer and smaller communities of such producers, making clustering – companies and individuals working together – less likely to occur.

Vestiges of centralism

Vestiges of New Zealand's history as an isolated, centrally controlled economy still linger. A readiness by voters to seek 'big government' solutions brings high-spending administrations, sometimes with poor quality expenditure. A tendency to look to government to solve income and welfare issues can also mean a stifling of productivity and self-reliance.

These are key issues that impact on New Zealand's ability to improve its productivity and relative wealth. They started to become more apparent a generation ago.

I visited New Zealand but it was closed

During the 1970s our productivity was low. We had a rigid economy, with strict regulations covering working hours and public holidays, and a highly graduated tax system discouraging extra effort or overtime. There was little incentive for productivity improvement.

Industry was heavily protected and oriented towards the domestic market. A 'cost plus' approach was widespread, with high tariffs insulating domestic manufacturers from international competition. State assistance to industry bred complacency and held back innovation, and resources moved into areas where New Zealand did not have a traditional comparative advantage.

Import licenses, required to import the many items not produced here, were owned by the few, in a largely uncompetitive environment. For exports, there was little attempt to become internationally competitive on price, quality or product differentiation.

Investment in physical capital was low, hampering our ability to mechanise and get economies of scale.

From an already low base of productivity, a further, sharp productivity decline occurred in 1975, a combination of reduced output and increased costs caused by, among other things, the 1973 oil shock.

Fluctuations in productivity levels continued over several years; the economy did not regain its 1972 productivity levels again until 1984. Between 1984 and 1994 productivity levels again changed little.

The productivity drought was broken in 1994, led by a labour productivity surge, that was helped by the effects of the labour market reforms of the early 1990s. Table 1 overleaf shows total factor productivity (TFP) – including labour and capital productivity – rising significantly first in 1984 and again in 1994.

TABLE 1

PRODUCTIVITY INDEXES				
Year	TFP* Index	Annual TFP Change (% pa) Index	Labour Productivity Index	Capital Productivity Index
1972	1.000		1.000	1.000
1973	1.077	7.68	1.092	1.040
1974	1.056	-1.90	1.081	0.995
1975	0.889	-15.84	0.920	0.833
1976	0.959	7.86	1.000	0.884
1977	0.941	-1.90	0.991	0.861
1978	0.914	-2.78	0.970	0.828
1979	0.977	6.83	1.046	0.862
1980	0.869	-10.99	0.932	0.754
1981	0.955	9.82	1.030	0.916
1982	0.926	-3.07	1.007	0.764
1983	0.949	2.49	1.043	0.759
1984	1.080	13.85	1.199	0.835
1985	1.050	-2.77	1.169	0.803
1986	1.061	1.04	1.190	0.791
1987	1.085	2.28	1.230	0.787
1988	1.077	-0.74	1.231	0.761
1989	1.113	3.29	1.299	0.761
1990	1.072	-3.62	1.281	0.709
1991	1.067	-0.53	1.291	0.693
1992	1.068	0.14	1.303	0.687
1993	1.078	0.88	1.318	0.695
1994	1.137	5.48	1.389	0.734
1995	1.156	1.73	1.413	0.754
1996	1.156	0.00	1.404	0.756
1997	1.176	1.72	1.431	0.756
1998	1.170	-0.54	1.444	0.733

Source: Table 3.1 *Measuring New Zealand's Productivity* Lawrence & Diewert, March 1999

*Total Factor Productivity – includes labour and capital productivity

Increased productivity from 1994 brought a growth surge in the New Zealand economy, but it was well below the level attained by other developed nations, as shown by the labour productivity table below.

TABLE 2

LABOUR PRODUCTIVITY IN THE BUSINESS SECTOR (PERCENTAGE CHANGE FROM THE PREVIOUS PERIOD)			
	Average 1978-1987	Average 1988-1997	Average 1998-2006
Australia	1.7	1.7	1.9
Austria	2.2	2.7	1.8
Belgium	2.4	1.9	1.4
Canada	0.8	1.2	1.7
Czech Republic	-	-	3.3
Denmark	1.1	2.0	2.3
Finland	3.4	3.4	2.2
France	2.5	1.8	1.4
Germany	1.1	2.2	0.9
Greece	0.0	1.7	3.1
Hungary	-	-	3.5
Iceland	1.8	1.6	2.7
Ireland	3.2	4.5	3.6
Italy	2.3	2.2	0.5
Japan	2.6	2.1	1.7
Korea	5.5	5.1	3.4
Luxembourg	-	-	1.2
Mexico	-	-	1.4
Netherlands	0.6	1.1	0.9
New Zealand	1.1	1.3	1.6
Norway	1.5	2.5	2.5
Poland	-	-	5.3
Portugal	1.7	2.6	1.0
Spain	2.7	1.7	0.7
Sweden	2.2	3.1	2.0
Switzerland	0.3	0.6	0.8
United Kingdom	2.6	1.4	2.1
United States	1.1	1.5	2.6
Total OECD	1.8	1.8	2.1

Source: Annex Table 12. *OECD Economic Outlook* no.76 December 2004

Note: The OECD defines 'business sector' as total economy less the public sector. Business sector employees are defined as total employees less public sector employees.

As can be seen from the above table, New Zealand's labour productivity growth has been consistently less than the OECD average from the late 1970s. New Zealand's labour productivity growth has grown at around 70% of the OECD average over the period 1978-2006.

Perhaps of more significance is New Zealand's productivity record compared with that of our major trading partners. New Zealand's projected average annual productivity growth rate over the period 1998-2006 is 1.6%, compared with Australia (1.9%), UK (2.1%), US (2.6%), Korea (3.4%) and Ireland (3.6%).

Comparisons with Australia

Comparisons with Australia arise because of the current outflow of skilled New Zealanders across the Tasman – more than 20,000 net left New Zealand for Australia in the year ending August 2005, nearly 400 net a week.

The main reason is the fact that wages are 25% higher in Australia, largely because of that country's superior productivity record: Australian GDP per capita is around 30% higher than New Zealand's.

The wealth gap between Australia and New Zealand is widening. After tax and inflation, Australian wages have grown more than three times as fast as New Zealand wages over the last four years. New Zealand wages are 3.1% higher than they were in 1999-2000, while Australia's are 9.8% higher. Australia has further improved conditions for workers by cutting tax rates and raising the thresholds at which higher rates cut in, while New Zealand has increased its tax burden with a higher top personal rate and more people moving into higher tax brackets.

New Zealand's more rigorous approach to inflation has narrowed the gap in wage growth rates, but even so, there is still a gap of around \$170 a week in Australia's favour. The average Australian wage is now around \$56,000 while New Zealand's is around \$41,000¹.

The key difference is productivity growth. Australia's labour productivity growth over the last ten years has averaged 2% per year. New Zealand's has averaged 1.4% over the same period.

New Zealand's lack of investment in physical capital and over-reliance on boosting production through longer hours and the use of relatively cheap labour means our capital productivity lags behind Australia's. Poor use of technology is also a factor: although NZ firms are quick to adopt new technology, they lag in effective use of that technology and in asset efficiency practice.

The US experience

The unique experience of US productivity is instructive.

From the time of the 1973 oil shock until 1995, US productivity levels rose at the unremarkable average rate of 1.5% per year. Then suddenly, over the next 8 years, the average annual productivity growth rate doubled, approaching 3% per year.

The reason was computers. Major advances in technology brought a big drop in the cost of computing power and companies invested heavily in information technology. This brought greatly increased productivity without significant inflation. Moreover, many companies overspent on technology in the 1990s and so continued to generate productivity without additional investment in the years that followed.

Even despite a recession in 2001 and uncertainties connected with terrorism and war, productivity growth shot up to 4% a year between 2001 and 2004, although accompanied by weak job growth. Productivity growth slowed again in 2005, explained by the US Federal Reserve as a result of the curve of economic recovery: productivity often surges in the early part of an economic recovery, as companies rush to meet higher demand but are still too nervous to add workers, and then slows as employment picks up.

Weak job growth since 2001 has brought an unusual problem for the US economy – high productivity but slowing demand. Increased productivity is usually accompanied by even greater demand, but lower hiring levels since 2001 have depressed consumer spending. Rising productivity is therefore being translated into rising revenue per hour worked, fed disproportionately into profits. This should, however, stimulate spending by shareholders, creating a wealth effect to increase consumer demand.

The US experience since 2001 highlights the complex interaction of capital productivity (in this case, from information technology), labour productivity, hiring behaviour and demand. The US Federal Reserve predicts that as hiring resumes, wage income will grow, further increasing demand – making the point that productivity increases are not just about squeezing workers. The US experience shows the benefits of investment in physical capital as a tool for productivity.

¹ Australian Bureau of Statistics and Statistics New Zealand, expressed in \$NZ

IN THE DECADE AHEAD I CAN PREDICT THAT WE WILL
PROVIDE OVER TWICE THE PRODUCTIVITY IMPROVEMENT
THAT WE PROVIDED IN THE '90S.

BILL GATES

Inflation a concern

One area of similarity between the US and New Zealand is our reliance on imported capital for productivity improvements. In the case of the US, with its 2005 budget deficit at 3.4% of GDP, much of it owed to overseas creditors, the scale of indebtedness is having a global impact.

The US Federal Reserve must inevitably increase interest rates, gradually, to reward its creditors. This makes it more attractive as an investment destination, attracting more money into the US and thereby inflating the price of capital for other nations.

It means that inflation, which until recently had practically disappeared as a problem because of the intensity of global competition, is resurfacing as a result of investment decisions aimed at improved productivity.

Given the complex interrelationships between productivity and interest rates, inflation and demand, it is important to clearly define just what productivity is.

What is productivity?

It's often said that productivity equates with production – that it's the totality of what we as an enterprise or a nation produce.

Productivity is output divided by inputs.

Essentially, productivity is a ratio to measure how well a business (or individual, industry, government or country) converts input resources (labour, materials, capital etc) into products and services.

Not only is the quality of inputs essential for improving productivity, but also the management of those inputs to produce desired results.

A complete measure of productivity is determined by comparing the total output produced with all the input resources used in producing that output. In other words:

$$\text{Total Productivity} = \frac{\text{Total Outputs}}{\text{Total Inputs (labour, materials, capital and intangibles such as managerial expertise and information etc)}}$$

A simple way to characterise it is to think of it in terms of output per person (dividing GDP by the workforce).

Productivity improvements can be achieved either through:

- increased output for the same amount of inputs
- or*
- achieving the same amount of output with fewer resources.

Productivity can be hard to measure, especially in economies dominated by the service sector, like New Zealand. The difficulty of productivity measurement is indicated by Diewert Enterprises Ltd (referred to later in more detail):

There are several different approaches to measuring productivity. At the most basic level, productivity change is often approximated by changes in labour productivity (output per worker or per hour worked) because the requisite information is usually readily available. However, relying on labour productivity measures can produce misleading results as other inputs such as capital may be being substituted for labour. If this is happening, observed labour productivity will be increasing rapidly but when all inputs are taken into account, overall productivity will be increasing far less rapidly and, in the extreme case, may even be going backwards. To overcome this deficiency, it is necessary to look at the quantity of all outputs produced relative to the quantity of all inputs used.

This comprehensive productivity measure is known as total factor productivity and should ideally include not just labour and capital inputs but also land, natural resources, inventory and all other inputs. Failure to include all inputs can also lead to biased results, as the economy may in effect appear to be getting a 'free lunch' by excluding the increased use of certain inputs. Most productivity studies tend to concentrate on labour and capital and some analysts recognize the incompleteness of their input coverage by referring to the resulting measures as "multifactor" rather than 'total factor' productivity measures.

Why does productivity matter?

Productivity is important because it underpins economic growth.

The growth of total factor productivity effectively determines the scope of increases in real (inflated-adjusted) incomes over time. It determines the amount of goods and services – and hence the standard of living – that we can purchase and enjoy.

The key element to achieving sustained rises in real incomes is productivity growth.²

Total factor productivity represents the amount of extra output available for distribution between the providers of labour and capital. When total factor productivity increases, both labour and the investors in capital can expect to obtain higher returns. The owners of capital benefit through higher profits and suppliers of labour through higher real wages. Consumers benefit through generally lower prices as the costs of producing a given amount of product declines.

Productivity growth is win-win

Owners of capital equipment can afford to invest and expand production thus generating further employment growth. It's a win-win situation for business, employees and consumers.

The benefits of productivity growth are widespread and include, but are not limited to:

- higher growth rates
- greater employment growth
- higher real wages
- higher living standards
- lower inflation
- improved international competitiveness

Conversely, low productivity growth brings low growth, lower wages and living standards, high interest rates and reduced international competitiveness.

International competitiveness is where productivity hits home. If resources can be better utilised offshore and used more efficiently, then they will be. More productive countries will grow wealthy at the expense of less productive countries. Maintaining productivity is therefore crucial for keeping investment and industry in New Zealand.

Countries with higher productivity growth generally have higher growth rates and lower levels of unemployment e.g. Ireland, Korea and US, while developed countries with relatively low productivity growth, e.g. Germany, France and Italy, have relatively low output growth and significantly higher unemployment levels.³

Both capital and labour are highly mobile internationally which means that both businesses and government must be constantly on their toes to ensure that productivity improvements are continually made. The role of competition is vital in spurring businesses to achieve productivity gains, while government must always be mindful of ensuring that regulatory and tax burdens are consistent with international best practice.

² OECD Economic Surveys New Zealand – July 2005

³ For detailed information on economic comparisons between OECD countries refer to the OECD Economic Outlook, No.75 December 2004

**PRODUCTIVITY IS NEVER AN ACCIDENT. IT IS ALWAYS THE
RESULT OF A COMMITMENT TO EXCELLENCE, INTELLIGENT
PLANNING AND FOCUSED EFFORT.**

PAUL MEYER

How to improve productivity

It is not solely the role of government, business or labour organisations to improve New Zealand's productivity record. Some issues are best addressed by business, some are best addressed by government and some by employees.

The issues below are fundamental towards improving productivity. All three players: government (as regulator), businesses (as entrepreneurs/investors) and labour (as a critical input) can play a part – the issues below will seldom be the responsibility of one party alone to rectify.

- (a) competition
- (b) secure and transparent property rights
- (c) regulatory policy
- (d) expenditure and tax policy
- (e) infrastructure
- (f) flexible and responsive labour markets
- (g) human elements – skills, education, governance and managerial capability
- (h) global connectedness through trade and immigration
- (i) innovation
- (j) research and development (R&D)

(a) Competition

The threat of competitors is a crucial discipline on firms and management to ensure that production and processes meet international best practice. Competition provides the necessary spur for firms to constantly innovate or die.

Vibrant product market competition provides one of the key driving forces for productivity growth.⁴

It is also generally accepted that lively competition generates some on-going ('dynamic') gains, leading to a higher productivity growth rate⁵.

A frequent response to the challenge of competition is specialisation. The more that individuals and firms focus on their areas of strength, the more value is produced overall.

Another response to the challenge of competition is the decision to outsource. Outsourcing improves productivity by allowing lower skilled, routine jobs in one area to be replaced by comparatively higher skilled, higher value jobs. Those lower value jobs migrate to areas where they are of comparatively higher value – hence both locations gain an increase in value.

(b) Secure and transparent property rights

One of the fundamental principles on which a market economy like New Zealand is based is that property owners (including businesses) have security of property rights, and have the right to use their property as they choose, while respecting the same rights of other property owners.

Investors must have confidence that any assets they purchase or improve will be safe from confiscation and unreasonable restrictions on use, or alternatively, that they will be compensated for any such actions. If not, there will be limited incentives for anyone to undertake long-term investment.

In order for businesses to expand, invest and make productivity improvements, certainty over property rights is essential. In cases where property rights are uncertain, e.g. water permits, the incentives to develop and expand hydro-electricity generation and provide for other uses for water, such as increased irrigation, are likely to be stifled. This points to the need for secure tenure over the right to use resources, and clear specification of any constraints that may be imposed on resource use.

⁴ OECD (2002) *Product Market Competition and Economic Performance*, Economic Outlook N0.72, OECD

⁵ OECD *Economic Surveys New Zealand* July 2005

(c) Regulatory policy

Government's ability to regulate (legislation and regulations) can play a significant role in determining productivity growth. Regulation by itself cannot improve productivity outcomes, but it can have a significant impact on the decisions of businesses to invest, and what to invest in, by affecting the costs businesses face or by creating uncertainty via regulations or policy decisions that have the affect of stifling new investment.

New Zealand was a world leader in deregulation over the 1980s and 1990s, deregulating a range of sectors previously shielded from competition. Reduced barriers to entry have encouraged increased competition among firms, while exposure to international markets has led to significant business sector reorganisation and consolidation to maximise returns in the international market place.

It is important to assess all regulations regularly to ensure the need for them still remains, and that they do not conflict with the goal of achieving a more competitive economy, through strong productivity growth.

Since 1999 there have been 513 new laws and 1965 new regulations. Over 100 new acts and 403 new regulations came into being in 2004 alone.⁶

Since the start of 2005 there have been an additional 97 Acts passed into law.

The direct costs of complying with regulatory controls take up substantial time and resources of both businesses and individuals. However, direct costs are only a small part of the total costs of regulatory compliance. Unintended costs and uncertainties generated can be much greater.

...regulatory uncertainties [in the electricity sector], including those relating to resource use, need to be resolved in order for market participants to be willing to undertake investment in either new generation or transmission capacity.⁷

There can be incentives for governments under tight fiscal constraints to try and put some of their expenditure 'off-budget' in the form of added regulatory/compliance burdens on the private sector. Without strong incentives on governments to minimise regulatory constraints, there can be a tendency to impose more and more costs on to business knowing that such costs are not directly accounted for in the government's accounting frameworks or official Budget.

New Zealand has often been held up as having particularly good systems regarding monetary policy (exemplified by an independent Reserve Bank) and fiscal policy disciplines (adopted through the Fiscal Responsibility Act, now part of the Public Finance Act).

However, there are minimal requirements for the same sort of discipline on government regulations. Government departments are required to furnish a Regulatory Impact Statement (RIS) and Compliance Costs Assessment (CCA p12) on major regulatory proposals, but these are currently of varying quality and many are inadequate.

(d) Expenditure and tax policy

Tax policy can significantly influence investment decisions and the allocation of resources. For example, the Government announced measures in the 2005 Budget to address depreciation rates on plant, equipment and buildings. The Minister of Finance correctly stated that the intention of increasing depreciation rates was 'to remove the depreciation bias against investment in short-life assets'.

To an extent, all taxes are distortionary and impact on economic behaviour. Taxation brings significant compliance, administrative and collection costs, as well as 'deadweight' costs (the loss of potential economic welfare because of tax, expressed as the difference between the amount of tax raised plus collection costs and the total cost of the tax), resulting in resources being deployed away from their most highly valued uses.

If tax rates are inconsistent or unduly high, this can create distortions and lead to either under-investment or misinvestment, where investment is attracted to sectors where special privileges or options are available. This can lead to low productivity growth.

Tax policy can also be critical for attracting or repelling international investment given that the market for investment is global.

There are a number of generally accepted principles of a good tax system (apart from the obvious one that the system ought to be able to raise the amount of tax required):

⁶ National Business Review 21 January 2005

⁷ OECD Economic Surveys New Zealand July 2005

Economic efficiency

The tax system should not interfere with the efficient allocation of resources by favouring one particular sector over another.

Administrative simplicity

The tax system should be relatively easy to administer and comply with.

Flexibility

The tax system should be able to respond to changed circumstances.

Fairness

The tax system should be fair in its relative treatment of different individuals. In a taxation sense there are two distinct concepts of fairness: horizontal equity and vertical equity. Horizontal equity considers that individuals and businesses that are the same in all relevant aspects should be treated equally irrespective of what legal activity they may be involved in. Vertical equity considers that those in a position to pay more should do so.

Given that tax burdens are basically derived from the expenditure decisions of government, it is important that government is constantly mindful of its expenditure decisions and need for taxation.

Is there a relationship between government size and economic growth? Conventional theory suggests that there should be, and that beyond a certain point government spending will have a negative impact on economic growth as it crowds out private sector activity and imposes costs on business and individuals.

New Zealand's tax revenue as a proportion of GDP is rising at a time when most developed countries are reducing their tax burdens. Although New Zealand's government sector is not large by OECD standards, it is when compared to countries outside Europe – and these are our most important competitors.⁸

(e) Infrastructure

A healthy economy requires good infrastructure – well-maintained roads, railway track, ports, airports, power plant and cabling – the physical assets that make it possible to travel, communicate and do business.

Infrastructure is a critical facilitator for productivity. Commuters and business deliveries held up for hours in Auckland gridlock is an example of infrastructure constraints hampering productivity. Lack of investment in power generation because of uncertainties caused by the Resource Management Act is another example of infrastructure constraints hampering productivity. Similar issues arise with regard to the upgrade of Transpower's electricity grid.

Such uncertainties and delays reduce the ability to plan ahead with confidence while existing prices of resources rise due to 'artificial' shortages – both impacting negatively on productivity.

If investment in infrastructure fails to respond to a growing economy then bottlenecks may result. Wise investment in infrastructure can contribute directly to both the level and growth of productivity. Infrastructure investment can also contribute indirectly to productivity growth through potential spillover effects. For example, investment in transport and communication networks may facilitate agglomeration, as well as contribute to improved scale economy effects internal to the firm. Some investment in infrastructure (in communications for example) may enhance the take-up of new technology on a wider scale.⁹

⁸ Tax Perspectives Business NZ 2005

⁹ The Treasury New Zealand Economic Growth: An Analysis of Performance and Policy April 2004

(f) Flexible, responsive labour markets

Flexibility makes it possible for resources to shift quickly to more productive activities as these emerge.

In order to increase productivity it is important that barriers to improving productivity are removed, thereby maximising the productive capability of the workforce.

The OECD noted that:

New Zealand has one of the most dynamic and flexible labour markets in the OECD. However, last year's changes to the Employment Relations and Holidays Acts to reduce labour market flexibility add to labour costs, although it is too early to assess the extent of roll-back, especially as some aspects may need to be clarified through the courts.

...the potentially damaging effects of increases in employment protection on the job prospects of marginal groups of workers could be mitigated by allowing an initial trial period during which the employer would be exempt from unjustified-dismissal procedures. Employers might also be more willing to hire older workers if restrictions on fixed-term contracts were eased.¹⁰

New Zealand, like many other developed countries, still retains statutory controls on entry into certain occupations. While most occupational licencing can be justified on public safety or consumer protection grounds, it is important that occupational regulation does not unduly restrict entry into occupations on grounds that are not justified. Unjustified controls reduce the number of practitioners in the field, raise costs and reduce potential productivity.

Similarly, unnecessary restrictions on the ability of individuals to enter the workforce through inappropriate regulations and controls (e.g. proposals by some political parties to significantly increase the statutory minimum wage) will have the effect of locking-out the more vulnerable employees from the workforce and hinder the ability of individuals to obtain employment, develop skills, increase their productivity, and increase their real earnings potential over time. In the case of labour, 'lost output' can often not be recaptured at a later date without significant cost.

Other rigidities can result from decisions to negotiate wage levels at the sectoral level. Given that the wellspring of enhanced productivity is at individual or company level, it makes sense to reward the actions creating productivity where they occur. This is the appropriate way for productivity gains to flow through to employees' wage packets and for managers to reap the rewards of productivity-enhancing decisions.

Businesses, employees and the government must all be aware of the changing nature of work and plan ahead accordingly. Past practices may not be in keeping with the need to improve the ongoing productivity of the workforce. A one-size-fits-all approach is unlikely to be flexible enough to meet the varied, specific demands of the international marketplace. All parties must be vigilant of practices (whether voluntary or imposed by regulation) that reduce the potential productivity of the workforce.

¹⁰ OECD Economic Surveys New Zealand July 2005

**WE ALIGNED OUR WORK TO TAKE ADVANTAGE OF THE FACT
THAT WE COULD PROVIDE A SERVICE TO NORTHERN
HEMISPHERE CLIENTS DURING OUR WORKING DAY
– THEIR NIGHT – AND THE INCREASE IN ECONOMIES OF SCALE
AND PROCESSES DEVELOPED TO DO THIS HAVE IMPROVED
OUR PRODUCTIVITY IN A MAJOR WAY.**

LIZ SEYMOUR CEO NZ TRANSLATION CENTRE



(g) Human elements – skills, education, governance and management capability

Increasing educational levels of the population is one way of raising productivity and increasing living standards over time. Wealth is created and employment generated by enterprises with a highly skilled, customer-focused and innovative workforce.

There are clear links between a market driven, flexible education and training system and a buoyant, productive and internationally competitive economy.

The implications of the changing environment – especially globalisation of markets, new technologies and the emergence of the knowledge worker – are profound and challenging. Education and training make up just one of the elements required to promote productivity growth – on their own they do not create jobs or raise living standards but they do facilitate the kind of culture in which growth is likely to occur.

Young people who have acquired a strong generic skills base, who are economically literate, and who understand the business and industrial base of the society they operate in, are more likely to contribute to the generation of wealth and economic growth. They are more likely to start businesses or become positive and engaged employees who can participate productively in the economic growth of the nation.

At the school level, an emphasis on school leaving standards is important. The standards-based assessment that is a feature of the new qualifications system will help this focus. Also useful is the plan to return to a ranking system for the scholarship examination, and the ability of the NCEA to incorporate both academic and vocational subjects, unlike school qualifications in many other countries that persist with an artificial divide between the two.

The importance of education stretches even further back than the compulsory education sector, to early childhood education. Investment in this area can significantly improve the likelihood of later educational and work success among both advantaged and disadvantaged young people.

At the other end of the spectrum, an aging population brings other issues to bear on productivity. Ways must be found to retain more older workers where their experience can continue to contribute, so their skills and experience can be passed on to a new generation of workers.

Recently announced government initiatives to improve literacy and numeracy in the workplace are a useful response to current patchy levels of literacy and numeracy that hold back productivity. Business can assist by staying engaged with skills issues, operating ongoing rather than intermittent training programmes, and taking advantage of skills-related assistance offered by government or other parties.

The importance of the internal culture of an organisation in raising productivity should not be underestimated. Effective management of resources is crucial to achieving higher levels of productivity growth. Inputs, unless employed in the right way, can result in low productivity growth. The importance of management capability, as with employee capability, is crucial.

Management capability covers areas including: organisation and methods, materials handling, production planning and control, attitudes, relationships, training, quality, finance, including wages/salaries and performance-related pay, health and safety, industrial relations and communication

Some of these issues might be considered ‘soft’ and difficult to define compared with more tangible inputs such as machinery and labour, however they are important in providing the productive edge in an increasingly competitive global environment. An OECD report on Technology, Productivity and Job Creation (1998) noted that high performing workplaces are based not only on ‘high skill’ but also ‘high trust’.

Governance capability is another area where New Zealand lags behind other developed nations. Productivity growth is more likely to occur in companies where the separation of governance and management functions is clearly understood and where governance focuses on the need for productivity improvement.

While there are constant and ongoing incentives to improve management capability in the private sector, the same incentives do not appear as prevalent in the public sector due to the effective lack of competitive pressures.

Across public sector spending particularly on education and health, information about performance is still patchy. This makes it difficult to establish how productive different parts of the sectors are and whether they deliver “value for money”. A significant improvement in information is needed to fill this gap and make it possible to monitor productivity growth over time. At the same time, the government should examine whether more could be done to strengthen the incentives on public-sector managers to identify and implement efficiency improvements.¹¹

¹¹ OECD Economic Surveys New Zealand July 2005

(h) Global connectedness through trade and immigration

In order to improve productivity outcomes, New Zealand businesses must be able to source the best inputs available on the international market.

Global connectedness allows us to take advantage of the larger international market and access the latest technology and ideas. Access to technology, knowledge and ideas is likely to be a key element in improving New Zealand's productivity performance. Connectedness is harder for New Zealand given our distance from our main markets.¹²

New Zealand has gone a long way towards removing remaining impediments to international trade: import licencing was phased out in the 1980s and tariffs reduced to a negligible level. New Zealand has negotiated a number of regional Closer Economic Partnerships while still being committed to multilateral reform through the World Trade Organisation's Doha Round.

Like other countries, New Zealand must use its limited resources efficiently to promote further productivity growth.

Greater trading opportunities generated through closer economic partnerships and lowering of trade barriers have resulted in greater choices and cheaper prices to final consumers, whether businesses or individuals. Reducing barriers to trade has forced some sectors to improve efficiencies, knowing that a more open economy requires constant innovation and the ability to develop and source new technologies and processing techniques.

New Zealand is dependent on trade and our longer-term growth prospects are limited unless restrictive trade practices in other countries are broken down.

Trade is especially important because of our small size and remoteness from major markets. These two factors have a negative effect on business investment. In particular, the lack of scale in the New Zealand economy reduces the intensity of competition and the incentives to invest. The only feasible way to magnify our effective size is through increasing our trade connections – exporting more and investing more overseas.

Immigration policies also need to reflect the importance of the international transfer of ideas and technology and innovative techniques that a successful immigration policy can achieve.

Free Trade Agreements (FTAs) are an opportunity not only to remove tariff barriers on a bilateral basis, but also to deepen economic integration with trading partners. This is based on a recognition that trade flows are affected as much by internal regulatory and administrative barriers as by tariffs, quotas and other external barriers to trade. Importantly, modern FTAs also provide opportunities to facilitate the exchange of people, knowledge and innovation, such as improved access to services markets, mutual recognition of qualifications, relaxed residency rules for visiting business people, and so on, that can enhance our connectedness with partner countries.¹³

(i) Innovation

The Government's Growth and Innovation Framework highlights the importance attached to strengthening innovation, which plays a key role in expanding the output the country can produce with its available inputs. The overall strategy appears to be well designed, and the innovation rate among firms – as well as it can be measured – is around the EU level, although business R&D expenditure are well below the OECD average.¹⁴

There are two major and interconnected driving forces of changing business needs: new technologies and globalisation of markets. The reality of enterprise today in all sectors of the economy is that they must innovate or die. They must harness technology for business growth, striving all the time for continuous improvements and quality. The need for New Zealand to compete in the global market means that standards of innovation, quality and service are being set internationally. All enterprises are being exposed more and more to the standards established by the most successful enterprises elsewhere in the country and the world. Other countries are defining our skill and knowledge requirements.

An exhaustive survey of innovation activities produced by Statistics New Zealand found that some 44% of New Zealand firms undertook some innovation activity in the three years to 2003, the same rate as for firms in the European Union as a whole. Although there were differences between firms, in general the key outcomes of innovation were increased profitability, a wider range of products and services and greater efficiency.¹⁵

Table 3 overleaf shows New Zealand relatively far down the ranking on indicators of innovation.

¹² New Zealand Economic Growth: An Analysis of Performance and Policy NZ Treasury April 2004

¹³ *ibid.*

¹⁴ OECD Economic Surveys New Zealand July 2005

¹⁵ *ibid.*

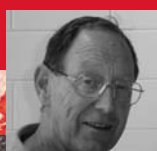
TABLE 3

INDICATORS OF INNOVATION PERFORMANCE				
	Total researchers per thousand employed	Human resources in science & technology		Number of triadic ¹⁶ patents per million people
		Average annual growth 1995-2002	As % of total employment 2002	
	2002			2001
Australia	7.3	3.1	35.6	19.2
Austria	4.7	2.1	24.7	34.9
Belgium	7.9	2.2	30.1	42.1
Canada	7.1	3.0	29.0	20.6
Czech Republic	3.1	1.7	29.7	1.2
Denmark	9.3	3.5	35.3	41.4
Finland	16.4	2.3	32.5	98.5
France	7.5	2.1	29.2	40.3
Germany	6.9	2.0	33.5	90.7
Greece	3.7	2.7	19.7	0.6
Hungary	3.9	-1.0	23.9	2.7
Iceland	-	-5.6	29.0	21.8
Ireland	5.1	7.1	22.4	19.1
Italy	2.8	4.3	28.4	14.8
Japan	9.9	-	15.7	92.3
Korea	6.4	3.4	16.2	10.6
Luxembourg	6.2	5.4	31.6	46.5
Mexico	-	-	-	0.2
Netherlands	5.5	3.9	34.3	61.9
New Zealand	7.0	3.1	26.0	9.5
Norway	8.7	7.6	34.7	24.0
Poland	3.9	-1.1	23.5	0.2
Portugal	3.5	-0.6	14.8	0.6
Slovak Republic	4.6	1.0	28.8	0.7
Spain	5.1	8.4	23.1	2.9
Sweden	10.6	3.4	37.7	91.8
Switzerland	6.3	1.0	36.1	118.6
Turkey	1.1	-	-	0.1
United Kingdom	-	2.5	25.3	36.7
United States	-	2.0	32.7	57.7

Source: Table 3.2 OECD Economic Surveys New Zealand July 2005

¹⁶ Triadic patents are those registered in all major patent registers; the triadic system ensures comparability of statistics relating to patents.

WE'VE FOCUSED HARD ON GETTING INCREASED PRODUCTIVITY.
LOOKING AFTER STAFF AND GROWING A POSITIVE COMPANY
CULTURE HAVE HELPED ENORMOUSLY.



IAN DEVEREUX CEO ROCKLABS LTD

(j) Research and development (R&D)

The OECD (2003a) found evidence of a link between R&D and economic growth, although their results suggested that it is R&D performed by private sector business, rather than through government funded agencies, that have the strongest link to per capita GDP growth. However, the OECD also noted that publicly funded R&D is likely to be important in generating 'basic knowledge' that may have significant spillovers, and that lags from public sector R&D to economic growth can be quite long and therefore difficult to identify.¹⁷

Effective research and development is a fundamental driver towards improving productivity. However, levels of expenditure on R&D may not necessarily reflect the value obtained from that investment; more important is the quality of the R&D and hence returns from such investment.

Statistics NZ's *Research and Development in New Zealand 2004* (September 2005) shows a relatively low level of R&D in New Zealand, with the private sector funding less R&D than the state sector:

TABLE 4

GROSS EXPENDITURE IN R&D			
	1996 (\$m)	2000 (\$m)	2004 (\$m)
Sector			
Business	240.3	324.1	677.1
Government	375.7	393.0	461.2
Higher Education	273.4	374.1	454.8
Total	889.3	1,091.3	1,593.1

Source: Table 2.02 *Research & Development in New Zealand 2004* Statistics NZ September 2005

TABLE 5

GROSS EXPENDITURE IN R&D AS A PROPORTION OF GDP			
	1996 (%)	2000 (%)	2004 (%)
Gross expenditure in R&D as % of GDP	0.96	1.01	1.16

Source: Table 2.03 *Research and Development in New Zealand 2004* Statistics NZ September 2005

*Manufacturing Perspectives*¹⁸ suggests that one reason why R&D expenditure in New Zealand is relatively low compared to other industrialised countries is that high R&D expenditure tends to be associated with pharmaceuticals, communications and military equipment, which are not major industries in New Zealand.

R&D in developed countries tends to be strongly concentrated in multinational companies, but few of these operate in New Zealand. It also tends to be concentrated in larger firms while the majority (92%) of New Zealand firms employ fewer than 10 people.

Also, most developed countries provide tax incentives for R&D, usually through tax write-offs for greater than 100 per cent of R&D expenditure, New Zealand has only recently changed its tax rules to allow 100 percent of R&D expenditure to be written off in the year it was spent. Meanwhile, most R&D expenditure can be written off as current expenditure so the lack of specific R&D incentives in New Zealand has resulted in few firms identifying R&D expenditure per se, which is likely to be a significant reason for the lower level of R&D expenditure reported in New Zealand.¹⁹

¹⁷ *New Zealand Economic Growth: An Analysis of Performance and Policy* NZ Treasury April 2004

¹⁸ *Manufacturing Perspectives* Business NZ June 2005

¹⁹ *ibid.*

TABLE 6

GROSS EXPENDITURE IN R&D AS A PROPORTION OF GDP COMPARED WITH OECD BALANCE YEAR 2002	
Country	Percent
Sweden	3.98
Finland	3.44
Denmark	2.53
Norway	1.67
Australia	1.62
New Zealand	1.16
Ireland	1.12
OECD average	2.25

Source: Table 2.04 *Research & Development in New Zealand 2004 Statistics NZ September 2005*

PRODUCTIVITY ISN'T EVERYTHING, BUT IN THE LONG RUN IT IS ALMOST EVERYTHING. A COUNTRY'S ABILITY TO IMPROVE ITS STANDARD OF LIVING OVER TIME DEPENDS ALMOST ENTIRELY ON ITS ABILITY TO RAISE ITS OUTPUT PER WORKER.

PAUL KRUGMAN

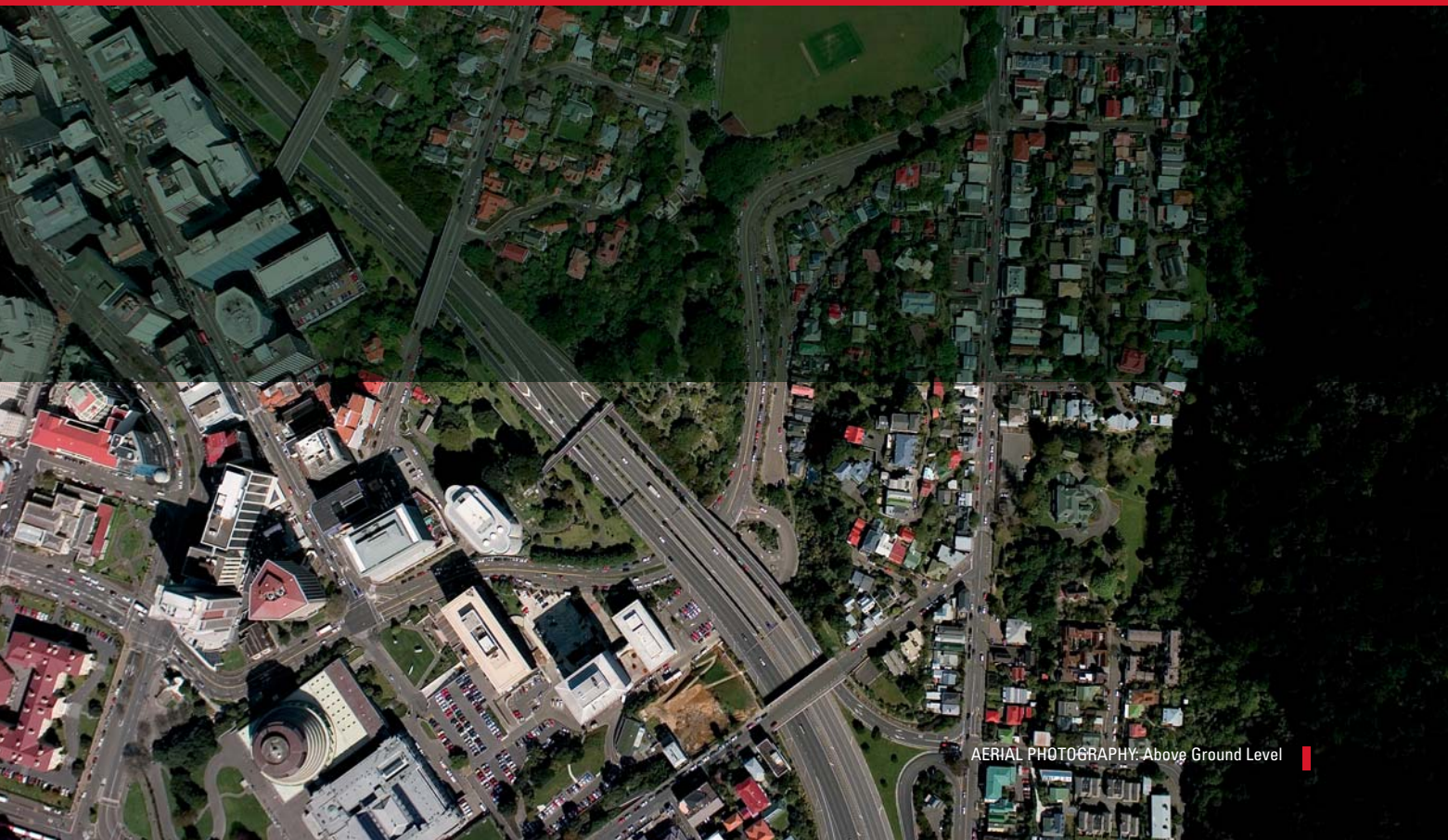
BUSINESS NZ PERSPECTIVE:

WHAT DOES NEW ZEALAND NEED TO DO?

PRODUCTIVITY GROWTH IS A DYNAMIC PROCESS,
FACILITATED BY POLICIES THAT ESTABLISH THE
UNDERLYING INSTITUTIONAL ARRANGEMENTS IN A
WAY THAT MAKES IT POSSIBLE FOR PEOPLE TO SEIZE
ECONOMIC OPPORTUNITIES AS THEY APPEAR.

*Assessed according to an "economic freedom" index (Gwartney and Lawson),
New Zealand has most critical framework conditions in place, so the task is to identify
where there might be obstacles to more rapid productivity growth among
policies affecting the capital stock available to workers, development of
human capital (skills and know-how) and innovation.*

OECD ECONOMIC SURVEYS NEW ZEALAND 2005



AERIAL PHOTOGRAPHY: Above Ground Level

The *OECD Economic Survey of New Zealand* (July 2005) is open about the need to lift productivity in New Zealand:

*The primary challenge is to raise productivity growth further, as this will become the more critical driver of growth in the future. Of course, no government can make productivity growth happen; the best it can do is to identify and remove obstacles to growth and provide an economic environment in which firms and individuals can flourish. Despite the extensive reforms already undertaken, some areas remain where further policy improvements could be made, including in the areas of product market competition, business taxation, infrastructure provision, labour markets, innovation and human capital formation.*²⁰

ACTION POINTS FOR NEW ZEALAND ARE:

(a) Competition

- It is important that support continues for the light-handed regulatory approach under the Commerce Act 1986, to allow mergers and acquisitions that are beneficial to the economy.
- Product and service markets should be open to competitive pressures wherever possible to ensure strong incentives on management to improve productivity outcomes.
- Restrictions on contracting decisions should be removed, since these prevent businesses from competing by implementing efficiency initiatives (e.g. the requirement under the Employment Relations Act for food and cleaning staff to be transferred to a new employer on existing terms and conditions if the business is sold or contracted out).

(b) Secure and transparent property rights

- There is a need for property rights to be more clearly defined over resources where there is uncertainty – water permits are a good example where ‘rights’ appear to have different meanings to users, regulators, and Courts. Clearly defined property rights are important for efficient resource allocation.
- The power of the state to take (even with appropriate compensation) should be used as a last resort, backed up with a high threshold test that the taking is necessary for an essential public good.
- Support should be given for the Bill of Rights (Private Property Rights) Amendment Bill, including its provision (clause 4) that: ‘no person is to be deprived of the use or enjoyment of that person’s property without just compensation’.

(c) Regulatory policy

- Ensure that regulatory policies do not unnecessarily increase costs for businesses or harm their ability to respond rapidly to changing market circumstances.
- Undertake regular reviews of all legislation and regulations to ensure that they are achieving the original objective and to check whether the regulation is still required. This process could be assisted by the introduction of sunset clauses (e.g. 5 years) within the legislation or regulation at the time of their introduction.
- Support moves towards the adoption of a Regulatory Responsibility Act (for regulatory policy), to complement the Reserve Bank Act (for monetary policy) and the Fiscal Responsibility Act, now part of the Public Finance Act (for fiscal policies).

²⁰ *OECD Economic Surveys New Zealand* July 2005

GETTING OUR SYSTEMS RIGHT AND THEN TRAINING OUR STAFF IN THEM HAS BEEN THE MAIN FACTOR IN GROWING OUR PRODUCTIVITY.



RON CAVE CEO TUBEPAK LTD

(d) Expenditure and tax policy

- Ensure the tax burden is lowered through tight control of government expenditure (with caps on government expenditure).
- Progressively flatten tax scales to encourage higher returns from investment and productive output by companies and individuals.
- Ensure depreciation rates reflect the economic life of assets and that rates take into account the changing economy e.g. move towards shorter life assets in ICT sector.
- Keep the broad-base, low-rate approach to taxation.
- Oppose discriminatory taxes, such as the proposed carbon tax, which unnecessarily burden particular sectors of the economy.

(e) Infrastructure

- Reduce regulatory uncertainty, including that relating to resource use, in order for market participants to be willing to invest in infrastructure.
- Move towards a market-based system for allocating natural resources e.g. tradable rights for water to encourage an efficient allocation of resources.

(f) Flexible and responsive labour markets

- Provide maximum flexibility in labour organisation subject to reasonable minimum standards.
- Relax the rules on initial trial periods and fixed term contracts to help mitigate the effects of recent increased employment protection measures.
- Introduce more flexible employment practices to better allow for part-time, seasonal or short-term contract work.

(g) Human elements – skills, education, governance and management capability

- Improve investment in human assets to ensure high skill levels in the workforce.
- Support government commitment to requiring schools to achieve minimum levels of literacy and numeracy for all school leavers.
- Ensure that both product and service markets are open to competitive pressures wherever possible to ensure strong incentives on management to improve productivity outcomes.
- Improve statistics on current management capability.

(h) Global connectedness through trade and immigration

- Continue to ensure New Zealand is open to international connections by seeking opportunities for favourable trade arrangements and increased immigration of skilled workers.
- Ensure that business develops the skills to better exploit export opportunities.

(i) Innovation

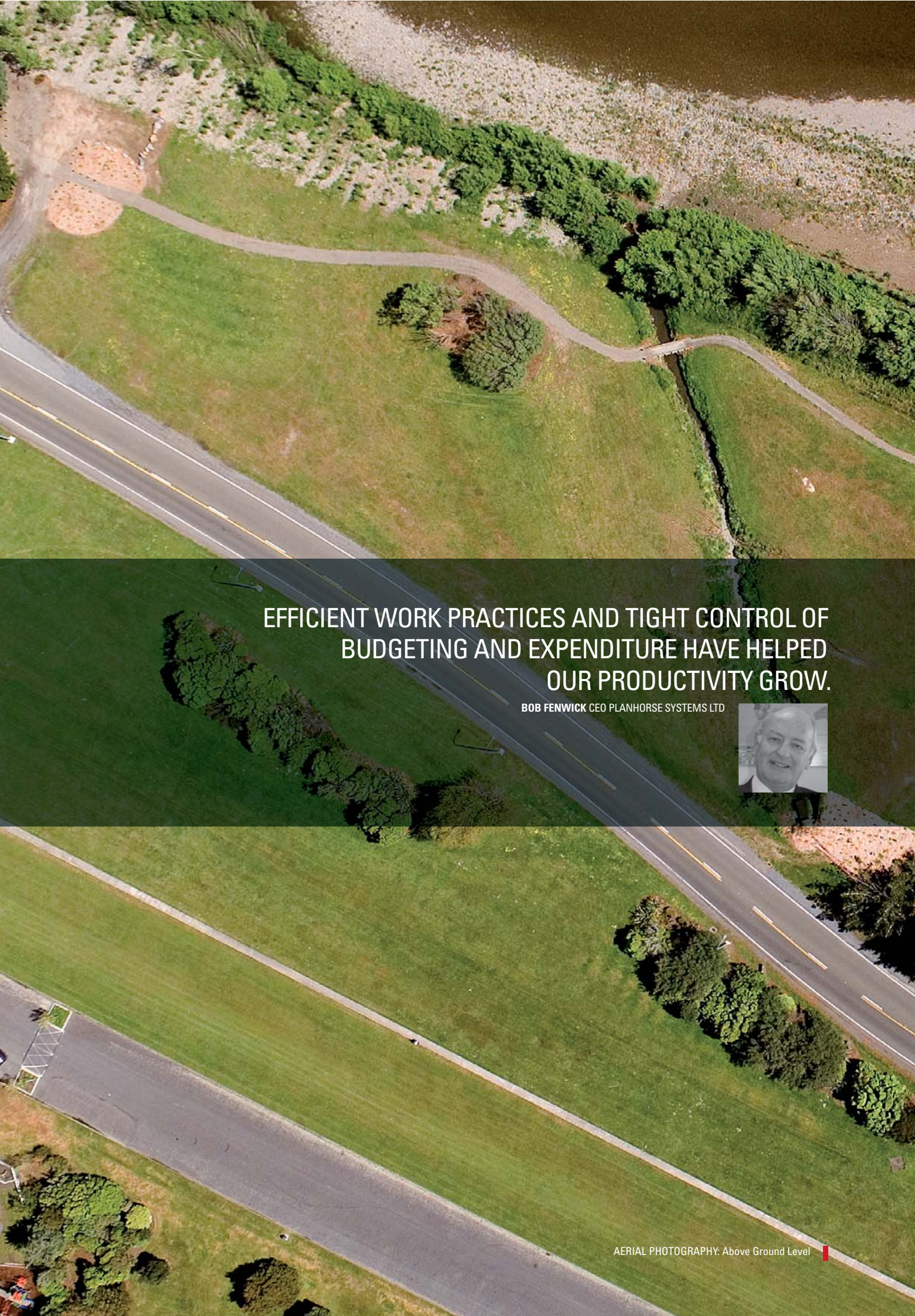
- Take appropriate measures to favour collaboration between universities and private firms.
- Improve coordination among agencies responsible for the delivery of support for innovative practice and set guidelines for the provision of grants to improve policy coherence.

(j) Research and development (R&D)

- Ensure that tax policies in respect to R&D do not unnecessarily constrain investment compared to our major trading partners.
- Better coordinate publicly funded research intended for commercial application.

Specific issues for 2006 and beyond:

- There is a need for better productivity gains in the service sector, which contributes 71% of GDP, and the industrial/manufacturing sector, which contributes 21% of GDP (primary producers have significantly increased productivity, but they make up only 8% of GDP).
- We need to avoid wage inflation by ensuring faster growth in labour productivity than wage rises.
- Business investment needs improvement. We have moved from investing \$15 to \$17 billion a year in our enterprises in the mid 1990's to \$25 billion in 2005 (expressed in 1995/96 dollars) – but this needs to be much higher.
- We need to improve low capital productivity levels; the Institute for the Study of Competition and Regulation says it takes more capital to generate \$1 of revenue for New Zealand firms than for their overseas counterparts.
- Government needs to increase its own productivity. High spending by central government – student loan interest write-offs, the 'working for families' package, a big pool of state servants – reduces government's own productivity. Similarly, spending by local government, funded by rates rising at more than double the rate of inflation over the last decade, severely reduces productivity in that sector.
- We need to improve data on productivity. *Measuring New Zealand's Productivity* by Dr Denis Lawrence and Professor Erwin Diewert (March 1999) points out problems associated with measuring productivity in New Zealand, including the inconsistencies in labour data series which can have unexpectedly large impacts on productivity results.

An aerial photograph of a landscape. A paved road with yellow lane markings runs diagonally from the bottom left towards the top right. To the left of the road is a large green field. To the right of the road is a smaller green field, a line of trees, and a river. The river has a rocky bank on the right side. The sky is not visible.

EFFICIENT WORK PRACTICES AND TIGHT CONTROL OF
BUDGETING AND EXPENDITURE HAVE HELPED
OUR PRODUCTIVITY GROW.

BOB FENWICK CEO PLANHORSE SYSTEMS LTD



Productivity Perspectives is the third in a series of *Perspectives* publications by Business NZ aimed at providing research and recommendations on current business issues.

For more information on productivity and other business issues, visit www.businessnz.org.nz



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