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This survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

Publié également en français

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This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of New Zealand were reviewed by the Committee on 9 June 2005. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 21 June 2005.

The Secretariat's draft report was prepared for the Committee by Deborah Roseveare and Annabelle Mourougane under the supervision of Peter Jarrett.

The previous Survey of New Zealand was issued in January 2004.

BASIC STATISTICS OF NEW ZEALAND

THE LAND

Area (1 000 km^2)	268.0	Urban population,[1] percentage of total (June 2004)	78.0
Percentage of total pasture and arable land, 2003	51.3	Population of major urban areas (June 2004, 1 000 persons):	
		Auckland	1 223.3
		Wellington	367.6
		Christchurch	363.8

THE PEOPLE

Resident population, December 2004 (1 000)	4 062.4	Civilian employment, 2004 (1 000)	2 017.1
Inhabitants per km^2	15.2	*of which:*	
		Agriculture, forestry and fishing	151.7
		Manufacturing	293.3
		Trade (wholesale and retail)	453.5
		Education, health and community services	341.4

PARLIAMENT AND GOVERNMENT

Present composition of Parliament:		Present Government: Labour Party	
Labour Party	51	Next general election: September 2005	
National Party	27		
New Zealand First	13		
ACT New Zealand	9		
Green Party	9		
United Future	8		
Progressive coalition	2		
Maori Party	1		

PRODUCTION (2004)

Gross Domestic Product (NZD millions)	146 237	GDP per capita (NZD)	36 007

FOREIGN TRADE (2004)

Main exports (percentage of total):		Main imports (percentage of total):	
Dairy produce	17.9	Machinery and transport equipment	42.5
Meet and edible offal	14.9	Manufactures	18.0
Forest, wood and paper products	11.5	Mineral, chemicals, plastic materials	25.3
Machinery and equipment	7.4	*of which:*	
		Mineral fuels, lubricants, etc.	10.3

THE CURRENCY

Monetary unit: New Zealand dollar	13.7603	Currency unit per US dollar, average of daily figures:	
		Year 2004	1.5090
		May 2005	1.3914

1. Defined as the population in the 30 main and secondary urban areas.

Executive summary

The economy has continued on its strong upward course and living standards – measured as real GDP per person – have risen steadily over the past decade, putting the country on track towards the government's objective of returning to the top half of the OECD. But capacity has become increasingly strained, and monetary policy has been tightened to ensure inflation remains well anchored. The country's prospects are bright, with potential growth projected to remain comfortably above 3% per year over the medium term.

Against this favourable backdrop, the key policy challenges are: first, *to raise productivity growth, which remains relatively weak by OECD standards;* second, *to lift participation rates in the pockets where they are still relatively low; and,* third, *to enhance the management of public finances.*

Competitive pressures in some sectors could be strengthened to spur productivity gains

Most product markets are working well, with healthy competition providing firms with the incentives to become more efficient and to innovate. One exception is the electricity sector, where regulatory uncertainties, 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.

Some tax and regulatory changes would improve the efficiency of capital

Tax distortions in investment decisions need to be minimised and especially avoid discouraging investment in short-lived assets, including ICT. Changes introduced in Budget 2005 should go a long way to addressing this. Congestion charging could help reduce road transport bottlenecks and help to signal where additional road infrastructure is needed.

Labour market flexibility should be preserved

Last year's legislative changes further reduce the flexibility of labour markets, and the government should monitor developments closely and be prepared to take corrective action if necessary. Relaxing the rules on initial trial periods and fixed term contracts would help to mitigate the effects of increased employment protection.

Education services require a sharper focus on results

Although a better educated workforce facilitates productivity growth, some of the recent rise in participation has come in courses of low quality or subjects that have only remote career relevance. The government's recent efforts to reorient public funds towards high quality, job-relevant programmes need to succeed. Providing free early childhood education for 20 hours per week to all three and four year-olds would be easier to deliver if private for-profit providers were allowed to participate.

Labour utilisation could be boosted

Many mothers face financial or practical obstacles if they wish to work. Easier access to affordable care would help, as would reducing the disincentive effects for some families in the Working for Families *package, in ways that take careful account of fiscal costs. Sole parents and other welfare beneficiaries would benefit from more intensive case management and effective activation strategies, including clear sanctions for non-compliance.*

Management of public finances could be enhanced

Despite the solid framework for public finances, upward spending pressures suggest no room for complacency, and any further tax or spending initiatives should be financed through more systematic reprioritisation of existing programmes. Efforts should be redoubled to ensure that public-sector outputs deliver, and can be seen to deliver, the government's desired outcomes without any waste of resources.

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Assessment and recommendations

Economic performance continues to impress…

The New Zealand economy has continued to expand at a vigorous clip, with last year's growth of just under 4½ per cent bringing the annual average rate of growth since the recession of the early nineties to 3¾ per cent. More importantly, increases in real GDP per person have outpaced the OECD 10-year moving average since 2000, putting the country on track towards achieving the government's longer-term objective of lifting GDP per person back into the top half of the OECD, a position it has not held since the early 1980s. This is a deserved reward for the wide-reaching macroeconomic and structural reforms put in place over the past 20 years. Much of the increased output has been generated by more hours of paid work: trend labour productivity growth has also improved since the mid-1990s, but it remains around ½ percentage point per year lower than the OECD median. Last year the country achieved a general government surplus of more than 4% of GDP, one of the largest among OECD countries and government net debt has fallen from over 50% of GDP in 1992 to around 7½ per cent now.

… and although a period of slower growth is widely expected, medium-term prospects remain bright

With very strong employment growth and earlier slack now used up, the economy is running at full capacity, with the unemployment rate under 4%, skilled and unskilled labour harder to find, and wage and price increases having picked up. The Reserve Bank has raised official short-term interest rates by 1¾ percentage points since the beginning of 2004, and financial conditions have tightened, while long-term rates have moved up only little, reflecting global developments and the Bank's credibility. The exchange rate has appreciated a further 6½ per cent since the start of last year. Overall, the pace of activity is expected to cool during the course of the year, bringing the economy onto a more sustainable growth path. Medium-term prospects remain bright – growth in line with estimated potential for the rest of the decade would be between 3¼ and 3½ per cent per year. If realised, New Zealand would be on its way to achieving the government's aforementioned goal.

The main challenge is to realise even faster increases in living standards

The task now is to build effectively on this strong base of economic success and take it forward in order to further accelerate gains in living standards for all New Zealanders. This presents policymakers with three broad challenges:

- *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.
- *The second challenge is to boost participation among groups that remain under-represented in the labour market*. There are two groups that warrant particular attention. One is non-beneficiary mothers who would like to work but face financial or practical obstacles to doing so. The other is working-age beneficiaries of whom there are almost 300 000 (including sole parents), some of whom face limited pressure and receive minimal help to move from benefit dependency into work, despite increased emphasis on work activation measures over the past five years.
- *The third challenge is to continue managing public finances prudently and effectively* and maintain the gains from the fiscal consolidation achieved over the past decade. Fiscal caution is warranted, given ageing and other future expenditure pressures, while public spending needs to be more effectively channelled into the highest priority areas so as to deliver the best "value for money".

Product market competition is contributing to productivity growth, but more could be done in some areas

Overall, product markets work well, especially given the constraints faced by a small and geographically isolated nation. Indeed, the country was a leader in deregulating a range of sectors that were previously shielded from competition and has in place well designed laws and institutions that provide a solid framework to underpin competition and promote efficiency. Minimising barriers to entry has been especially important for promoting competition by constraining potentially anti-competitive behaviour. At the same time, it makes sense to assess the merits of allowing firms exposed to international competition to become more productive through consolidation, as the Commerce Commission does by applying a total-surplus standard in assessing mergers and acquisitions. This formula also gives recognition to dynamic efficiency gains. The Commission's recently announced leniency and co-operation tools and its new "cease and desist" powers are welcome and should now be applied vigorously to combat cartels and monopolies. More generally, the Commission's work would be even more effective if it were empowered to exchange information and co-operate in enforcement matters with overseas authorities. The Government's recent initiatives to

strengthen the Commission's ability to provide investigative assistance and share information with overseas competition regulators will help.

Remaining regulatory uncertainties affecting the electricity sector need to be resolved to allow investments to move forward

The main sector where competition is not working satisfactorily is electricity, which has been through a series of droughts and regulatory changes in recent years. Significant new generation capacity will be needed to ensure that supply keeps up with expected future demand and to replace production that currently depends on soon-to-be-exhausted Maui gas. But regulatory and other uncertainties have stymied some new investment plans by making it difficult to determine the most cost-effective alternatives among various possible projects that would use a range of different energy sources, including coal, wind, hydro or liquefied natural gas. The recent announcement of the level of the carbon tax has removed one source of short-term uncertainty, but others still need to be addressed before investors will be willing to get some projects off the ground. In 2003, the government shifted away from a light-handed regulatory approach and established the Electricity Commission to oversee the electricity market. The Commission is also charged with laying out a decision-making process and pricing methodology for upgrading the transmission grid, providing for security of supply, improving demand-side participation in the wholesale market and ensuring consumer protection. As quickly as possible it needs to specify clearly how it will deal with these issues. For its part, the government needs to make sure that planned changes in the Resource Management Act effectively reduce the risk of long delays in project approval without curtailing proper consideration of the environmental dimensions involved. It also needs to expedite the current broad review of water rights and ensure an effective mechanism is in place for allocating water among all its competing uses.

Energy market regulation requires further scrutiny

Transmission of energy – electricity or gas – involves natural monopolies. In 1998, to promote competition in electricity retailing, the local electricity distribution companies were obliged to divest their retail activities. But most were sold to generators, resulting in vertical integration and making it difficult for new retailers to enter the market and/or for an effective market in forward contracts to develop. Further investigation into the impact of vertically integrated suppliers on competition is warranted, and the costs and benefits of splitting them up need to be carefully assessed against other alternatives. For the natural gas network, transmission costs would be minimised if restrictions on access to pipelines were lifted and rules established to foster the development of a wholesale market amongst gas suppliers. In addition, a surveillance price-threshold approach similar to that used for the electricity network would be less distorting and provide producers with greater flexibility than the direct price-control approach recommended by the Commerce Commission, while providing safeguards against any abuse of monopoly power.

Most other sectors are working well, but a few merit adjustment

Elsewhere, competition is thriving in many sectors, including retail trade, banking, broadcasting and passenger and freight transportation services. But some improvements could be made in others. Prices are high in some *telecommunications* market segments, including mobile telephony. This suggests that regulation of mobile call termination charges is needed, but it will be important to minimise uncertainties and distortions such regulation could potentially generate. Prices for broadband Internet access have been falling relative to dial-up access, contributing to an increase in broadband penetration. But it remains low by OECD standards. The authorities should closely monitor price developments and investigate whether any regulatory impediments exist that require corrective action. In addition, given the trend toward more government involvement in market activities since the beginning of the decade, resuming *privatisation*, especially in potentially competitive sectors, would be likely to yield important improvements in static and dynamic efficiency. In contrast, there is vibrant competition among *agricultural producers*, who receive virtually no government support, in contrast with their rivals in most other OECD countries: their capacity to compete successfully on world markets and contribute to overall productivity growth in the economy would be significantly enhanced by the successful completion of the Doha round.

Recent moves to address tax distortions affecting investment and financing should improve incentives to deepen capital

Although the country has seen a surge in capital formation as labour has become scarcer and the user cost of capital has fallen, tax rules have distorted investment decisions and affected the flow of financing towards firms in ways that can lead to a lower overall capital stock and a sub-optimal mix of fixed assets. The 2005 Budget addressed two important problem areas. The *first* arose because capital gains on equity are generally untaxed, except for those earned by actively managed unit trusts. This reduced the flow of funds channelled through such instruments, which are often the most suitable source of funds for business expansion. The changes announced in the Budget should lead to better matching between savers' preferences for risk and businesses' financing needs. The *second* concerned the gap between depreciation allowances for tax purposes and economic depreciation rates: the formula that has been used amortised short-lived assets (such as ICT) too slowly and long-lived assets (such as buildings and structures) too rapidly. Budget changes to depreciation rates to more closely mirror true economic depreciation should lead both to a more efficient investment mix for firms and a more rapid diffusion through the economy of technological progress embodied in high-tech capital. A *third* issue concerns the tax treatment of some foreign equity investors. A large share of the country's investment is directly or indirectly financed from offshore, enabling companies to access funds at a lower cost than otherwise, but these flows may be inhibited by the current tax rules. This has led some observers to call for lower corporate tax rates, but given the imputation system, this would introduce other biases between dividend payouts and retained income. It would be better to tackle the problem *via* a more direct method applied only to foreign investors, but further work is needed to find an appropriate solution.

Congestion charging could help reduce road transport bottlenecks

Investment in upgrading the country's road network has been a topic of extensive and drawn-out debate, especially given congestion in the Auckland and, to a lesser extent, Wellington regions. A cautious approach is warranted because increased infrastructure does not automatically result in increased productivity. If the current mix of charges and taxes were more closely aligned with actual road use and included a congestion charge, it would provide some assurance that additional investments in roads were economically justified. Thus, a more rational set of road pricing arrangements should be established as soon as possible. The Land Transport Management Act (2003) formalises the framework for road infrastructure investment, allowing for public-private partnerships and tolls on new roads. The overall thrust of this legislation – to introduce market-type mechanisms and draw on private-sector expertise – is welcome. But the rules may be unnecessarily strict to allow this to happen in practice. Relaxing these rules should encourage a greater variety of funding and pricing arrangements over time.

Labour markets need to remain flexible to enable firms to adjust quickly to changing economic circumstances

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 reduce labour market flexibility and 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. For example, the recent judicial ruling obliging Auckland University to give further consideration to multi-employer collective bargaining sets a precedent that may strengthen the scope for unions to press for such agreements. Furthermore, the full implications for job mobility may not become apparent until the economy has faced an economic shock requiring significant adjustment. In the meantime, the situation should be closely monitored, with the government ready to take corrective action if it looks like the legislation is starting to significantly undermine its broader growth objectives. In any case, 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.

Innovation policies could be streamlined and made more coherent

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 expenditures are well below the OECD average. Within the tax system, the depreciation allowances for capital equipment and economic depreciation in

general also apply to fixed assets used for R&D, and the gap that existed for short-lived assets may have discouraged such activity at the margin. The more neutral approach announced in the Budget is welcome. The government has chosen to deliver public support for private innovation through a wide range of grants and subsidies: these could be streamlined, better co-ordinated and carefully evaluated to improve policy coherence and minimise the risk of "programme clutter". Innovation policies would also benefit from closer integration with education, immigration and labour market policies to improve the private sector's capacity to absorb new knowledge. At the same time, closer collaboration between universities and private firms could expedite the diffusion and commercial application of publicly funded R&D and complement the already stronger commercial focus of the Crown Research Institutes.

Education services could be refocused to build the country's human capital more effectively

Human capital plays an important role in productivity growth, not only because of specific skills but also because a well educated workforce is more adaptable and can more quickly integrate new equipment and processes. However, the very rapid expansion of post-secondary education – NZ resident enrolments were almost 35% higher last year than in 1999 – reflects a proliferation of courses that are of low quality and/or in subjects that have only remote career relevance. The government now has a set of instruments in place designed to channel public funds towards priority areas and has recently signalled its wish to see funding withdrawn from courses that offer a negligible contribution to work-related capabilities. It remains to be seen whether these changes can deliver the necessary redirection the sector needs, but if they fail a more radical restructuring of incentives for providers and students will need to be considered.

Funding for Early childhood education and care should ensure that scarce teaching resources go to where they provide greatest benefit

For children under five years, policies involve an integrated approach to early childhood education and care (ECEC), with a primary focus on educational outcomes. To support this, the government has specified that by 2012 all ECEC staff will require a recognised teacher qualification; funding is greater for centres that have a higher proportion of such staff. If teacher shortages were to emerge, there is a risk of more affluent children receiving better services, while some more disadvantaged pre-schoolers receive an inferior service or none at all. The government needs to be alert to this risk. It has also made a decision to finance 20 hours per week free access to early childhood education for all three and four year-olds by 2007, which represents important progress towards giving all children a more robust pedagogical start in life. But it is not an entitlement, and parents will have to find a place with a community-based provider in order to take advantage of the 100% subsidy. Ensuring sufficient places are available would be significantly easier if that funding were extended to private for-profit providers. At the same time a better use of scarce teaching resources might be achieved if per-child funding rates were redesigned to encourage centres to provide concentrated teacher-led sessions for these 20 hours, organised separately from other care provided on the same site. This would provide a more intensive pre-school

experience for older children, while allowing centres to offer high-quality, but more flexible and less expensive, care arrangements for any supplementary hours and for younger children. Making a clearer distinction between meeting educational objectives and subsidising childcare for working parents would represent a major change in policy approach in New Zealand.

To raise labour utilisation, work incentives need to be strengthened

Higher labour utilisation can also make a contribution to boosting living standards. Although on average, NZ workers put in relatively high annual hours, some people face particular barriers in participating in the workforce. Others work part-time but would prefer to increase their hours. There are two key groups on which attention should be focussed. One group is non-beneficiary families where both parents would like to work, but one may be discouraged from doing so. This could be because they cannot find good quality and affordable childcare for under-fives and out-of-school care, and they may also be affected by the withdrawal of family assistance. The other group is those working-age people on benefits for whom expectations about work capacity may be unnecessarily low. These could be strengthened by more effective assistance to make the transition into work.

Improving access to childcare could raise participation…

Finding suitable and affordable childcare is sometimes difficult, despite the subsidies the government already pays to ECEC providers and the planned free hours for three and four year-olds. Removing obstacles to increased supply of places and more help with childcare costs would facilitate family members, particularly women, working the hours that they prefer. This could strengthen their participation and allow them to maintain and add to their human capital, enhancing economy-wide productivity growth. The design of policies in this area would need to take careful account of the fiscal costs involved.

… but the Working for Families package embodies conflicting work incentives

The government's 2004 *Working for Families* package significantly increases income transfers to low- and middle-income families over the next two years. The new in-work payment provides an additional incentive to enter work. Alongside this, changes will be made to the abatement regime to allow families to earn more market income before their family assistance payments are cut back. These changes should improve the incentives for some of those on welfare to move towards work and for some in work but on low incomes to increase their hours of work. But the package also extends the income range over which the range of assistance will be withdrawn, which raises the number of families where working additional hours becomes less attractive financially because of very high effective marginal tax rates. This may especially affect potential second earners, who are predominantly women, exacerbating economic gender gaps. Alternative ways of supporting families without such damaging effects on incentives to work could do more to raise living standards and should

be investigated further. Shifting the balance of funding towards more generalised assistance with childcare costs for working parents would be one option.

Reforms to help people move from benefit dependency back into work are welcome

The government has agreed in principle to replace the range of income support benefits (unemployment, domestic purposes, sickness, invalid, etc.) with a new single core benefit from 2007. This would apply one set of criteria to all working-age beneficiaries and include more emphasis on individualised and effective back-to-work strategies for clients. It would be complemented by a new service delivery model, which would deliver employment assistance to clients based on their individual circumstances in terms of their work readiness rather than their benefit category. For example, those currently drawing sickness or invalid benefits would be able to more readily access employment services that have to date been largely offered only to unemployment beneficiaries, and to receive more practical assistance and rehabilitation to assist with their return to employment. These changes would also provide an important opportunity to strengthen work-availability requirements, especially for sole parents receiving the domestic purposes benefit even though their children attend school. This would give practical reinforcement to the government's message that having their parents engaged in paid work is important for children's longer-term well-being, not least by reducing child poverty. However, for the new approach to be successful, the benefit administration may need a significant upgrade of its case-management capacity and must clearly apply the "mutual obligations" principle whereby all types of beneficiaries will face effective sanctions for non-compliance. Those activation measures already being used in New Zealand show that beneficiaries respond positively to mutual obligations and sanctions, indicating their potential for wider application.

Care should be taken to avoid weakening the long-term fiscal position

The country has turned in a strong fiscal performance in recent years, although decisions taken in the 2004 and 2005 budgets significantly scale back the central government's overall surplus over coming years. Looking ahead, the government's forecasts show outlays rising by around 2 percentage points of GDP over the coming five years, even with a much smaller allowance for new spending initiatives in the future than in the previous two Budgets. Further out, the country will not be immune to the spending pressures of an ageing population and difficulties in constraining increases in health care coverage and costs. Against this backdrop, it would be regrettable if spending or tax initiatives were implemented that significantly weakened the long-term fiscal outlook. The change embodied in the Public Finance Amendment Act passed last December to require a more systematic and transparent assessment of the medium- and long-term fiscal position will be helpful in bringing a longer-term perspective to current decision-making and highlighting policy trade-offs.

More effective prioritisation of public outlays will be needed

Strong economic growth and buoyant tax revenues have made it possible for the government to channel an increasing share of spending to the education and health sectors as well as to introduce new initiatives such as the *Working for Families* package. In the environment of large surpluses there has been relatively little evidence of counter-balancing these increases by pruning back lower-priority spending. In order to leave sufficient room for new policy initiatives and to meet its fiscal objectives, the government is likely to require more reprioritisation in the future. A well designed ongoing review process could identify those programmes that do not contribute enough to offset the deadweight losses associated with the taxes required to fund them. This could free resources for higher value uses. The "managing for outcomes" approach, designed to link government outlays and desired results, has now been enshrined in legislation, but it remains very ambitious and will require skill and commitment to implement successfully. At the same time, care needs to be taken to ensure that this stronger emphasis on outcomes does not compromise control of, and accountability for, outputs.

Boosting public-sector productivity growth requires better information and clearer incentives on managers

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. In education, a national testing system for children at the beginning and end of each year to provide an estimate of the value added of the year's schooling could be considered against the alternative of getting more system-wide information out of existing assessment instruments. In health, the technical challenges of measurement are complex but not insurmountable, especially given parallel initiatives in other OECD countries and the start that has already been made to upgrade data collection across the sector.

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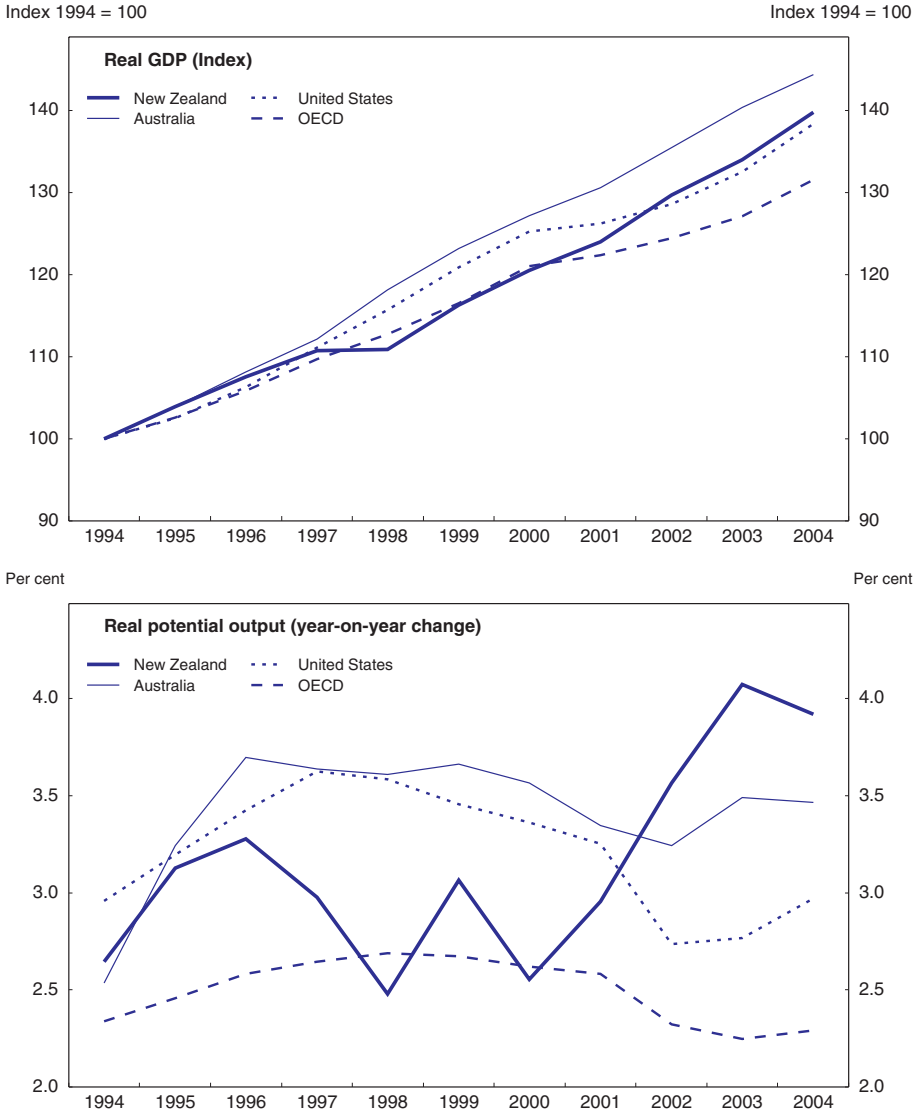
Chapter 1

Key challenges: consolidating economic success

This chapter discusses the major challenges facing New Zealand's economy against the backdrop of several years of economic success. While the country is now reaping the benefits of earlier reforms and real GDP growth has been very strong, it cannot afford to rest on its laurels if it wishes to catch up to the living standards of the top half of the OECD. The first challenge is to realise more rapid productivity growth, which provides the basis for real income gains. The second challenge is to improve labour utilisation among under-represented groups, not only to lift GDP per person but also to reduce the invidious social effects of benefit dependency. The third challenge is to manage public finances to focus spending on policies and programmes that yield the highest possible social return and contribute most to raising living standards over time.

New Zealand's economy has been expanding at a rapid pace over the past decade, with real GDP now 40% larger than it was 10 years ago, despite the sharp slowdown in 1998 associated with the Asian crisis and consecutive droughts. This growth performance put the country amongst the best in the OECD over this period and slightly ahead of the United States, although behind Australia (Figure 1.1). Actual growth rates

Figure 1.1. **Economic performance in an international perspective**



Source: OECD Economic Outlook 77 database.

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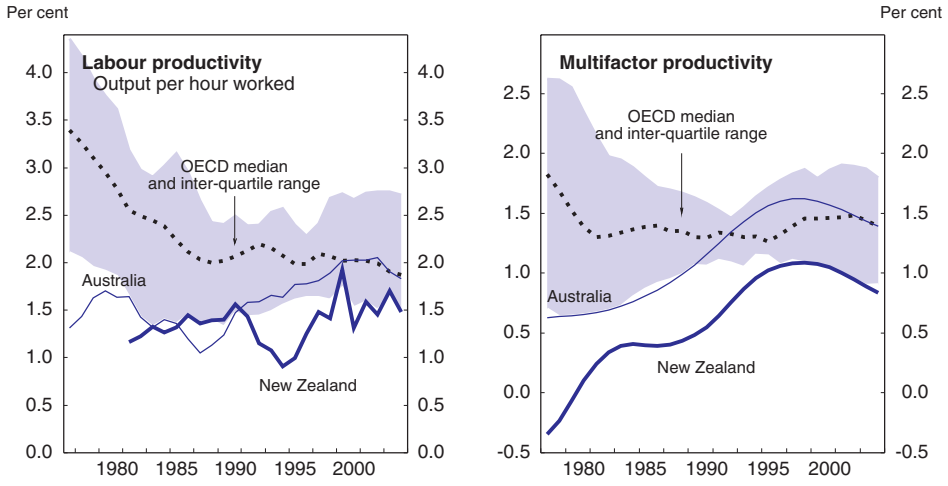
Figure 1.2. **Trend productivity growth**
Annual per cent change, cyclically adjusted



Source: OECD calculations.

depend on where economies are in their economic cycles, but New Zealand has also seen a sharp pick-up in its estimated potential growth rate in the past few years. This reflects several factors: a strong increase in population mainly driven by net migration inflows; on-going increases in trend participation rates; decreases in the estimated structural unemployment rate; and a pick-up in growth of the business capital stock. Trend labour productivity has also accelerated since the mid-1990s but it still remains relatively low by OECD standards (Figure 1.2). Trend multi-factor productivity growth has also risen but lingers well behind the OECD average.

This improved performance can be attributed to the range of macroeconomic and structural policy reforms undertaken over the past 20 years (see previous *Surveys*). These have combined to provide a sound macroeconomic framework, with low inflation and solid public finances, along with a broadly favourable environment for business, and a flexible and responsive labour market. Furthermore, there appears to be a high degree of consensus supporting the broad thrust of present policy settings.

The government's goal is to return New Zealand to among the top half of OECD countries for real GDP per person, where it has not been since the 1970s apart from briefly in the early 1980s. Although GDP per person is typically used as an indicator of average living standards, it ignores some important factors that contribute to well-being, including the value of leisure time, the state of the environment and social dimensions of the quality of life (see Box 1.1). Nevertheless, it provides a useful indicator of economic development and a framework for identifying the factors that can contribute to higher living standards overall and provide the resources to address the country's other objectives, such as improving equality of opportunities.

The long-run decline in New Zealand's GDP per person relative to the OECD average is now starting to reverse (Figure 1.3). There are two ways of closing the gap. The *first*, and the one where the biggest gains are possible, is through lifting productivity growth and is the sustained, long-term route to higher living standards. The *second* is to raise labour

Box 1.1. **Measures of economic and social progress**

GDP per capita is the most widely used proxy for measuring progress in living standards in the international context for three main reasons. *First*, what a country produces plays a major role in determining its living standards. *Second*, it is generally assumed that the various elements that are not taken into account in GDP are not likely to change rapidly, so that changes through time provide a reasonable indication of progress in living standards. *Third*, the data are readily available for all OECD countries and compiled according to well established international standards, making cross-country comparisons easy to draw.

However, the shortcomings of this measure are also becoming more widely understood. The first issue is whether it is more relevant to use what a country produces – real GDP – or what volume of goods and services it could purchase given its earnings – real gross national disposable income (GNDI). The latter adjusts real GDP for changes in the terms of trade and real gains from net investment and transfer income with the rest of the world. For New Zealand, real GDP has been consistently higher than real GNDI, but the gap is closing: real GNDI per person grew by around 29% in the decade to March 2004, while real GDP per person expanded by only 24%.

However, the national accounts measures do not cover the use of time that is not spent in paid work, an omission that affects their use as international comparisons of living standards in two particular ways.

- National accounts ignore the value of unpaid work, whether provided within the family or through voluntary work involving other social channels. This is significant because on average New Zealanders aged 15 years and older are estimated to spend more time doing unpaid work than they do in paid employment (Statistics New Zealand, 2001). Because such services do not involve paid employment, it is extremely difficult to determine an equivalent monetary value for this economic activity, although the internationally recognised 1993 System of National Accounts at least recognises the omission in proposing the development of household satellite accounts.
- National accounts place no value on leisure time. It is well established that leisure time becomes more highly valued as incomes rise, although different countries and cultures value leisure time differently. For example, Europeans have generally preferred to take a significant share of productivity gains as increased leisure whereas in the United States, broadly similar productivity gains have translated into higher market incomes (Blanchard, 2004). This difference explains a significant proportion of the gap in per capita real GDP levels, but it would be difficult to argue that it translates into a corresponding gap in living standards.

National accounts measures also ignore an important element of living standards, namely improvement or deterioration in the environment. Significant progress has been made in developing environmental indicators, but these are not (yet) compiled in a systematic way that allows for their integration into a measure of living standards (OECD, 2004a). However, work is underway within the OECD to further develop methods for environmental accounting in the context of the System of National Accounts.

National accounts also ignore social dimensions of living standards, such as income distribution, the quality of social safety nets, health, personal security and social inclusion that are important to countries, even though what constitutes an improvement may involve a degree of subjective judgment. This has led several countries to produce a range of indicators designed to shed light on both economic and social developments (for example, Australian Bureau of Statistics, 2004; Tsoukalas and Mackenzie, 2003;

Box 1.1. **Measures of economic and social progress** *(cont.)*

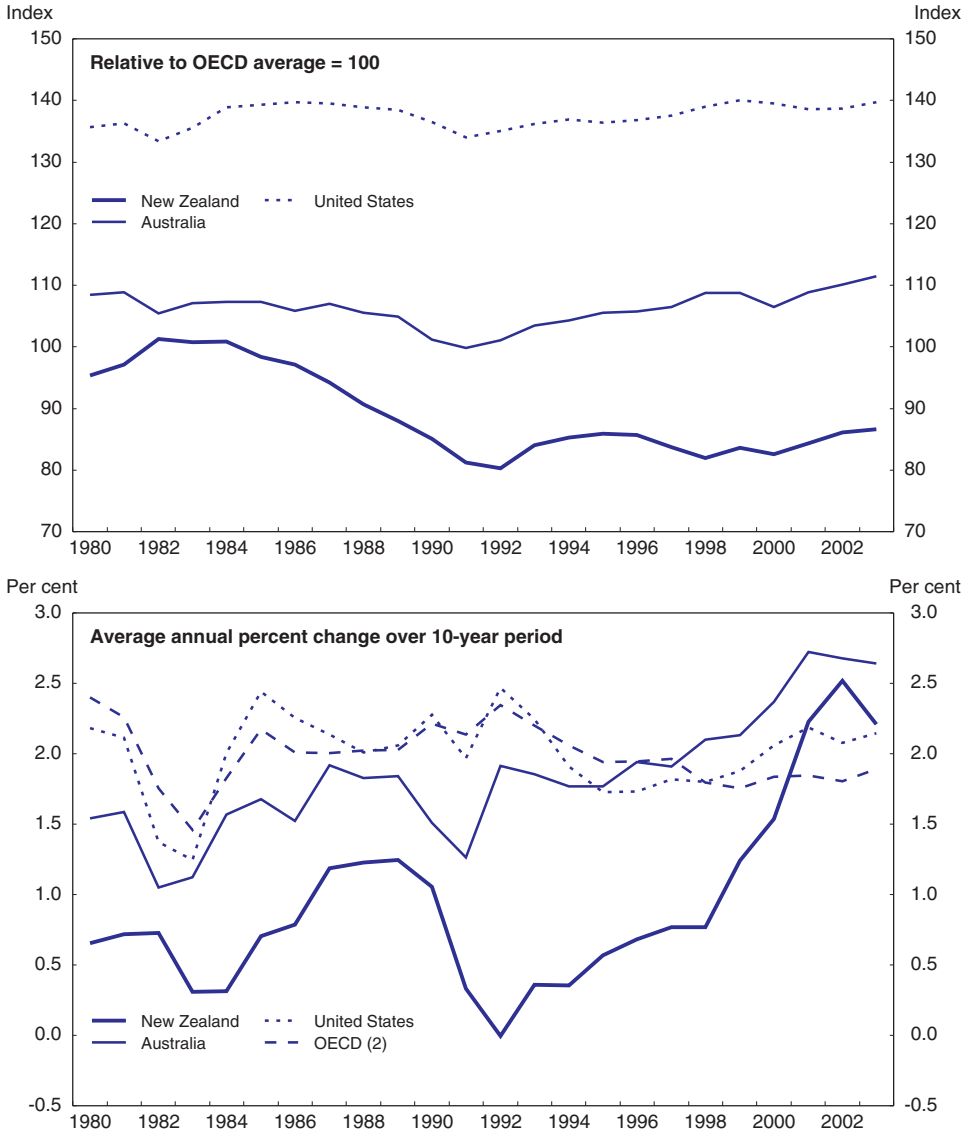
UK Department for Environment, Food and Rural Affairs, 2004). The New Zealand Ministry of Social Development has produced "The Social Report" annually since 2001, which presents indicators of the economic and social health and well-being of New Zealand society. This provides useful information for monitoring trends over time and provides some help in making comparisons with other countries.

While these indicators of well-being or social progress can be very valuable in providing a broader framework for identifying priorities for policy within a comprehensive framework that takes account of potential trade-offs, two *caveats* should be borne in mind. *First*, while it may be tempting to combine an array of such indicators into some single number, perhaps to facilitate an international "beauty contest", such an approach is almost certainly counter-productive because well-being itself is multi-dimensional. *Second*, while public policies clearly contribute to social outcomes, the relationship is sometimes complex and quite uncertain, with potentially long lags. This means that short-term movements in these indicators are of limited value as a measure of government performance and could be quite misleading if interpreted in that way.

utilisation which can provide a one-off upward shift in GDP per person. Either way, catching up will take considerable time. If New Zealand's GDP per person were to grow consistently ½ percentage point faster than the OECD average from today onwards, it would take about 25 years to catch up to the OECD average and if the country grew a full percentage point faster it would still take 14 years. Of course, relative rankings depend not only on NZ's performance but also that of other countries: a better ranking resulting from an economic disaster striking those countries more highly placed would not make living standards any higher in New Zealand. It would also be a mistake to overrate the importance of ranking as many countries are bunched close together, but it is sufficient to say that New Zealand is not currently part of the group of high middle income countries (Figure 1.4). With these important *caveats* borne in mind, the government's target provides a useful framework for benchmarking its policies according to their contribution to raising GDP per person, whether by increasing productivity growth or raising labour utilisation.

Although New Zealand has clearly enjoyed the benefits of stronger economic performance, poverty is also a concern for policymakers. There has been an international trend towards widening national income distributions (OECD, 2005); while relative poverty rates[1] have increased since the mid-1980s, they were only at the OECD average of around 10% in 2000, while the poverty gap has fallen over the same period. When the two measures are combined together into a composite measure of poverty, New Zealand has significantly less poverty than the OECD average. These results are broadly in line with results from New Zealand's Economic Living Standards Index, whose lower score range gives a measure of the extent to which households feel they are missing out on basic necessities and to which they are able to enjoy comforts and luxuries.[2] Relative poverty is more likely to be more concentrated in families with children in New Zealand than it is for the OECD on average. The concentration is greater for single-parent or two-parent households where no-one is working than it is for those where at least one adult is in the workforce (Figure 1.5). New Zealand now has a slightly higher share than the OECD average of people living in households headed by a person of working age but where no adult is working. Shifts in the

Figure 1.3. **Real GDP per person**[1]
At 2000 Purchasing Power Parities



1. GDP per capita has been calculated in US$ at constant prices and constant PPPs.
2. 26 countries.

Source: OECD National Accounts database.

distribution of different household types explain a significant part of the increase in New Zealand's poverty rates since the mid-1980s (Förster and Mira d'Ercole, 2005).

The current macroeconomic situation

The economy has been in a long period of cyclical upswing and has seen not only remarkably buoyant activity but also a significant reduction in the unemployment rate, which is one of the lowest in the OECD at less than 4%. Even though potential output

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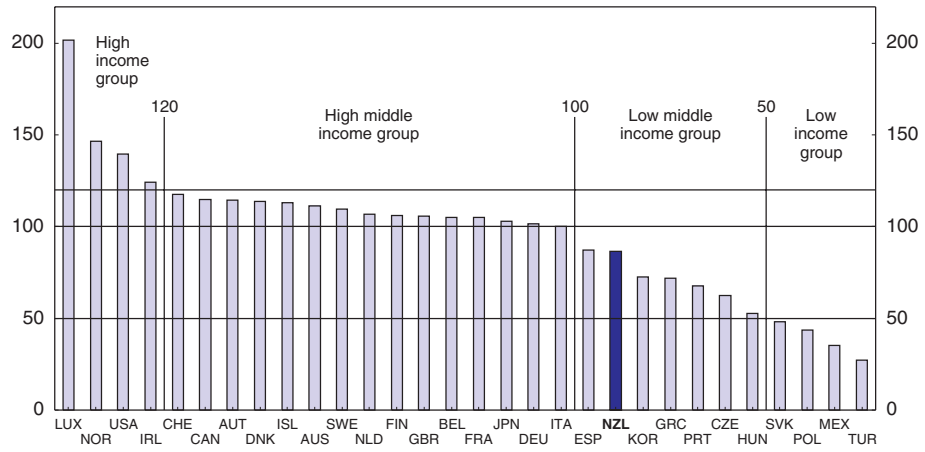
Figure 1.4. **Relative positions for real GDP per person**
Constant 2000 PPPs, OECD = 100, 2003



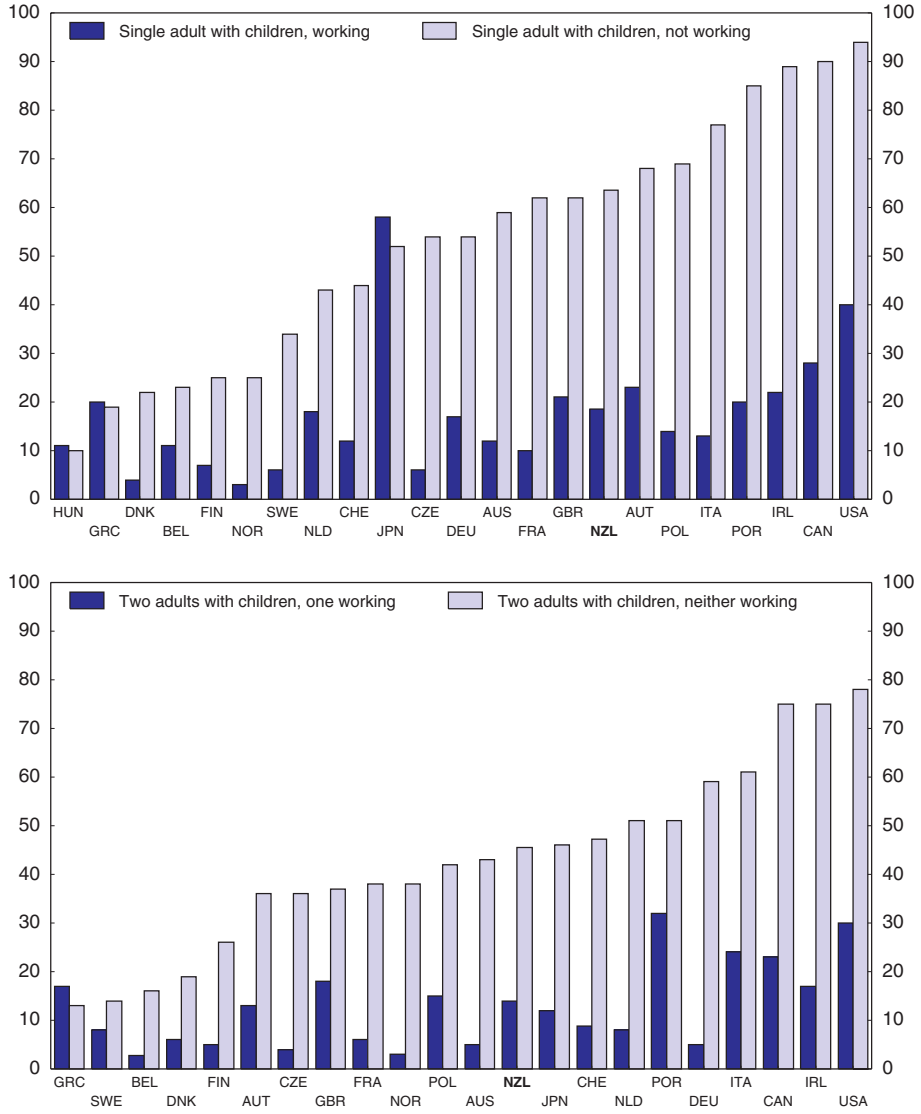
Source: OECD National Accounts database.

growth rates have also jumped, the main macroeconomic concern is that the economy has now been running above potential for several years with signs of stretched resources mounting for some time. A slow-down in the pace of expansion in domestic demand has been forecast for a couple of years, but only now does it appear to be happening. Several factors have been propping up demand over the recent past, offsetting some negative forces (Figure 1.6):

- The terms of trade have continued to rise as commodity prices have boomed. This has provided a large boost in incomes for some exporters that has progressively flowed through the economy and helped offset the impact of the rising New Zealand dollar on exports more generally.
- House prices have soared, in part because of strong net migration flows pushing up demand. This has enabled households to finance additional consumption through net wealth effects, even though interest rates have been on a steady upward path since the end of 2001.[3] Strong housing demand has also stimulated a burst of construction activity.
- Business investment has surged, as capacity utilisation has reached record levels and companies have found it increasingly difficult to find skilled or unskilled labour. The strong exchange rate has also reduced the cost of imported machinery, equipment and software.
- General government consumption has undergone a rapid expansion, even after the contribution from purchases of military equipment is set aside.

Domestic inflationary pressures have until recently been largely offset by the strong appreciation in the NZ dollar, but annual CPI inflation is now sitting at just under 3%, up from 1½ per cent in March 2004 (Figure 1.7). Wage increases have also been rising, with the unadjusted labour cost index across all sectors[4] at a cyclical high of almost 5%. The Reserve Bank has raised the official cash rate by 1¾ percentage points since the beginning of 2004 in order to keep inflation in the 1 to 3% target range on average over the medium term. At this point, sufficient tightening appears to have taken place, although the situation will require close monitoring, with the bank itself judging the economy to be close to a turning

Figure 1.5. **Poverty rates among different household types**
After taxes and transfers, 2000 or latest available year[1]



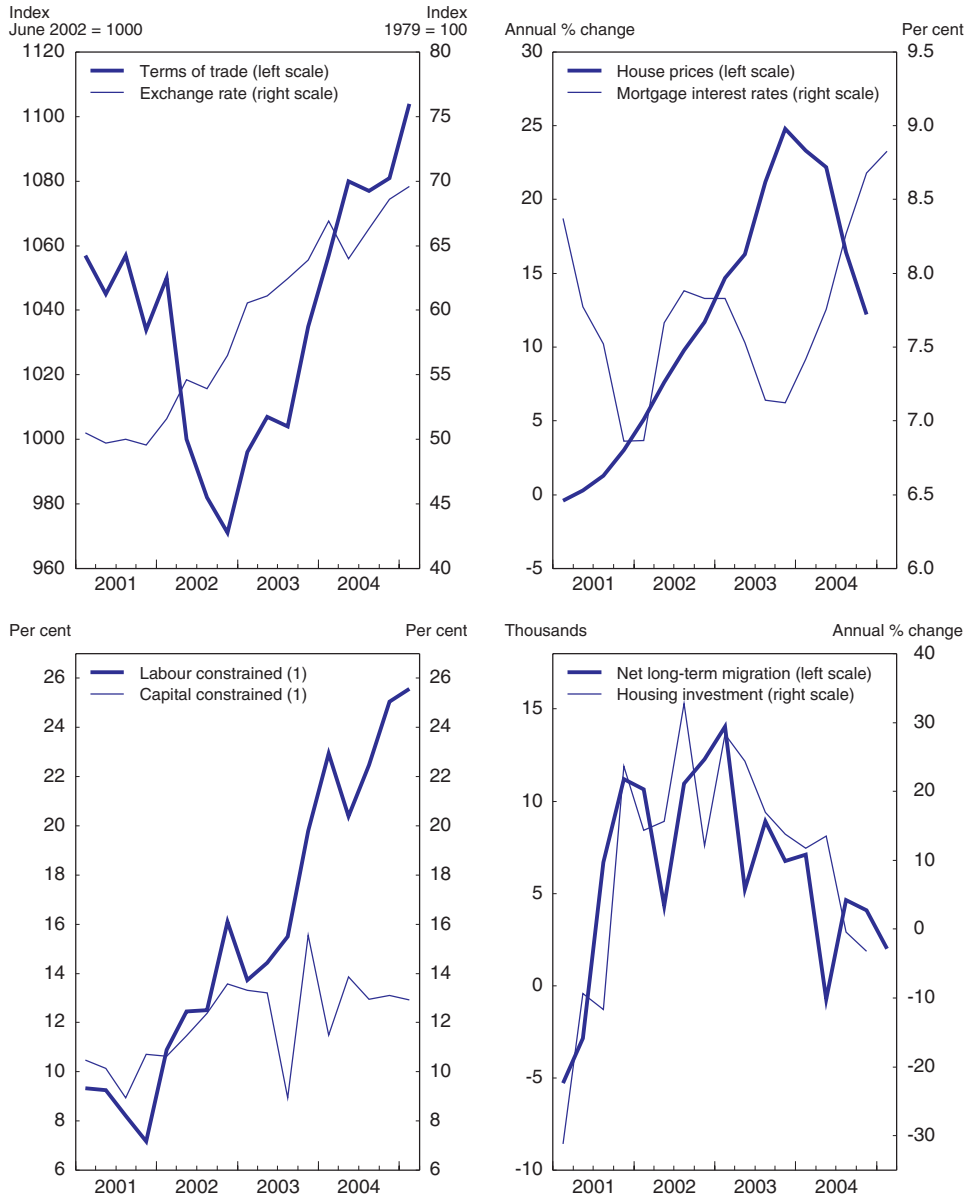
1. Mid-1990s for Belgium and Switzerland.

Source: OECD database on income distribution and poverty and NZ authorities.

point. However, the Bank's task will be complicated if there is any additional fiscal expansion at this point of the cycle: indeed, the further jump in public-sector employment in 2004 may have exacerbated the labour shortages faced by the private sector, while recent public-sector wage settlements may spill over into more generalised wage inflation.

Overall, the pace of activity is expected to remain close to potential over the medium term (Table 1.1). The OECD's medium-term reference scenario suggests that the country could achieve average annual potential growth rates of 3 to 3½ per cent up to 2010, well

Figure 1.6. **Factors underlying recent macroeconomic developments**

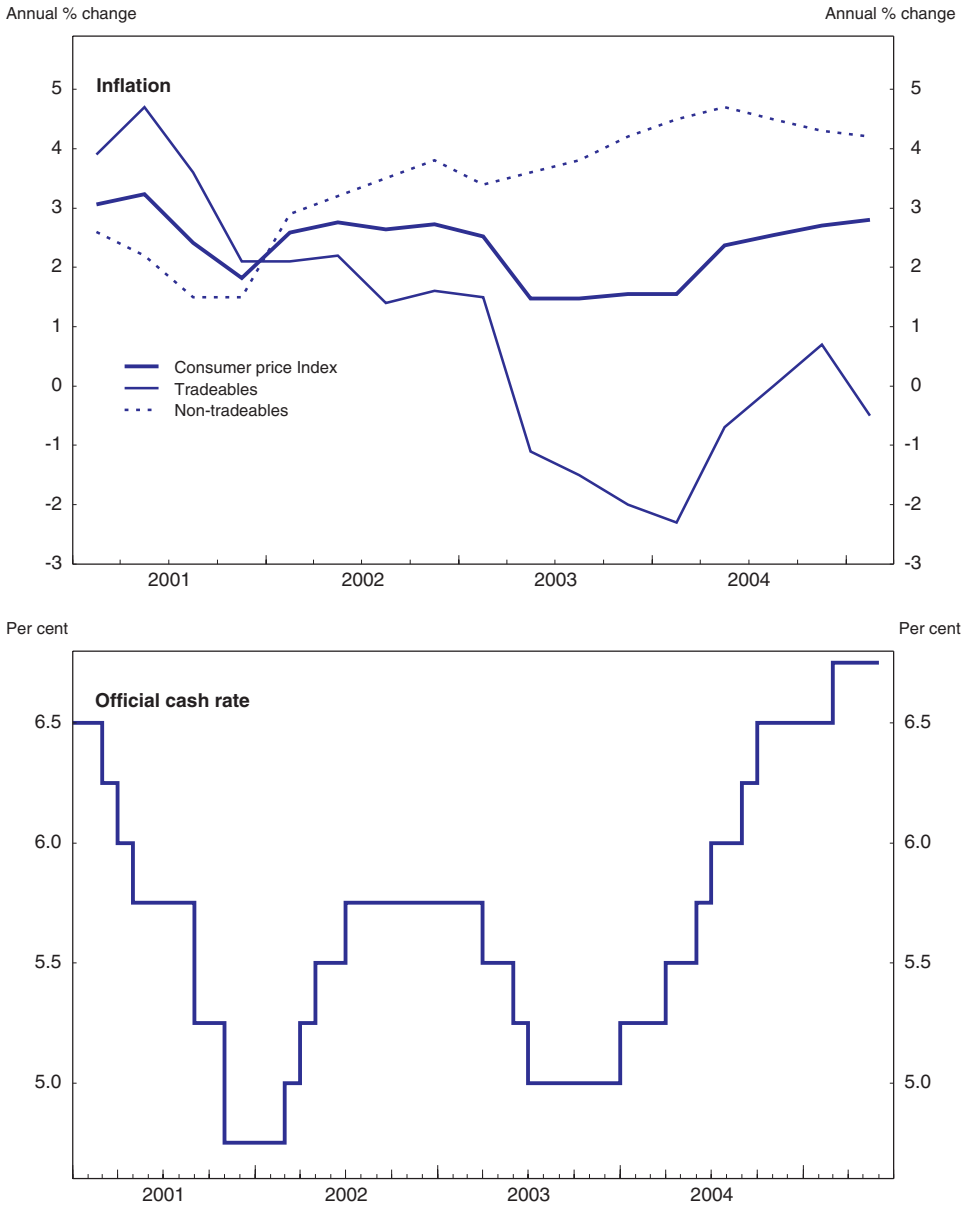


1. Factors limiting increased production.

Source: Reserve Bank of New Zealand; Treasury, *Main Economic Indicators* and NZIER.

above the OECD average, and even slightly ahead of the United States. Of course, it remains to be seen whether these potential growth rates can be realised, as they depend on trends in productivity growth and labour utilisation and assume a continuation of present policies. But overall, they suggest that the country is well placed to continue its recent economic success.

Figure 1.7. **Inflation and interest rates**



Source: Reserve Bank of New Zealand.

The first challenge: raising productivity growth

The key element to achieving sustained rises in real incomes is productivity growth. But while there is a strong consensus about the importance of boosting aggregate productivity growth, productivity measurement can easily turn into a complex exercise, with slightly different results depending on the coverage of goods and services, the labour inputs used, the time period and the methodology chosen for smoothing out short-term variations (see Box 1.2). Nevertheless, whatever measure is used, two key facts emerge

Table 1.1. **Medium-term economic projections**

Annual percentage change

	2004	2005	2006	2007 10
Private consumption	6.1	2.4	1.4	2.9
Government consumption	6.4	7.2	3.5	3.0
Gross fixed investment	13.1	2.2	3.2	3.9
Total domestic demand	8.0	3.8	2.3	3.2
Exports	5.2	5.4	8.3	7.6
Imports	15.8	6.7	6.3	6.6
Real GDP (expenditure measure)	**4.4**	**2.9**	**2.4**	**3.3**
Real GDP (production measure)[1]	**4.8**	**2.9**	**2.4**	**3.3**
Output gap (per cent of GDP)	1.7	0.9	0.0	0.0
GDP deflator	3.9	3.1	2.1	1.7
Consumer Price Index	2.3	3.2	2.8	2.2
Private compensation per employee	3.3	3.9	4.2	5.2
Employment	3.4	2.1	0.5	0.8
Unemployment rate (per cent of labour force)	3.9	4.0	4.5	4.7[2]
Short term interest rate (per cent)	6.1	7.0	6.8	5.5
Long term interest rate (per cent)	6.1	5.9	6.0	6.2
Current account balance (per cent of GDP)	–6.3	–6.1	–6.3	–5.6[2]
General government net lending (per cent of GDP)	4.2	3.2	2.8	2.8
General government net assets (per cent of GDP)	6.8	9.5	11.7	19.6[2]

1. Statistics New Zealand regards the production measure as more reliable than the expenditure measure.
2. Value in 2010.

Source: OECD Economic Outlook 77 database.

from the available data: *first*, New Zealand's productivity growth rate picked up pace[5] in the second half of the 1990s and *second*, it is still one of the lowest in the OECD.

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 (Frances, 2004). Assessed according to an "economic freedom" index (Gwartney and Lawson, 2004), 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.

Vibrant product market competition provides one of the key driving forces for productivity growth (OECD, 2002). In the absence of competition, there is little pressure or incentive to develop new products or make production processes more efficient. OECD work has clearly established that increased competition produces one-off improvements in efficiency ("static gains") in two ways: *i)* by encouraging and rewarding firms for minimising any slack in the use of inputs (reducing "X-inefficiency"); and *ii)* in getting a better resource allocation across the economy (OECD, 2003). It is also generally accepted that lively competition generates some on-going ("dynamic") gains, leading to a higher productivity growth rate.[6]

Box 1.2. **Measuring productivity growth**

A number of measurement issues need to be taken into account to obtain a consistent measurement of productivity within and between countries. Consistency of productivity indicators depends on how the following main elements are taken into account:

- Whether GDP is measured using production or expenditure indicators and how the statistical discrepancy between the two measures is treated.
- Whether the measure used covers the whole economy, including the government and non-profit sector, or just the business sector, and including or excluding military inputs and outputs.
- Whether productivity is measured per person employed (including or excluding self-employed) or per hour of work.
- Whether labour input data are collected directly within a national accounts framework or are estimated from household labour force surveys, which provide information on employment and weekly hours worked: these are then converted into annual quarterly and annual estimates.
- For annual comparisons, whether the same year is used consistently across all data sources within each country and in cross-country comparisons.
- Whether the data are all up to date, both across countries and within countries.

Productivity growth can fluctuate considerably in the short term, and several approaches can be used to discern underlying trends, including the following:

- Years can be grouped according to standard but arbitrary time periods, such as decades or half-decades. This has the advantage of grouping the same several years together for cross-country comparison, but the choice of years may present a misleading picture given varying cyclical positions, especially as underlying shifts in trends may not correspond closely to the years chosen.
- Statistical trending or smoothing techniques can be used. But, depending on the statistical techniques chosen and how much weight they apply to the most recent observations, they can either suggest trend shifts that are not actually real or be too slow in picking up changes.
- Average growth can be calculated across productivity cycles, defined as the period between productivity peaks. But this approach is limited by difficulties in dating economic cycles and of appropriately assessing developments within the current cycle.

The NZ economy has become much more exposed to competitive forces in the past 20 years, and it seems unlikely that a widespread lack of competition could account for the relatively lacklustre productivity performance. But there are a few areas where competition could be improved, most notably in energy markets. However, as a small open economy, New Zealand's growth prospects remain handicapped by restrictive trade policies in other countries, most notably affecting agricultural products. Ability to compete freely on world markets opened up through the successful completion of the Doha Round would be an important complement to the benefits coming from efforts to further enhance competition at home.

A flexible and responsive labour market is also vital to achieving a pick-up in productivity growth, since it makes it possible for resources to shift quickly to more

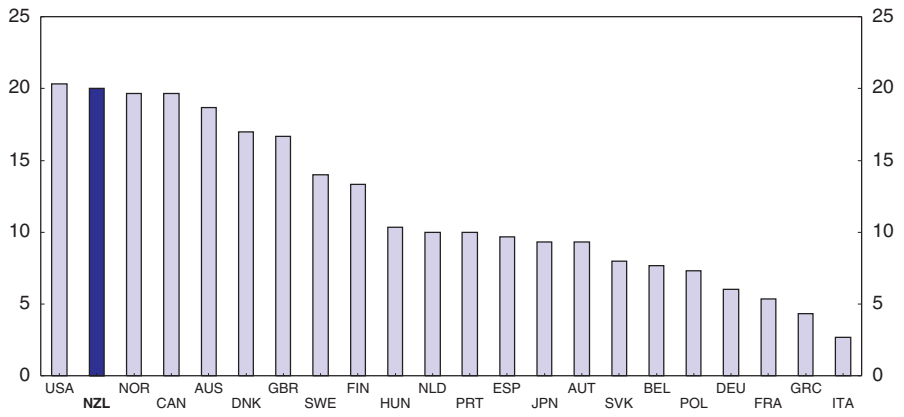
productive activities as these emerge. The *OECD Jobs Study* (OECD, 1994) identified several features of labour markets that affect countries' ability to adjust rapidly to changing economic circumstances with minimal human and economic costs. These include minimising rigidities in aggregate and relative wages, getting the design of the unemployment support mechanisms right and avoiding overly strict employment protection. New Zealand's labour market policies score well in comparison with other OECD countries, and the country has demonstrated an ample capacity to adjust (Figure 1.8). However, the recent changes to labour legislation may work to undermine this current advantage over time by slowing the rate of adjustment and productivity growth.

One possible explanation for New Zealand's low productivity growth rate is low investment in physical capital (Figure 1.9). Investment in new plant and equipment (and information and communications technology [ICT]) can make an important contribution to productivity growth through both direct and indirect channels. Directly, it can raise output per hour worked and indirectly, it can lead to a more rapid diffusion of new technology embodied in such capital goods and lead to faster technical progress, thereby boosting multi-factor productivity. However, investment is not an end in itself, and misguided attempts to boost investment rates may actually undermine productivity growth. It is not easy to measure changes in the capital stock, and there are technical reasons to suspect that it may have grown faster than the 3% average annual growth rate estimated by Statistics New Zealand since the recovery started in the early 1990s.[7] In any case, based on the data available, capital deepening has been taking place since the second half of the 1990s. This should feed through into a sustained pick up in labour productivity growth. Nevertheless, some tax obstacles have discouraged businesses from optimal investment decisions.

Another contributing factor for productivity growth is innovation – the introduction of new or significantly improved products or services to the market and/or new or improved processes within a business. An exhaustive survey of innovation activities produced by Statistics New Zealand found that some 44% of NZ firms undertook some innovation

Figure 1.8. **Labour market adjustment capacity**[1]

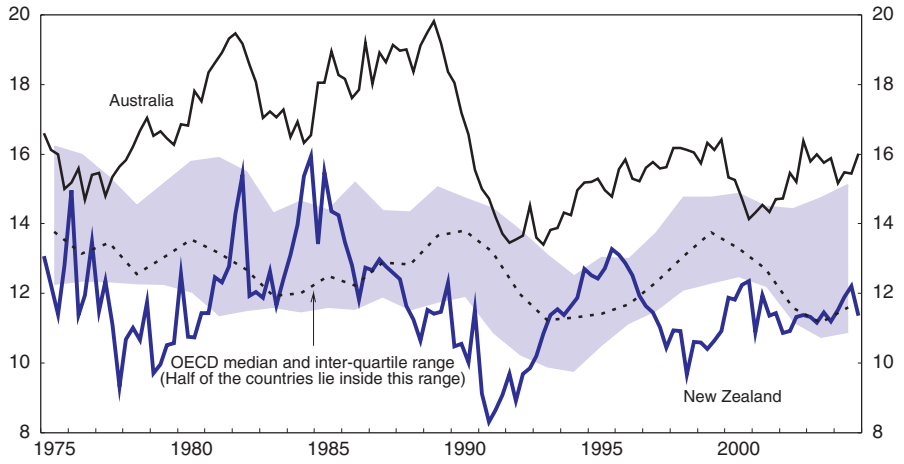
Average country ranking[2]



1. Unweighted average of ranking of indicators.
2. A high score indicates relatively high adjustment capacity.

Source: Kongsrud and Wanner (2005).

Figure 1.9. **Business investment rate**
Per cent of GDP



Source: Statistics New Zealand and OECD.

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 (Table 1.2). It is also clear that the factors affecting innovation are often closely related to the general business environment, such as feedback from customers and firm profitability. Likewise, some of the factors hampering innovation also reflect general conditions, such as development costs and availability of management resources and other qualified personnel. A striking feature is the low rate of collaboration and ideas flowing from universities to businesses.

Another factor that matters for productivity growth is human capital. Human capital encompasses many different aspects ranging from giving children the best start in life, so that they can be more productive throughout adulthood, through to the contribution from highly specialised research scientists. New Zealand already has one of the higher rates of university-type tertiary qualifications among OECD countries, especially among older workers, and has seen significant gains in recent years (Figure 1.10). There is a clear correlation between post-secondary qualifications and lifetime earnings (Blöndal *et al.*, 2002). New Zealand also shows a significant premium for degree level qualifications (Table 1.3) but the gap has widened for the unqualified worker, whose relative prospects have worsened over time.

Qualifications may not be the most reliable proxy for human capital for some countries[8] although New Zealand appears to reward educational qualifications and literacy skills reasonably consistently (OECD, 2000). It also has a remarkably consistent average level of prose literacy across age groups and smaller differences than many countries across educational qualifications. New Zealanders score less well on document and quantative literacy. It is not clear that New Zealand is lagging behind other countries in its overall investment in human capital, but it may be that *i)* educational investment choices made have not led to the optimal mix of skills, *ii)* qualifications may be of variable

Table 1.2. **Key features of business sector innovation**

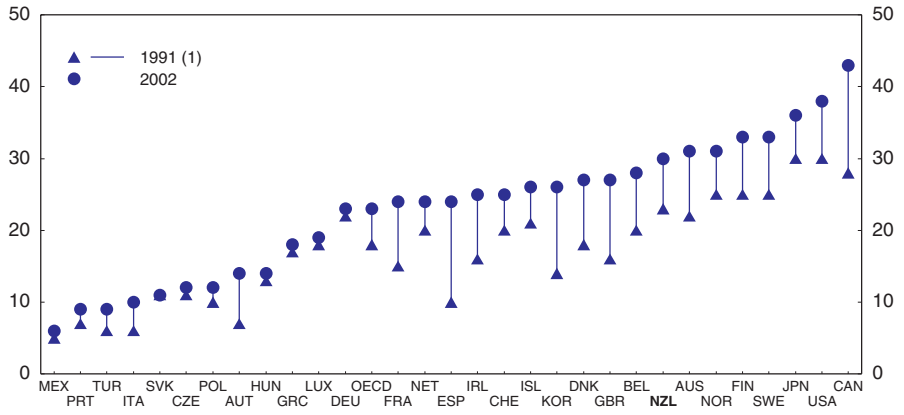
Per cent of firms

	Leaders		Adopters		Ongoing/ abandoned	Non-innovators	Total
	New to market	New to firm	Active	Passive			
Source of ideas and information considered very important (per cent of innovating firms)							
From within the firm	67	75	54	45	58	n.a.	65
Customers	71	69	46	49	64	n.a.	64
Suppliers	34	32	42	50	26	n.a.	35
Books, trade journals, conferences or shows	23	18	20	12	12	n.a.	19
From overseas firms	21	18	16	18	14	n.a.	19
From NZ firms in the same industry	10	22	23	30	28	n.a.	19
Banks, accountants or financial consultants	9	19	21	16	12	n.a.	15
Industry or employer organisations	8	10	4	15	5	n.a.	8
Other research institutions and services	7	3	10	17	9	n.a.	8
From NZ firms in another industry	8	7	5	4	8	n.a.	7
Central local government assistance services	3	1	0	1	10	n.a.	2
Universities	2	1	1	1	6	n.a.	2
Sources of finance (per cent of innovating firms)							
From within own business	97	96	89	91	93	n.a.	95
Shareholder funds	20	15	10	4	12	n.a.	15
Bank loan specifically to fund innovation	9	8	27	22	4	n.a.	12
Personal funds from friends or family	13	6	15	3	7	n.a.	10
Central or local government	13	9	2	6	5	n.a.	9
Suppliers or customers	10	5	3	4	9	n.a.	7
Other businesses	3	2	7	3	2	n.a.	3
Private venture capital funds	1	1	0	1	2	n.a.	1
Factor of high importance in hampering innovation activity (as per cent of all firms)							
Costs to develop new/improved products processes or services	30	34	16	23	39	15	21
Lack of management resources	23	26	11	23	30	14	18
Lack of appropriate personnel	16	17	18	15	23	11	14
Lack of information about or access to appropriate sources of finance	11	11	2	6	10	3	6
Lack of marketing expertise	6	5	3	3	10	5	5
Availability or costs of obtaining intellectual property	4	2	0	1	7	4	4
Lack of co operation with other businesses	2	1	1	8	3	3	3
Outcomes of innovation activity (per cent of innovating firms)							
Increased range of goods and services	94	77	65	61	67	n.a.	80
Increased profitability	87	74	76	76	59	n.a.	79
Improved efficiency	73	70	80	84	79	n.a.	75
Opened new or expanded markets in New Zealand	77	60	47	54	54	n.a.	64
Critical to stay in business	47	45	42	38	62	n.a.	45
Replaced products being phased out	47	32	22	30	49	n.a.	37
Meeting health and safety and other standards	37	33	34	23	40	n.a.	34
Opened new markets overseas	47	23	14	15	9	n.a.	30
Reduced environmental impact	24	15	23	27	26	n.a.	21
Reduced energy consumption	23	16	11	22	8	n.a.	18

Source: Statistics New Zealand (2004).

Figure 1.10. **Trends in educational attainment**

Tertiary education, percentage of 25 to 64 year-olds



1. 1995 for Czech Republic, Greece, Mexico, Poland and Slovak Republic; 1998 for Hungary, Iceland, Japan and Luxembourg.

Source: OECD, *Education at a Glance*, 2004.

Table 1.3. **Qualifications and lifetime earnings**[1]

Relative to skilled category

	1981	1986	1991	1996	2001
Males					
Unqualified	74	76	72	71	65
Skilled	100	100	100	100	100
Bachelor's degree	138	151	156	149	142
Higher degree	146	150	156	156	146
Females					
Unqualified	72	69	69	69	64
Skilled	100	100	100	100	100
Bachelor's degree	141	141	150	143	143
Higher degree	152	151	159	158	161

1. Estimated from census data as the discounted present value of expected lifetime labour market incomes.

Source: Le *et al.* (2003).

quality, or *iii)* perverse incentives may discouraging some people, especially well-educated women, from fully using their skills once they have children (see below).

For those adults with the lowest qualifications and literacy skills, there may be large social returns to successfully upgrading their capacities, as well as providing a boost to productivity, particularly as these people are more likely to be either reliant on public benefits or earning very low wages. Furthermore, low educational attainment among parents appears to confer an inter-generational handicap because those parents may find themselves unable to provide a language-rich environment that effectively complements the formal education system. Universal access to high-quality pre-school education can play an important role here in breaking the cycle, and although most New Zealand children entering school at age 5 have attended some early childhood education facility, average

hours are relatively low, and some children miss out altogether. This makes it more difficult for disadvantaged children to succeed at school, with lasting effects in adult life.

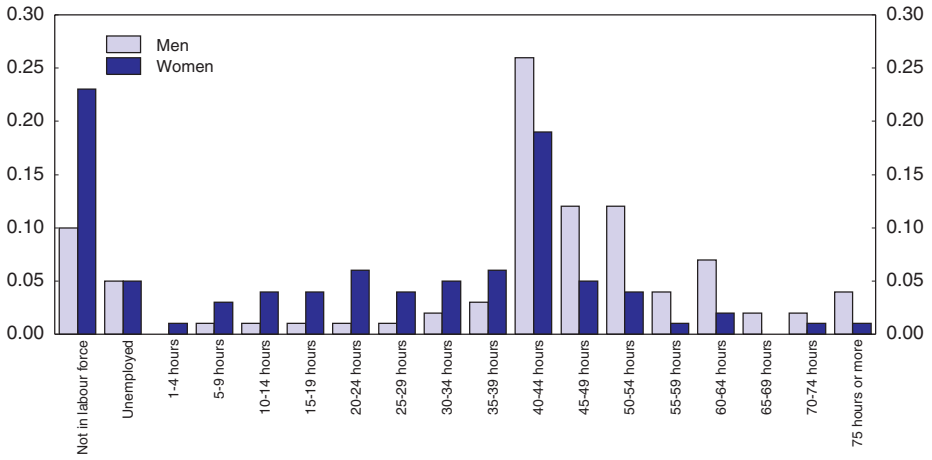
Another possible explanation for New Zealand's still relatively low productivity growth rate may be the interaction between average productivity growth and rising labour utilisation. In general, it would be reasonable to assume that the newest entrants into the labour market will have lower labour productivity than the average worker. Thus a rapid increase in labour utilisation might translate into slower measured aggregate productivity growth, even though the new entrants do not affect the productivity growth of those already in the workforce. The IMF has recently suggested that this effect might have reduced New Zealand's productivity growth rate over the past 12 years by up to ½ percentage point per year (IMF, 2005). However, this figure is an extrapolation of cross-country analysis (Bélorgey *et al*., 2004) and does not take into account any particular features of the New Zealand experience. Two factors that may have affected the productivity composition of net inflows into the workforce in New Zealand's case are migration and prime-age women temporarily withdrawing from the workforce to raise children.

In sum, there is no "smoking gun" to explain New Zealand's sub-par productivity performance; indeed a number of indicators suggest that productivity growth should be higher than it currently is. To some extent, it may simply be a question of patience, but in any case, there may be scope to do better in the context of the identified determinants of productivity. Chapter 2 looks at the state of competition and examines where policy settings could do more to promote competition, thereby providing an important stimulus to greater economic efficiency. Chapter 3 considers how to improve the settings for stronger productivity growth through capital deepening, more efficient use of infrastructure, safeguarding labour market flexibility and sharpening efforts to promote innovation. Chapter 4 covers the development of human capital.

The second challenge: improving labour utilisation

As was pointed out in the previous *Survey*, New Zealand's aggregate employment rate is higher than the OECD average, and total hours worked per person as well as hours worked per worker, are amongst the highest in the OECD. This good overall performance results in large part from one of the highest participation rates for both men and women for the 50 to 64 age group, and also from the high weekly hours worked by men and relatively short annual leave entitlements. But the country performs less well for prime-age adults, with employment rates for women more sensitive to the presence of children than in most other countries (OECD, 2005). Furthermore, even when New Zealand women work, they are significantly more likely to work part-time than men (Figure 1.11). It is unclear how closely these patterns of work match the underlying preferences of New Zealand men or women,[9] but in other countries, women in couples with young children tend to want to work more hours than they are currently able (Table 1.4). This is not altogether surprising, given that being in work offers significant economic advantages for women (Box 1.3). While it would be wrong to assume that all women wish to engage in paid employment, or work longer hours, it is likely that some women would choose to work more if efforts were made to reduce the obstacles that working mothers currently face. New Zealand has made some progress on this issue over recent years, with increased state support for early childhood education and childcare. The government has signalled that continuing to improve parents' participation choices is a priority for further work.

Figure 1.11. **Weekly hours worked by NZ men and women**
Share of population aged 25 to 49 years, 2001



Source: New Zealand Census 2001.

Table 1.4. **Actual and preferred employment patterns in families**
Couples with child under 6, unweighted average of 14 European countries,[1] percentage, 1998

	Man full-time and woman full-time	Man full-time and woman part-time	Man full-time and woman not employed	Other	Total
Actual	34.4	19.1	38.0	8.5	100
Preferred	47.7	29.0	10.2	13.2	100
Preferred minus actual	13.3	9.9	–27.8	4.6	–

1. For the individual countries, see Jaumotte (2003).
Source: Jaumotte (2003).

Closing these gender gaps may be important for productivity growth because the high rates of withdrawal or scaling back of labour force participation among mothers means that a significant portion of the country's investment in human capital is systematically under-utilised. In 2001, some 20% of all 25 to 49 year-old women (including those without children) with advanced vocational or degree qualifications were not in the labour force at all, while only 60% were working at least 30 hours per week (Figure 1.12). As an individual's human capital deteriorates the longer the absence from the workforce, drawing these well qualified women back into the labour market more quickly would raise the effective human capital stock of the country. Giving them more opportunities to consolidate and deepen their skills through promotion or increased work responsibilities could provide a boost to productivity growth on top of the increase in GDP per person that would be obtained from increased hours alone. However, the ultimate impact of measures designed to boost productivity growth by reducing gender disparities needs to take into account the full set of costs and benefits, including the net fiscal cost.[10]

Box 1.3. **Women, work attachment and economic independence in a life-cycle perspective**

Although many women in New Zealand choose to withdraw from the workforce or scale back their paid hours while they provide care for their children, the economic implications of their decisions may be more significant than sometimes understood. This can have implications for many of the topical concerns in New Zealand, including work-life balance, economic gender equity and the risk of poverty. Women's financial independence through work is also important for the accumulation of assets including housing and private pension assets. A number of dimensions need to be taken into account:

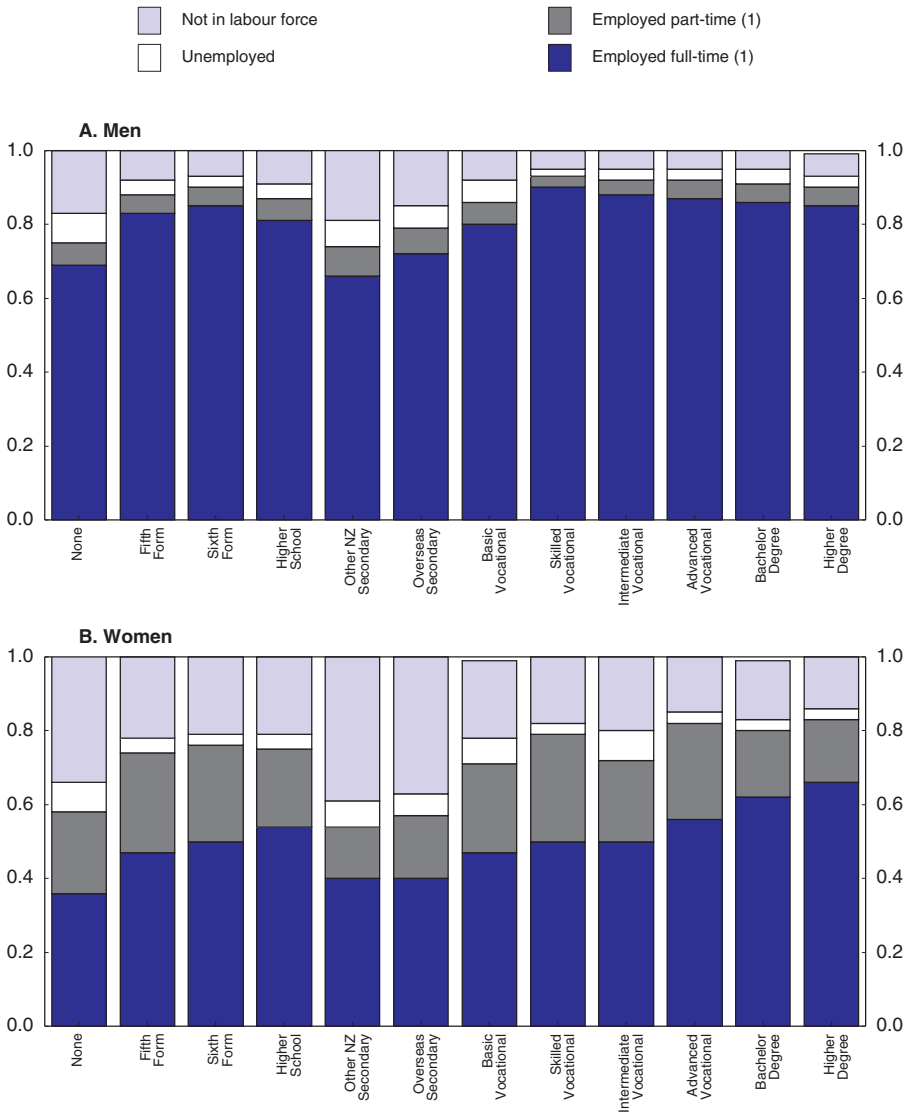
- Lifetime earnings are strongly correlated with human capital and work experience. Periods out of the workforce not only involve foregoing wages for that period but also result in lower wages over the rest of working life (Davies and Pierre, 2004). This effect can be identified for both men and women, but women are much more likely to take breaks from paid work.
- The return on investment in human capital is lower for women who take time out, because of lower lifetime earnings, although the total cost of education is the same. (At the same time, it is harder for those women to repay loans taken out for tertiary education.) Furthermore, human capital deteriorates the longer it is unused, leading to a further financial penalty, while women working part-time are less likely to be offered and/or take up opportunities to develop new skills and undertake training (Rosso and Hassink, 2005).
- Pay levels between men and women are affected not only by the impact of breaks in work experience but also by the extent to which women may self-select into employment that is easier to enter and exit, offers more part-time opportunities and provides greater flexibility over hours (Cleveland and Krashinsky, 2003). Such jobs generally pay lower wage rates.
- Within couples, women who take time out to be caregivers expose themselves to an additional degree of risk of lower future income, because, having consumed household and care services, the other partner can walk away. Although child support can provide income transfers, the mother who specialised in care-giving will be at a permanent disadvantage, even when she resumes work (Lundberg, 2002).

There are also several marginalised groups who are both less likely to be employed and also more likely to be reliant on public income support. In the year to June 2004 there were some 327 000 working-age beneficiaries (Table 1.5), although with the further sharp fall in unemployment, rolls have since fallen to around 300 000. But the statistics point to some areas of concern where further efforts to assist the transition to work are merited, especially as the overall economic conditions are unlikely to ever be more favourable to shifting people into work than they have been over the last few years. Looking at trends over the past five years, the following picture emerges:

- Beneficiaries have become older, but more than half are still under 40 years of age. The share of women has risen to 60%, and the Maori share to 31%, although the disparity between Maori unemployment rates and those for the general population have closed significantly since the early 1990s. The proportion caring for a dependent child aged less than six years old has edged up to 21%, but the share of domestic purposes benefit (DPB) recipients caring for children under six has actually fallen slightly to 60%.

Figure 1.12. **Employment status by educational attainment**

Highest qualification obtained, 25 to 49 year-olds, 2001



1. Part-time is defined as less than 30 hours per week and full-time is 30 hours or more.

Source: New Zealand Census 2001.

- The average length of time on a benefit has risen with one-third having received a benefit for at least the past four years. In large part, the increase in the average time spent on this benefit reflects strong employment growth that has drawn a significant proportion of the readily employable beneficiaries (who typically have shorter benefit duration), back into the labour force. Among those currently drawing the DPB, 45% had been receiving some type of benefit continuously for more than four years and 31% had been receiving the DPB continuously for more than four years, including around 10% that had been on a DPB for more than 10 years.

Table 1.5. **Income support: core benefits**

Year to June 2004, thousands

	Unemployment	Domestic purposes	Sickness	Invalid	Total[1]
Beneficiaries paid during year (000s)	76.8	109.5	44.1	72.3	327.2
New benefits granted (000s)	139.4	37.4	48.3	11.8	253.5
Length of time since new client last received any core benefit					
None (administrative transfer)	30.2	11.3	17.3	8.2	70.4
Under 6 months	26.7	6.8	7.8	0.7	45.8
6-12 months	26.4	3.6	4.4	0.3	35.8
12-18 months	6.4	2.1	2.2	0.1	11.2
18-24 months	5.4	1.6	1.6	0.1	8.9
2-4 years	9.0	3.4	3.6	0.2	16.9
Not received a core benefit in past 4 years	35.4	8.6	11.4	2.3	64.5
Benefits ceased during year	172.6	37.9	43.3	8.1	280.0
Reasons for cessation					
Obtained paid work	72.7	12.0	6.2	1.1	95.8
Transferred to another core benefit	38.0	7.2	20.3	2.6	73.5
Other	62.0	18.6	16.8	4.4	110.7
	Percentage change over past five years				
Benefits paid during year	–48.0	0.5	36.6	30.6	–13.8
New benefits granted	–32.5	–4.2	31.9	18.0	–17.7
Benefits ceased	–19.7	–6.1	15.5	37.4	–11.0
Memorandum items:					
Registered job seekers[2] (000s)	60.8	17.0	2.8	1.7	107.6
Expenditure[3] (NZD millions)	939	1 303	398	817	3 594
Expenditure (as per cent of GDP)	0.7	0.9	0.3	0.6	2.6

1. Total core benefits also include widow, unsupported child, orphan and transitional retirement benefits.
2. Registered job seekers include 24 000 persons receiving no core benefit or pension.
3. Excluding tax paid on core benefits.

Source: Ministry of Social Development (2005).

- Unemployment benefits have fallen sharply, DPB receipt is declining gently, and, as in other OECD countries, the proportion of the population receiving Sickness or Invalid's benefit has risen, although the growth is now slowing. There has been a particularly strong increase in conditions such as stress and back pain symptoms, which can sometimes be difficult to verify.

Getting these people back into work may be more or less challenging depending on their circumstances and their underlying employability. For example, low educational attainment and literacy difficulties, as well as other basic work-skills gaps and health needs would need to be addressed: these difficulties have become more concentrated within the group of benefit recipients as the overall economic situation has become increasingly positive. Society's expectations about availability for work also matter and OECD countries are increasingly turning to a "mutual obligations" approach, whereby the recipient is expected to do everything they reasonably can to help themselves take up work in return for public income support (OECD, 2005). The removal of the work test for the DPB until the youngest child turns 14 years old may have reduced the effective pressure to seek work for this group (see previous *Survey*). In doing so, it also reduces the extent to which

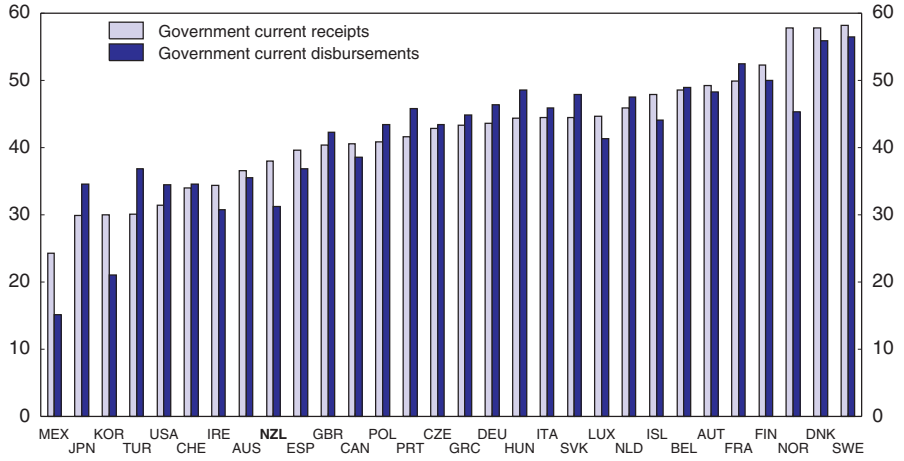
those parents provide a role model of employment habits to younger children, which is an important element in breaking the cycle of intergenerational transmission of poverty (OECD, 2005).

There are clearly a range of issues that need to be addressed in the context of raising labour utilisation. Although the country's overall performance is strong, the pockets of under-represented groups point to shortcomings in the present policy framework. Chapter 4 examines the incentives built into the present arrangements and looks at ways in which policies could be adjusted to obtain stronger labour utilisation.

The third challenge: managing public finances more effectively

New Zealand has been successful in not only getting itself out of the deficit and debt spiral of the 1970s and 1980s, but also in putting in place a set of measures that have provided a role-model for prudent management of public finances. Since the passage of the Fiscal Responsibility Act of 1994, the central government has consistently remained in structural surplus, and the general government surplus as a share of GDP was the third highest in the OECD in 2004 at just over 4%. Overall spending and revenue levels (excluding net capital expenditures) as a share of GDP are also among the lowest in the OECD (Figure 1.13).

Figure 1.13. **Public expenditure and revenue ratios**
2004



Source: OECD Economic Outlook 77 database.

Although public spending as a share of GDP has fallen considerably over the past 10 years as debt servicing has shrunk and unemployment rates have come down, spending started to grow significantly around 1997. More than half of this has been due to explicit policy decisions (Rae, 2002), while recent initiatives such as expanding access and improving quality in early childhood education and care and the *Working for Families* package will be phased in over the next two to three years. At the same time, various other demand-driven spending areas such as prisons and tertiary education have added further upward momentum to spending.

In recent years, the government has had a succession of pleasant fiscal surprises as tax revenues have been more buoyant than forecast. To a large extent, this reflects the economic situation, and it would be wise not to count on such strong revenue streams being sustained over time. In particular, corporate income tax flows have proved difficult to predict, in New Zealand as elsewhere. However, several years of under-estimated fiscal surpluses may lead people to discount Treasury warnings about the risk that such strong inflows could evaporate in a less favourable economic climate. Treasury has recently completed a periodic review of its forecasting performance, which confirmed that their forecasts are unbiased (Treasury, 2004). Its forecasting track record is also reasonable by international standards (Mühleisen *et al.*, 2005).

The strong state of public finances may also reduce pressure for ensuring that public spending is allocated to areas where it will generate the highest social return and for regularly undertaking comprehensive reviews and reallocations. It has been noted, for example, that even immediately after the change in government in 1999, budget spending proposals from ministers rarely offered up savings by pruning low-value spending (Bollard *et al.*, 2000). Without the pressure of a difficult fiscal situation to focus policymakers on their priorities and trim away less effective programmes, it may be harder to ensure that public spending patterns are optimal. It may also make it more difficult to keep total spending growth in check over time.

Despite the strengths of New Zealand's approach to public management, further reinforcement may be needed to ensure that the benefits of economic success do not spill over into wasteful and inappropriate spending areas that would slowly but inexorably undermine the country's overall economic performance. The Public Finance Amendment Act (2004) shines a welcome spotlight on the medium-term evolution of a key set of fiscal variables but more consideration of spending priorities needs to take place through systematic and regular reappraisal as well as rigorous evaluation of the performance of individual programmes. Chapter 5 addresses the issues involved in managing public finances more effectively.

Some concluding remarks

Overall, the economy is performing well, and New Zealanders are reaping the benefits of earlier reforms in the form of higher living standards. However, there remain some areas of unfinished business where further reforms would help the country reach its objective of returning to the top half of the OECD. The government also needs to be wary of implementing policies that may undermine the growth objective. Equally, a balance must be found between economic growth and other objectives such as sustainable development and poverty reduction that contribute to broader social well-being, bearing in mind that people's views about the appropriate trade-offs differ.

Notes

1. The relative poverty rate is measured as the share of individuals with equivalised disposable income of less than 50% of the median for the whole population. The poverty gap indicates the total income transfers that would be required to raise all those below the 50% poverty threshold up to that level. The composite measure of poverty is the poverty rate multiplied by the poverty gap.
2. In 2000, less than 10% of households overall reported "restricted" or "very restricted" living standards, while another 11% faced "somewhat restricted" circumstances: for families with children, proportions were higher at 13% and 16%, respectively (Ministry of Social Development, 2004).

3. A sizeable portion of the total mortgage stock and the majority of new mortgages are on fixed rates (mostly 1 to 2 year maturity). Although variable interest rates have been rising since 2001, fixed mortgage rates reached a trough in mid-2003 (largely reflecting lower longer-term rates offshore). This would have delayed the effective mortgage interest rate tightening, although pipeline effects imply a further tightening from here as low interest fixed rate mortgages roll off.
4. The unadjusted series includes performance-related and service increments and records a shift if a new employee replaces a previous one at a different pay rate. Thus, it captures quality changes within occupations. It will thus rise faster if labour market tightness is affected by a higher rate of turnover as workers switch to another employer to gain greater pay.
5. This picture is confirmed using an 11-year moving-average approach (Treasury, 2005).
6. There can be a complex relationship between product market competition and innovation – the main source of dynamic gains in productivity growth – because where there are barriers to competition, firms have a greater incentive to innovate to get around them. If competition is strong, there may be so little scope for additional rents to be earned from innovation that it becomes no longer worthwhile investing at the technological frontier. Nevertheless, recent econometric analysis shows a link between regulation and productivity growth (Nicoletti and Scarpetta, 2003) and that less stringent product market regulations help to raise R&D intensity (Pain and Jaumotte, *forthcoming*).
7. Statistics New Zealand use a Laspeyres index formula for the change in the capital stock, which produces significantly lower rates of change than would the Tornqvist formula used for the OECD estimates of capital services. These data are not yet available for New Zealand in the OECD's productivity data set.
8. Recent Canadian research suggests that levels of literacy may be a more important indicator of human capital than the level of formal qualifications in assessing impact on growth (Coulombe *et al.*, 2004).
9. However, on average in 2004, the NZ Household Labour Force Survey reported that 28 000 men and 57 000 women reported that they worked part-time and would prefer to work longer hours.
10. The benefits and costs of measures to draw these under-utilised resources fully back into the workforce could also be compared with that of alternative approaches to increasing human capital, for example, by expanding the throughput of post-secondary institutions or importing skilled workers from overseas.

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ANNEX 1.A1

Progress in structural reforms

This annex provides a compendium of recommendations carried forward from the previous *Economic Survey* and records what action has been taken, as well as any other major policy changes announced since the previous *Survey*.

Policies to promote business creation and innovation

Previous recommendations

- *Enterprise support programmes:* Reduce overlaps, and target them to address well identified market failures.
- *Sectoral focus*: Avoid introducing subsidies or tax preferences, and consider sunsetting subsidies provided to the film industry. More generally, tilting the playing field toward some sectors should be avoided, as this can lead to resource misallocation.
- *Innovation framework:* Simplify the R&D tax regime, and consider extending immediate deductibility to R&D expenditure that does not give rise to an identifiable and valuable asset and removing the so-called "black holes" (R&D expenditure that can be neither deducted nor capitalised if it does not result in a depreciable asset). Clarify guidelines about intellectual property ownership. Encourage CRIs and universities to manage IP themselves while allowing individual researchers to receive a share of the profits is an efficient approach. Encourage CRIs to commercialise their IP, and ensure that the allocation of public funding is consistent with its public good rationale. Reallocate CRI dividends to finance other research on a contestable basis. Minimise regulatory compliance costs for biotechnology research and implement the Biotechnology Strategy, released in May 2003.
- *E-commerce:* Proceed speedily with the implementation of the recommendations of the 2001 Ministerial Panel on business compliance costs.
- *RMA:* Allow direct referral to the Court and set time limits for local council decisions on the Resource Management Act (RMA). Introduce a mechanism for taking national interest into account in cases where a project's impact goes beyond the local level.

Actions taken

- January 2004: Cabinet issued guidelines to clarify the treatment of intellectual property resulting from public service research contracts in order to maximise potential commercialisation opportunities.

- April 2004: Business Law Reform Bill was passed and amended 13 business law statutes. In general, the amendments clarify and update various statutory provisions to give effect to the intended purpose of the provisions, remove unnecessary compliance costs and remove conflicts within the legislation.
- May 2004: Changes to the science funding system with an increase in the non-contestable component for CRIs were announced. First steps were described in the 2004 Budget.
- September 2004: The government has announced a comprehensive package of measures designed to improve the working of the Resource Management Act (RMA). Key initiatives include greater central direction and consistency through national policy statements and national standards. Councils, when considering large or complex projects such as important infrastructure initiatives, will be able to seek additional resources from government or even ask it to establish an independent board to consider the case.
- December 2004: The government and public agencies begin engagement with the food and beverage sector to explore barriers to growth in the sector. The government intends to engage with other sectors over time, signaling a balanced approach that does not favour particular sectors.
- December 2004: "Black holes" have been removed from the system, and the possibility of immediate deduction of the costs of failed or withdrawn patent and resource management consent applications has been included in the Taxation (Venture Capital and Miscellaneous Provisions) Act 2004.
- April 2005: International PhD students starting from the beginning of 2006 will pay domestic, rather than international fees. In addition, the children of international PhD students attending school in New Zealand will not pay international fees.
- May 2005: The government released its Digital Strategy to bring together a range of initiatives to increase the uptake of ICT across firms, government and education and community organisations.
- May 2005: The government announced expansion of the Technology for Industry Fellowships scheme – aimed at promoting technology transfer by seconding students, experts, and recent graduates to work on science and technology projects in firms – to include an international component.
- May 2005: The 2005 Budget introduced a significant package of tax reforms, including measures to reduce compliance costs for businesses:
  - The fringe benefit tax regime was streamlined and a number of fringe benefit thresholds were increased.
  - GST and provisional tax payments were aligned to reduce the number of tax payments dates, and businesses were allowed to base their provisional tax payments on a percentage of their GST turnover.
  - As part of the reforms to the tax depreciation regime, the low value asset threshold was increased from $200 to $500, reducing the number of assets that businesses must annually account for on their fixed asset registers and the number of tax adjustments required when disposing of assets.
  - A new subsidy for small businesses employing payroll agencies will come into effect on 1 April 2006, to help businesses meet the payroll obligations they face when they

take on their first employees – including PAYE work, and deducting child support and student loan payments from staff wages.

International linkages

Previous recommendations

- *Trade policy:* Pre-announce a complete phase-out of tariffs.
- *FDI taxation:* Cut the corporate tax rate across the board, *i.e.* for both domestic and foreign investors, if international competition increases the pressure for lowering taxes.
- *Regulatory harmonisation*: Proceed further with business law harmonisation with Australia, and increase cooperation at the policy development level. Undertake regulatory harmonisation also with other trading partners.

Actions taken

- November 2004: Changes to the Overseas Investment Act have been introduced to Parliament. It doubles the threshold for screening business investments to NZD 100 million, provides better protection for sites of special historic, cultural or environmental significance while also encouraging foreign investment where it can make a positive contribution to the economy.
- December 2004: New Zealand/Thailand Closer Economic Partnership was concluded.
- February 2005: Australian Treasurer and New Zealand Finance Minister announced specific decisions, including a commitment to establish a joint Trans-Tasman Council on Banking Supervision and an endorsement of the work programme to achieve closer co-ordination between the Australian Consumer and Competition Commission and the New Zealand Commerce Commission. Ministers also decided to investigate the possibility of adding an investment component to the Closer Economic Relations agreement. Ministers confirmed the decision to extend Australia's wine equalisation tax rebate to New Zealand wine producers for their sales in Australia.
- Early 2005: Negotiations with China for a FTA commenced (a feasibility study was released in November 2004), as did negotiations for a FTA agreement with ASEAN (together with Australia) and with Malaysia. Negotiations on a Strategic Economic Partnership with Singapore and Chile were also concluded.

Product market regulation

Previous recommendations

- *Dairy sector:* Move to a market-based allocation of export quotas when the transitional regime is reviewed, or even earlier.
- *Electricity*: In conjunction with appropriate price regulation, define the criteria that should guide investment in upgrading the grid. Do more to boost demand-side response, in particular by increasing retail competition and considering the costs and benefits of installing time-of-use meters. Introduce a straight price trigger (without provisions for activating the reserve even at prices below the threshold) to remove uncertainty and encourage investment. Address markets' information imperfections so that such a trigger can function reliably. Monitor progress in achieving greater transparency of the hedge market.

- *Telecommunications*: Monitor whether access regulations are hindering competition and infrastructure investment. Unbundle the local loop.

Actions taken

- May 2003: Electricity Commission was charged with ensuring the security of electricity supply in a "one in 60" dry year by contracting for reserve energy and requiring information disclosure by generators.
- May 2004: the Minister of Communications decided not to fully unbundle the local loop, following the recommendation of the Commerce Commission, but to have an unbundled partial bitstream service in conjunction with certain commitments from the incumbent.
- October 2004: New regulation which compels all electricity retailers to offer a plan, the fixed charges portion of which cannot exceed 30 cents per day excluding GST.
- December 2004: The Electricity Commission was given the mandate to look at pricing methodology for investment in transmission as well as alternative options to transmission investment.

Labour market and social programmes

Previous recommendations

- *Unemployment and related benefit:* Shift towards in-work benefits. Make the benefit system less passive by strengthening activation policies. Broaden and enforce the work test. Avoid increasing the minimum wage.
- *Evaluation:* Evaluate ALMPs, the paid parental leave scheme, the cost and impact of the income-related rent programme.
- *Industrial relations:* Make sure that multi-employer contracts are flexible enough to take individual firm circumstances into account. If promoting collective bargaining is an objective, do it in a way that does not add to labour or employment costs. Avoid reducing labour market flexibility or increasing employment costs. Simplify personal grievance provisions, and institute a minimum trial period for new employees.

Actions taken

- March 2004: The government launched a new Job Partnership programme between Work and Income and the New Zealand Retailers Association. The new partnership with retailers is called "Straight 2 Work' and is the third formal agreement between Work and Income and industry under the Government's Jobs Jolt employment programme.
- May 2004: The "Working for Families" package, voted in the 2004 Budget, includes family support which increases by NZD 25 a week for the first child and NZD 15 a week for each additional child; maximum rates for the Accommodation Supplement, which increase in a number of areas to reflect the growing cost of housing. This package came into force in April 2005.
- May 2004: A NZD 56.9 million package in Budget 2004 for 15 to 19 year-olds includes the introduction of a new youth transitions service, personalised career planning for secondary school students and an expansion of the Gateway and Modern Apprenticeships programmes.
- October and December 2004: The government introduced changes to the Holidays Act to stop double payments of penal rates and to prevent employees who call in sick on public

holidays from being paid time-and-a-half on top of penal rates. The changes also allow employers to request medical certificates after one day if they suspect a worker is not genuinely sick.

- December 2004: The Employment Relations Amendment Bill (No. 2) strengthens the key objectives of the Employment Relations Act 2000 to promote good faith, collective bargaining and effective resolution of disputes. It introduces a bargaining fee to be paid by non-union workers to benefit from the terms and conditions of a collective agreement.
- December 2004: New paid parental leave laws now apply under the Parental Leave and Employment Protection Amendment Act 2004. The period of paid parental leave rises from 12 to 13 weeks and will rise again to 14 weeks from 1 December 2005. Women who have worked for the same employer for the previous six months for at least 10 hours per week are now able to access paid parental leave.
- December 2004: A new approach to support people on Sickness and Invalid's Benefits back into work has been extended to Wellington after being piloted in Auckland. PATHS (Providing Access To Health Solutions) helps people on these benefits get back into work by providing access to a range of health interventions, including intensive physiotherapy, access to pain clinics and fitness programmes. The programme is part of the government's NZD 20 million Sickness and Invalid's Benefits Strategy which will be implemented over three years.
- January 2005: Initiatives costing NZD 27 million will get more long-term unemployed into work and help more sickness and invalid's beneficiaries get jobs. Initiatives include enhanced wage subsidies for employers taking on people who have been unemployed longer than three years, home visits and increased availability of training.
- March 2005: The minimum wage increased from NZD 9 to NZD 9.50 per hour.
- May 2005: Seasonal workers who apply for unemployment benefit will be able to choose an income assessment period of 26 or 52 weeks for the assessment of the initial stand-down. Currently they have to have it assessed only over the last six months of work.

Education

Previous recommendations

- *Improving school performance*: Implement a nation-wide school assessment and publish indicators. Increase the supply of teachers through merit-based pay and/or by differentiating pay to reflect shortages in certain subjects. Ensure the efficient use of resources available for teaching remedial reading.
- *Tertiary education:* Encourage competition and treat public and private institutions equally. Implement any steering of tertiary enrolment in a way that does not reduce access and that treats private and public providers equally. Evaluate the impact on tertiary enrolment of the earlier decision to increase the generosity of the student loan programme.

Actions taken

- May 2004: The Budget 2004 includes a package for free early childhood education. New funding of NZD 365 million over the next four years in early childhood education means that from mid-2007, three and four year-old children will be entitled to 20 hours free

attendance per week at a community-based early childhood education centre. The budget also recognises the pressures on tertiary students with a NZD 110 million package. Parental income thresholds are significantly increased, meaning more than 40 000 students can now either receive full or partial allowances.

- September 2004: It was announced that NZD 111.3 million would be spent nationally over four years to fund 460 extra full-time secondary teacher equivalents. Bonded scholarships were announced to meet shortages of secondary teachers in specific domains. New scholarships are also being offered to attract more, qualified early childhood teachers.
- March 2005: A comprehensive package was announced in response to concerns and allegations raised about the tertiary education provider *Te Wananga O Aotearoa*. Reviews of pricing, quality and value of courses across the tertiary education sector were announced.
- April 2005: The new Statement of Tertiary Education Priorities (STEP) sets out the priorities for New Zealand's tertiary education system from now until December 2007. It focuses on improving the quality and relevance of tertiary education.

Tax policy

Previous recommendations

- Introduce a comprehensive capital gains tax.
- Tax the imputed rental value of owner-occupied housing, while making mortgage interest deductible.
- Align the top personal tax rate with the corporate rate.
- Consider a temporary exemption for foreign-sourced income to remove disincentives to immigration.
- Consider introducing a progressive taxation of employers' pension contributions, if the objective is to encourage participation of lower-income employees in employer-financed retirement savings plans.

Actions taken

- December 2004: The venture capital tax reforms removed tax barriers to NZ companies attracting private equity and venture capital from institutional investors in specific countries. The government has also announced it will exempt non-residents who invest in the Venture Investment Fund from tax on the profits when they later sell their shares.
- April 2005: A 6.7 per cent tax discount was opened to many self-employed people and partnerships in their first year of business.
- May 2005: Legislation has been introduced to make available a temporary exemption on foreign income of new migrants (and returning New Zealanders who have been non-resident for tax purposes for ten years) to assist the recruitment of labour and skills from outside New Zealand, and will apply from 1 April 2006.
- May 2005: The 2005 Budget announced reforms to ensure that portfolio investment through intermediaries – such as collective funds – is not overtaxed relative to direct investments, and to ensure that the income from these funds is taxed at the individual's correct tax rate thereby preventing the over-taxation of low income investors (earning

less than NZD 38 000 per year). These reforms will come into effect on 1 April 2007, and further details will be outlined in a forthcoming discussion document.

- May 2005: The 2005 Budget also introduced reforms to the tax depreciation regime so that depreciation rates better reflect how assets decline in value in practice. The reforms have removed a bias that favoured buildings relative to short-lived plant and equipment by introducing faster depreciation rates for short-lived plant and equipment, and reducing the depreciation rates for buildings.

Public management

Previous recommendations

- Undertake regular and comprehensive evaluation of baseline expenditures.
- Reduce fragmentation of Budget allocations, and improve strategic management.
- Make more use of market mechanisms.
- Strengthen top-down expenditure control (by retaining the provisions framework, improving capital budgeting, etc.).
- Strengthen fiscal management at the local government level.

Actions taken

- December 2004: The Public Finance Amendment Act incorporated the principles of responsible fiscal management that were previously in the Fiscal Responsibility Act. The Act also included a new requirement for the government to present a statement its long-term fiscal position.

State owned enterprises

Previous recommendations

- Resume the privatisation process. Re-privatise Air New Zealand as soon as market conditions allow.
- Conduct an overall review of the economic viability of the rail system on the basis of the overall social cost of rail *versus* road transport. Reassess the economic rationale for any subsidy or cross-subsidy to individual lines.

Actions taken

- July 2004: New Zealand's rail network came back in public ownership. Having paid NZD 1 for the track, the government started rolling out an investment programme worth NZD 200 million over four years, upgrading the track and replacing worn-out parts of the network.
- September 2004: the government released its National Rail Strategy (NRS). An emphasis of the NRS is to move more freight and commuters onto rail to help ease road congestion, reduce travel times and benefit the environment.
- March 2005: The government confirmed its plan to invest more than NZD 2 billion in transport infrastructure improvements over the next ten years by raising fuel excise duty by 5 cents a litre from 1 April.

Sustainable development

Previous recommendations

- Climate change: Rely on market instruments to meet greenhouse gas emission targets.
- Water pollution: Make discharge permits tradable within catchments. Monitor the effectiveness of voluntary agreements, and stand ready to introduce compulsory measures if needed.
- Development aid and trade: Implement the planned monitoring and evaluation of foreign aid as soon as possible, and focus aid on a core group of countries.

Actions taken

- June 2004/March 2005: Initial steps in the Water Programme of Action were completed, including public consultation. Issues regarding water allocation and use, and water quality were addressed.
- July 2004: The government approved the first ever national environmental standards aimed at air quality and controlling landfill gas emissions. There are seven standards for dioxins and other toxics, five for ambient (outdoor) air quality, one for the design of new wood burners in urban areas, and one requiring landfills to collect and destroy their greenhouse gas emissions.
- December 2004: The Aquaculture Reform Bill created a new regime that will enable councils to effectively manage aquaculture and encourage the industry to develop in a sustainable way. The Resource Management and Electricity Legislation Amendment Bill was introduced, including provisions to allow transfer of discharge consents.
- March 2005: the Ocean Survey 20/20 project was launched. It will build up a picture of New Zealand's ocean resources and ecosystems over the next 15 years.
- May 2005: Details were released concerning the implementation of the carbon tax, which was announced in principle in 2002. It will apply to fossil fuels when they are imported or produced and to certain other emissions of greenhouse gases from large geothermal developments and manufacturing processes. It will be set at NZD 15 per tonne of carbon dioxide or carbon-dioxide equivalent emissions, is expected to come into effect on 1 April 2007. The government also announced NZD 4.45 million over the next three years for pilot grants, training and education package to help energy-intensive small and medium sized enterprises to take up energy saving technologies to offset the impact of the carbon tax.
- May 2005: A government fund of NZD 136.9 million will be set up to help improve drinking water systems in New Zealand communities.
- Ongoing: NZAID is currently developing an evaluation policy and guidelines to strengthen evaluation in the agency, with implementation planned for the third quarter of 2005. The framework defines the role and functions of evaluation, its principles and criteria and will cover aspects such as integration of evaluation into the programme cycle, preparation of terms of reference, selection and oversight of consultants, quality control, reporting format, dissemination and use of findings, participatory evaluation and capacity building in evaluation.
- Ongoing: Although NZAID currently works with 19 core bilateral partner countries located primarily in the Pacific and South-East Asia, it is moving towards limiting this number and reconsidering the definition of core bilateral partners to make a clearer

distinction between a first-tier of in-depth engagements (reflected in the share of budget and management resources) and a second-tier of country programmes (with a smaller share of budget and management resource). In setting new policy directions for New Zealand's ODA, the government agreed that a core focus should be retained on the Pacific. NZAID is preparing a Pacific regional strategy focused on poverty elimination and the sustainability of aid.

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Chapter 2

Product market competition and economic performance

The chapter examines the current state of competition in a number of sectors that are important for the economy. Because of the country's small size and isolation, the analysis focuses on barriers to entry, investment and external trade, rather than some standard indicators of competition stance. The competition law and institutions are generally well-conceived, although high-profile litigation about mergers and market-power problems has stretched their capacities and until recently, diverted attention from enforcement against price fixing. Overall, markets appear to function well in New Zealand, but progress towards liberalisation seems recently to have lost momentum. In particular, improvement could be made in three main areas: in the energy sector, lifting current barriers to investment and developing forward markets are necessary to ensure the economy will be able to cope with long-term challenges; in telecommunications markets, concerns have been mounting regarding high prices and slow deployment of broadband; and in the public sector, there is scope for further use of private delivery for public services and reducing state ownership, especially in potentially competitive markets. Some adjustments to the regulatory framework and policies in a number of other sectors would also be beneficial.

New Zealand has been an OECD leader in implementing far-reaching liberalisation in most sectors. This has contributed to the country's strong growth and increase in employment over the last five years. At the same time, labour productivity growth has been only average, and in particular well below that in Australia. Much of the difference can be accounted for by lower productivity growth in the manufacturing sector, which may reflect insufficient competitive pressures in some product markets. Moreover, progress towards a more liberalised environment seems to have lost momentum recently, with more state involvement and a switch from light- to heavier-handed regulation in a number of sectors, including energy and telecommunications. This contrasts strongly with mounting evidence in the literature that competition can be an effective way to boost investment and productivity (OECD, 2003a; Alesina *et al.*, 2003).

Against this background, this chapter starts by reviewing the overall environment for competition in the economy before assessing the framework of competition legislation and its enforcement. The chapter then seeks to identify barriers to entry and investment in selected network industries and sectors, with a special focus on electricity and telecommunications. The chapter also looks at the scope for increasing private delivery in the public sector. A final section presents some policy recommendations.

Some indications of the strength of competition

Assessing the state of competition in a small, open and remote economy such as New Zealand's is a challenging task, and the usual tools and framework cannot be directly applied (Box 2.1). For instance, indices of concentration that are widely used in large economies are of limited interest, as the presence of few players in the market may simply reflect minimum scale and efficiency considerations.[1] Rather, the emphasis should be on barriers to entry and how they affect firms' behaviour. Indeed, if barriers to entry are low, the threat of entry by a new firm or expansion by an existing firm will be credible. An incumbent firm will perceive that pricing above competitive levels will attract entry and therefore will refrain from anti-competitive behaviour.

Although most indicators are subject to measurement errors and should be interpreted with great care, a number of standard measures suggest NZ markets are well-exposed to competition. Relative aggregate price levels are low by international standards, and even slightly lower than predicted by a simple relationship explaining relative price levels as a function of GDP per capita (Figure 2.1). This could signal that strong competitive forces are at work in NZ markets, but other factors may also have an impact on prices.

Product market regulation is less burdensome in New Zealand than in other countries, with quicker and fewer procedures for registering or closing a firm (Djankov *et al.*, 2002; World Bank, 2004). Associated compliance costs are not reported to be a major issue (Alexander *et al.*, 2004), and there are no regulatory impediments for a firm either to downsize or to become larger (McMillan, 2004). More generally, OECD indices of overall product market regulation indicate that New Zealand is one of the most liberal economies

Box 2.1. **Competition in a small, open and remote economy: some issues**

The essential characteristic of small countries is that their non-exporting firms are limited by the size of their local markets. This will have an effect on three types of efficiency (Evans and Hughes, 2003):

- *First*, allocative efficiency may be difficult to attain, as markets can support only a few firms in industries where scale is important. In this situation incumbent firms may be able to raise prices above competitive levels, leading to an inefficient allocation of economic resources across sectors. Small markets can also impede the ability of firms to achieve minimum efficient scale, implying higher unit costs. This seems to be the case for New Zealand. Indeed, New Zealand has higher industry concentration than the United States, the United Kingdom, Sweden and Australia (Arnold *et al.*, 2003), and there is some evidence that in a significant number of industries demand is small relative to the minimum efficient scale.
- *Second*, productive efficiency or x-efficiency *i.e.* the ability of firms to produce output at minimum resource costs can also be weaker if the threat of entry of competitors is not credible.
- *Third*, small markets affect the incentives to innovate and invest – so-called dynamic efficiency. This will be particularly important for industries specialised in new technology, as innovation and the resulting prospects of earning economic rents play a major role in these industries.

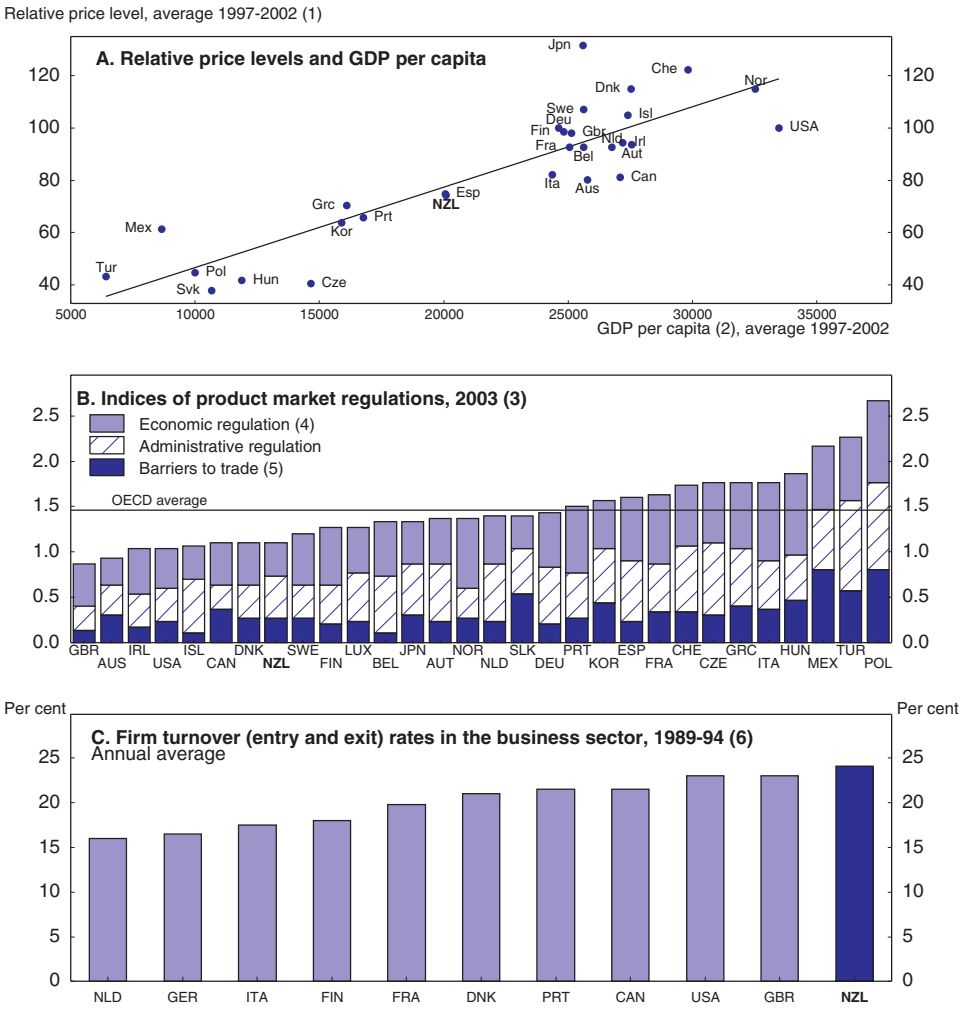
As a consequence, in small economies there will be a tension between the paucity of firms in many industries and the fact that these firms are often operating below optimal scale. These tensions could even be accentuated when markets are geographically fragmented, as in New Zealand. Indeed, this can lead to the presence of even smaller geographically distinct markets within the economy.

The key way to circumvent the disadvantage of size is to increase exports (thereby improving the ability of firms to achieve economies of scale) and imports (thereby providing increased competition). Imports appear to have a relatively greater impact on competition in small economies, while domestic entry regulation – achieved through competition law or regulatory policies – has a greater impact on competition in large countries (Hoekman *et al.*, 2001). As a consequence it is especially important in small economies that trade and investment policies are integrated with competition policy.

Harmonisation of competition law can be a useful tool to help to develop international trade. However, such processes can also lead to pressure on small countries to adopt the laws and regulations focusing on market power that are in place in larger economies and may be unsuitable for small economies (Gal, 2002). Therefore, moves toward co-ordination are probably more useful when based around an agreed set of principles, rather than rigid harmonisation of rules.

The NZ economy is also geographically isolated. Indeed, using gravity models, it is found to have the most remote position of all OECD countries (Evans and Hughes, 2003). Such isolation will affect the transport and transactions costs of international trade *vis-à-vis* other countries, even though these have fallen over time. It may also have implications for competition laws, as it aggravates the existing tension between concentration and scale.

Figure 2.1. **Indicators of competition**



1. Purchasing power parities divided by the exchange rate, USA = 100.
2. In US$, converted with PPPs.
3. The restrictive index scores range from 0 to 6. The higher the score, the greater the restrictions.
4. Includes barriers to competition and state control.
5. Includes trade and FDI restrictions.
6. Manufacturing sector for the United Kingdom and 1995-2000 for New Zealand.

Source: Conway *et al.* (2005), *OECD Economic Department Working Paper*, No. 419; Bartelsman *et al.* (2003), *OECD Economic Department Working Paper*, No. 348; Mills, D. and J. Timmins (2004), *New Zealand Treasury Working Paper 04/11*; and OECD National Accounts database.

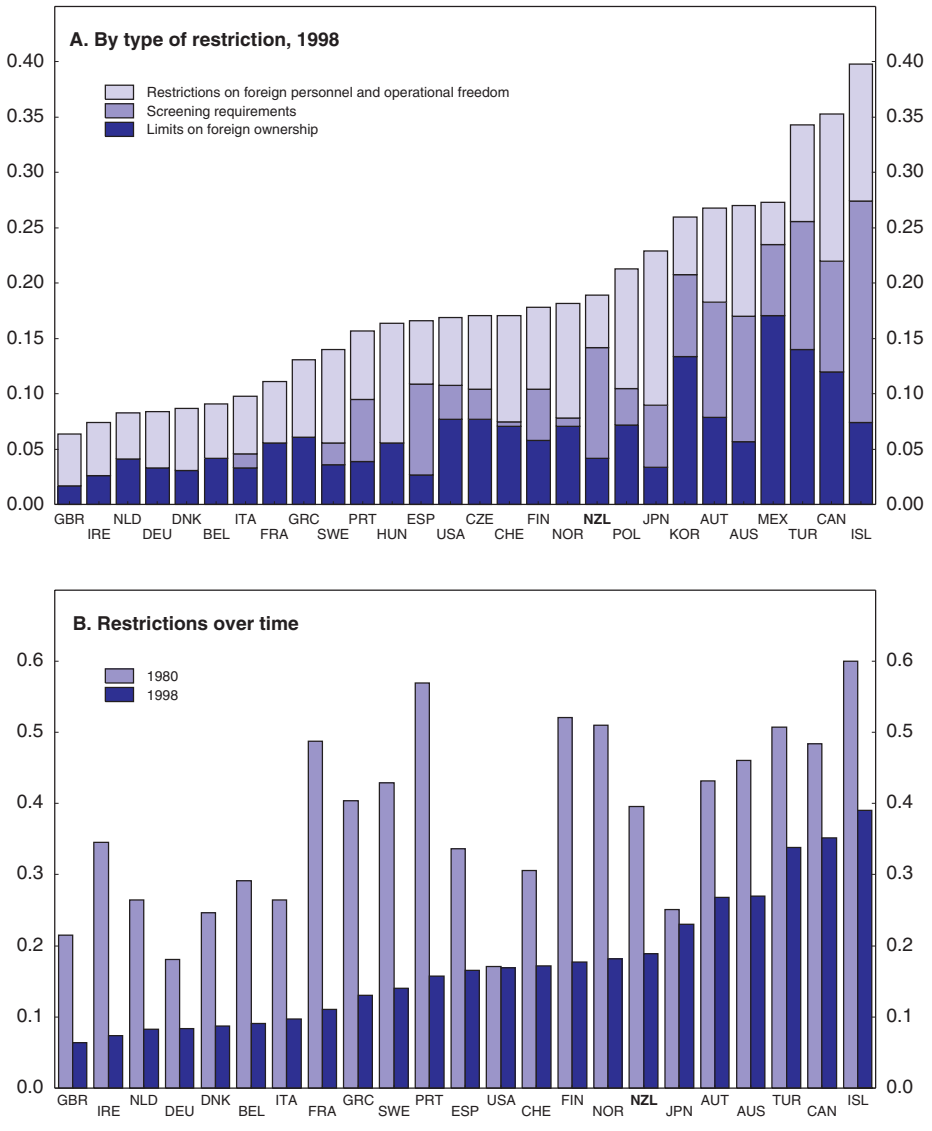
and has shown even further improvement from 1998 to 2003, consistent with the trend observed for the OECD as a whole.[2] However, the recent pace of liberalisation appears to have been slower than in other economies. This may reflect the already low level of restrictions in the late 1990s, as liberalisation started earlier than in the other OECD countries in a number of sectors, notably telecommunications and transport.

Regulation, in particular low administrative barriers to entrepreneurial activity, can have a direct impact on firms' entry and exit rates (OECD, 2003b). Entry and exit rates of

firms are higher in New Zealand than in a number of OECD countries and, in particular, higher than in countries with relatively low barriers to entry such as Canada and the United States.[3] This high turnover suggests that markets are not overly restricted.

Foreign Direct Investment (FDI) restrictions, as measured by the OECD indicator of overall barriers, are slightly above the OECD average (Figure 2.2). To a large extent this reflects screening requirements, which are much less restrictive than a hard ceiling on foreign ownership. Removing the screening component from the indicator would place

Figure 2.2. **FDI restrictions**[1]



1. The indicator ranges from 0 (least restrictive) to 1 (most restrictive).

Source: Golub (2003), *OECD Economics Department Working Paper* No. 357.

New Zealand amongst the 10 countries with the lowest barriers. Recent changes have been in the direction of easing these restrictions, and the government has put forward proposals to lower FDI restrictions in real estate in late 2004. Nevertheless, as in most OECD countries, foreign ownership restrictions still exist in international airlines, as a way to protect the national carrier's access to traffic rights obtained through bilateral air services agreements.

Competition legislation and enforcement

An integrated conception of competition policy motivated New Zealand's major reforms of the 1980s, one of which was a comprehensive revision of New Zealand's general competition law, the Commerce Act. Since 1998, New Zealand has enacted sector-specific regimes for telecoms, electricity, dairy products and consumer credit. In some cases, these moves toward specific rules disclose some dissatisfaction with the pace or the outcome of the process for applying general principles. But for the most part these regimes have been created in an approach consistent with the original paradigm of generic and integrated oversight. Overall, the result resembles common practices elsewhere, although the sector regimes are tied more closely to the general competition authority than in many other countries. Under the Commerce Act, controlling monopoly pricing in a sector begins with an investigation by the competition enforcement body, the Commerce Commission. Generally, the remedy will be implemented through rules pursuant to additional legislation, rather than orders under the Commerce Act itself. The Commerce Act continues to apply, and the sector regulators for telecoms and electric power are members of the Commerce Commission, albeit with some independent powers.

The scope of exclusions from competition law is generally consistent with what is found in other Member countries, as is the fact that sensitive sectors may succeed in getting special treatment. On the positive side, most traditional exemptions for agricultural producer boards have ended; however, in the dairy industry, the board has been replaced by a regulated near-monopoly in processing. After the Commerce Commission refused to permit the two largest processors to merge, special legislation authorised the combination and gave the merged firm a time-limited sole right to access the country's tariff rate quotas imposed abroad. Most other economic regulations were removed, but a new regulatory system had to be established, administered by the Commerce Commission, to protect the interests of domestic suppliers and consumers in the face of this *de facto* near-monopoly. The Dairy Industry Restructuring Act 2001 imposes behavioural constraints on Fonterra, which apply in addition to the general constraints contained in the Commerce Act. The practical effects of this *ad hoc* substitute for the application of general competition law on the market-place remain somewhat unclear and merit further examination. In transport, policy consistency would be promoted by eliminating the Minister of Transport's special powers about restraints on competition in international air carriage and international ocean shipping, or at a minimum ensuring that the Commerce Commission is consulted in their application. An unusual exemption gives trade associations an exemption from the *per se* prohibition against price fixing (if the number of members is large enough). These associations are not, however, exempt from the generic prohibition against agreements substantially lessening competition. Although the Commerce Act contains measures that could limit abuse, it would be simpler just to eliminate this provision.

The principal goal of competition policy in New Zealand is efficiency. The total-surplus welfare standard[4] that the Commerce Commission applies may be particularly appropriate for a small, remote but open economy, since it internalises an incentive to

make exporting industries more productively efficient, while providing implicitly for dynamic efficiency. Agreements or mergers that lead to greater efficiency or other public benefits can be authorised if the benefits outweigh the anti-competitive effects. However, the process can be elaborate and expensive and the result may belie the aspiration to base decisions on economic analysis. After a long process at the Commerce Commission, reviewing courts are asked to resolve inconsistent assumptions underlying econometric models for quantifying effects on allocative inefficiency, while the quantification of other claims is even more uncertain. Unquantifiable, but admittedly legitimate, claims are relegated to a tie-breaking role. The court panel deciding these cases may include an economist or other lay members, who may be particularly valuable in dealing with technical aspects of economic modelling. The lay member acts merely as an advisor to the judge, who has ultimate decision making authority, to mitigate the risk that the lay experts become *de facto* decision-makers and hence shapers of policy.

Because high-profile litigation about mergers and market power problems has demanded a large share of the Commerce Commission's attention recently, only a few cases have addressed horizontal collusion. New Zealand's success in addressing horizontal collusion will depend on the success of the recently strengthened leniency programme introduced in November 2004, coupled with effective sanctions, and the development of trans-Tasman enforcement co-operation. The Commerce Commission has already had some parties come forward with information following the introduction of its Leniency Policy and is dealing with five major cartel investigations. The Commerce Act provides for substantial civil fines against firms and individuals, but fines actually imposed have not approached those that are now being meted out in many other jurisdictions. Yet, the prospect of substantial penalties, and thus a substantial incentive, is a necessary foundation of an effective leniency programme. Under the Commerce Commission's recently revised programme, the Commission promises not to fine the first member of a cartel to apply; however, others who confess and co-operate later may also receive significant reductions. Thus, it is not clear whether the programme has enough asymmetry to destabilise cartels. Consistency and co-ordination with leniency programmes in other jurisdictions, especially with the Australian Competition and Consumer Commission, will be important because of the close integration of their economies. But formal legal arrangements currently make it difficult for the New Zealand and Australia enforcement agencies to co-operate effectively by exchanging information that has been obtained through their information-gathering powers and to use those powers to respond to a request for investigative assistance from each other. Measures to permit such information flows would have to include means to ensure against unauthorised use and disclosure of confidential or protected information. The government's recent initiatives to strengthen the ability of the Commerce Commission to provide investigative assistance and share information with overseas competition regulators will assist in this regard. Legislation to affect this change will be introduced shortly.

Regulatory policies at the sectoral level

New Zealand has undertaken wide-ranging liberalisation in most sectors, and its experience is likely to be informative for other countries that are at an earlier stage of the deregulation process. Although there is a broad consensus that its domestic markets function well overall, regulatory policies in service sectors vary in scope, and there appear to be some pockets where competition could be improved. This section reviews a number of

areas that are important for the New Zealand economy, with a special focus on energy and telecommunications.

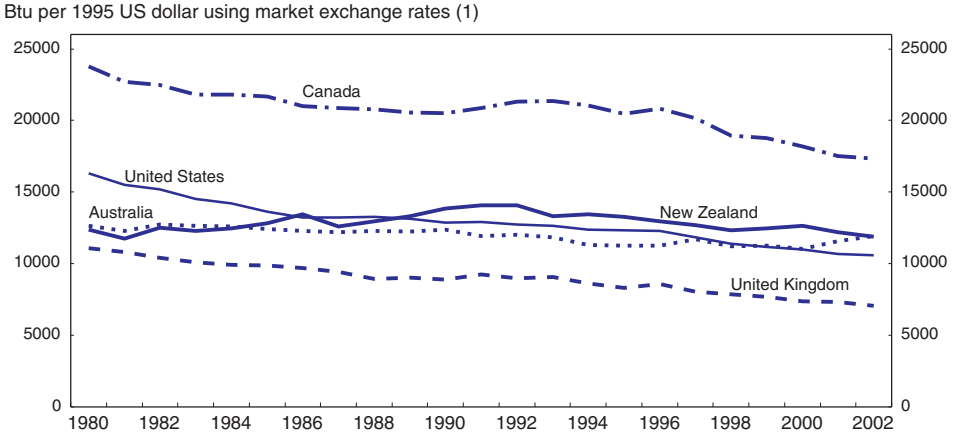
Energy: will the current arrangements be flexible enough to address long-term challenges?

The electricity system in New Zealand is heavily dependent on hydro resources with a limited storage capacity[5] and because of distance, it is isolated from other countries' grids. Hence it is vulnerable to seasonal energy shortages, which are difficult to predict. Such episodes have already happened in 2001 and 2003 and were characterised by very volatile spot prices.[6] Long-term projections of the country's energy supply suggest this vulnerability will heighten over time: world demand for oil keeps increasing and prices are volatile; known domestic reserves of gas are declining, in particular with the depletion of the Maui field; and alternative sources of energy appear limited given current technology, as environmental concerns have discouraged the country from developing coal and nuclear generation.

At the same time energy consumption is growing by about 2% per year, and economy-wide energy intensity remains high, even higher than in the United States (Figure 2.3). There is room to improve energy efficiency, especially in the commercial, transport and residential sectors (Ministry of Economic Development, 2004a). Against this background, the government released in 2000 the National Energy Efficiency and Conservation Strategy and set up targets for improving energy efficiency and increasing the use of renewable sources. However, energy efficiency appears to have increased by only 1% overall between March 2001 and March 2003, a lower rate than what would be needed on average to meet the target gains of 20% by 2012.[7] These disappointing results can be explained by structural factors such as the country's high concentration of raw material processing, but also by low energy prices that have reduced the incentive on users to use energy more efficiently. Even if further progress is made, rationalising the demand side of the market will only delay the need for new energy generation capacity and improvement in production efficiency, not eliminate it. It would therefore be worthwhile to investigate whether there is scope to increase efficiency

Figure 2.3. **Energy intensity**

Total primary energy consumption per dollar of gross domestic product



1. A British thermal unit (Btu) is the amount of heat energy needed to raise the temperature of one pound of water by one degree. 1 Btu = 1 055 joules.

Source: US Energy Information Administration, International Energy Annual (2002).

on the supply side by injecting further competition in the market, removing potential barriers to investment and entry and developing a more liquid forward market.

Electricity

New Zealand started liberalising its electricity market earlier than many OECD countries. Until the end of the 1980s, the electricity sector was completely regulated. Between 1987 and 2001 it was progressively deregulated, with the creation of retail and wholesale markets.[8] Only light-handed regulation was applied to areas where competition appeared to be weak. However, since the beginning of the current decade, regulatory changes have been toward greater intervention in the sector, which is mostly state-owned (Box 2.2).

The main challenge for the sector will be to ensure sufficient investment in generation and in the transmission grid in the context of rising energy consumption and long-term supply concerns. A necessary condition to foster investment in a small and isolated energy sector is to ensure sufficient information on firms' investment plans is available to market participants. The Electricity Commission is required to publish at least every two years a document providing relevant information on investment opportunities.[9] Indeed, this will lower the risk of a firm being left with superfluous assets if another energy generator unexpectedly increases its capacity and the market moves into excess supply.

Uncertainties about the current and future regulatory environment seem to inhibit investment in the sector, and the central question is how to address these barriers (Murray and Stevenson, 2004; Price Waterhouse Coopers, 2004). In early May, the government announced that the carbon tax, which has a major impact on the relative economics of different energy sources, would be set at NZD 15 per tonne. This has removed one major short-term uncertainty, but a number of others remain and market participants may decide to keep their investments on hold until they are clarified:

- The framework substantially changed in 2003 with the creation of the sectoral regulator, the Electricity Commission. But there are still unresolved questions about how the Electricity Commission will operate and how it will interpret the security of supply policy.
- The Resource Management Act (RMA) significantly lengthens the planning phase of any project. Uncertainties also arise from the variation in approaches adopted by different local councils implementing the RMA, which may affect the expected rate of return. Planned changes to the RMA may lower these obstacles to investment, but the government will need to ensure that this happens.
- The present system for allocating property rights by resource consents may not be optimal, particularly for water (see Box 2.3) and in particular, there is a risk that existing rights held by the incumbent resource consent holder could be diminished. These uncertainties have been only partially clarified by the Ministry for the Environment and until the current review of alternative mechanisms has been completed and a new framework put in place, incentives to invest in new hydro generation will be weak.
- Some characteristics of the current regulatory framework for transmission are also likely to have a negative effect on investment, not least because transmission and generation are to some extent substitutes for supplying electricity.[10] The previous regulatory model for transmission investment was based on contracts with users, but no investment took place because of a number of problems, including free-riding. However, although the present regulations may lead to more investment, decisions may still be distorted across the sector as a whole. By regulation, the transmission company, Transpower, has less costs and risks

Box 2.2. **Overview of the electricity sector**

Structure of the market

New Zealand's electricity sector has four main components:

- *Generation* (electricity production stations). Four main generation companies produced around 90% of output in December 2003 and three of these are state-owned enterprises (see Box 2.5).
- *Transmission* (the high voltage network known as the national grid). It is owned by a public *de facto* monopoly Transpower.
- *Distribution* (companies that provide local low voltage electricity lines to connect consumers to the wider grid). These lines companies are *de facto* local monopolies that sell their distribution or lines services to retailers who manage the electricity supply agreements with end consumers. There are some 28 distribution firms and they are publicly listed companies, local authority-owned or local community-owned trusts.
- *Retail* (companies that buy wholesale electricity from the generator companies and sell it to end consumers). They purchase distribution services on behalf of their consumers.

The Electricity Industry Reform Act 1998 separated electricity distribution services from generation and retail and was intended to promote effective competition among generators and among retailers. It limited cross-ownership between distribution assets and either generation or retailing activities to a maximum of 10%, and most distributors sold their retailing business to large generators. Currently, only 5% of retailers are not vertically integrated.

Regulatory framework

The current system has the following main features:

- Price surveillance of transmission and distribution businesses (the so-called lines business) is under the responsibility of the Commerce Commission and done through a system with two thresholds: a price-path threshold and a quality threshold. In effect, these thresholds are a screening mechanism to identify firms whose performance may warrant future examination and possible control. Lines businesses are also required to disclose information concerning their business, such as profits, costs, asset values, and price (including terms and conditions of supply).
- A sector-specific regulator, the Electricity Commission was established in September 2003 to oversee New Zealand's electricity markets. It also has the task of establishing a decision-making process and a pricing methodology for investment in the transmission grid, improving demand-side participation in the wholesale market and ensuring consumer protection. General consumer protection laws also apply.
- After two episodes of supply shortage, the regulator's traditional objective of efficiency has been complemented by a security of supply objective. The Electricity Commission is required to ensure the security of electricity supply in a "one in 60" dry year* by contracting for reserve energy and requiring information disclosure by generators. Some of these costs will be financed by a levy on the industry.

Mixed evidence on the state of competition

No new retailers have entered the market since the winter of 2001 (Hansen, 2004), which could suggest weak competition. There is evidence of a slow migration of consumers away from the incumbent retailers, indicating some increase in competition (Ministry of Economic Development, 2004b). On average, prices on the wholesale markets are estimated

Box 2.2. **Overview of the electricity sector** *(cont.)*

to be above the long-run marginal costs of generation, which may suggest some use of market power, although a number of other factors — scarcity of generation assets and uncertainties regarding long-term developments and their impact on long-run costs — have certainly also affected price developments (Murray and Stevenson, 2004). Moreover, this result should be interpreted with caution because uncertainties over gas supply and site-specific costs of renewable technologies render the estimation of a well defined forward marginal cost curve very difficult.

* There should be enough reserve generating capacity so that only a drought severe enough to occur on average only once in 60 years would result in a shortfall of available supply.

associated with securing approval of investment than other firms. Moreover, the current transmission pricing system, with charges levied by regulation rather than by contract, also creates rigidities. The Electricity Commission is currently looking at pricing methodology for investment in transmission as well as alternative transmission options, but given the complexity of the tasks, this process is likely to be time- and resource-intensive and may delay investment decisions.[11]

Concerns have mounted relating to the increasing role of the government in the sector (Price Waterhouse Coopers, 2004). In August 2004, the government agreed with Genesis, a State Owned Enterprise (SOE), to underwrite its fuel-supply risk to develop a gas-fired electricity plant. A year before, the government had already intervened with the construction of the Whirinaki reserve energy plant by the private company Contact Energy. Both decisions were taken to provide greater security of supply, and the government has declared these agreements were a response to very particular circumstances and cannot be expected to be repeated in the future (Hodgson, 2004). Still, they have sent mixed signals to the market and may have been an obstacle to private investment. Moreover, some evidence has been found that, contrary to the SOE Act, the government has accepted lower expected returns from its investment than would be required by a private shareholder (Auckland Uniservice Limited, 2004). Overall, the perception of unfair competition between private investors and SOEs may have increased. Privatisation of these assets may address this perception and lower this uncertainty (see below).

Extensive vertical integration is likely to limit competition among generators and among retailers and the forward electricity market is currently illiquid and lacks transparency (Hansen, 2004). Vertical integration between generators and retailers is one way for companies to manage price risks in the wholesale market and therefore reduce their need to trade from the forward markets. But in principle, a liquid and transparent forward market for electricity would enable market participants to manage their risks and also facilitate competition in the retail market. It would also provide price information for large consumers and clearer long-term price signals to guide investment in new generation. In addition, a transparent process for forward prices would send the Electricity Commission early warning signals about future supply problems and make it easier to manage potential crisis situations. Against this background, the Electricity Commission has been given the task to promote hedge markets (Ministry of Economic Development, 2004c). Moreover, in

Box 2.3. **Review of water allocation rights**

Growing demands for fresh water and declining quality in some areas led the government to establish a Water Programme of Action in 2003 to examine all aspects of water – cultural, economic, environmental and social, including water allocation and use. This programme is part of the Sustainable Development Programme of Action and is coordinated by the Ministry of Environment and the Ministry of Agriculture and Forestry.

Responsibility for water management is currently delegated to regional councils through the Resource Management Act (RMA). Anyone wishing to take or use fresh water must apply for resource consents. They are issued on a "first come, first served" basis to applicants that can demonstrate they have a reasonable need for water and can meet the environmental sustainability requirement of the RMA. They can last between one and 35 years, and the custom has been to renew them when they expire. Water permits can be transferred, but in practice it rarely happens, despite a growing demand for transfer consents.

In June 2004, the Ministry for the Environment identified a number of problems in the current system:

- The system encourages very little strategic planning to cope with increasing demand for water.
- The system is administratively complex and inconsistent in its outcomes.
- Most regional plans provide limited evaluation of where water would be most valued for environmental, social, cultural and economic reasons.
- The first-in first-served system does not lead to an efficient allocation system where there is insufficient water to satisfy all demands.
- There is little use of the ability to transfer and reallocate water.
- There is no incentive for technical efficiency.
- The length of consent may imply tension between certainty and flexibility.
- Opportunities for Maori to participate in the process are restricted.
- There is a very small pool of people with appropriate skills working on water issues.

In December 2004, the government put forward for public consultation a package of possible actions, covering a full spectrum of approaches including regulatory and market-based approaches, public education, and building skills and knowledge of those involved in water management.

Source: Ministry for the Environment (2004) and Ministry for the Environment and Ministry of Agriculture and Forestry (2004).

January 2004, the four largest generators/retailers created an energy hedge market to trade standardised derivative contracts, although so far transactions have been few.

A broad range of measures could enhance the transparency and increase the liquidity of the forward market, but first, a better understanding is needed of the role of vertical integration and the extent to which the small size of the underlying physical market limits the potential for extensive trading. Splitting up generation and retailing could improve competition in the retail market and enhance investment and would be particularly beneficial in case of very low competition in the retail sector. A less extreme approach would be to favour the entry of independent retailers, while at the same time allowing vertical integration when it provides a better outcome in terms of efficiency and profits (Hansen, 2004). Another possibility could be to create blind markets for hedges, in which buyers and

sellers transact with third parties, and to encourage firms to trade in these markets. In addition, Chinese walls (similar to those that exist in Nordpool, the Nordic electricity market) could be imposed on generators so that their retail businesses do not have access to more information than their competitors. But the introduction of Chinese walls is more costly and harder to put in place than simply splitting up the vertically integrated firms and the benefits and costs of each approach would need to be thoroughly investigated. Other measures such as encouraging large consumers to hold hedges (for instance, by granting exemptions from the reserve energy levy) would also help increase the liquidity of the market.

Natural gas

Gas industry reforms began in 1987 and the sector was largely privatised. The government is still a party in the Maui gas contracts, although the effective purchasers are the major gas users. Over the 1990s, legislation injected competition in the gas market through the termination of exclusive franchise arrangements, introduced information disclosure regulation[12] and removed price control (the 1992 Gas Act and the 1997 Gas Information Disclosure Regulations). The industry is characterised by its high concentration in production (one company controls almost 90% of the production) and vertical integration in some parts of the industry.

The sector will have to cope with major structural changes in the next decade. Indeed, the main production area, the Maui field, which has provided about 80% of the nation's needs for two decades, is now expected to be depleted by around 2007. Exploration for new reserves increased in 2004, despite uncertainties about the carbon tax, spurred by the rise in gas prices and encouraged further by a series of new measures announced in June 2004. At the same time, the two largest power generators – Genesis and Contact Energy – started investigating whether importing liquefied natural gas (LNG) would be a cost-effective option for generation to replace the expected shortfall in New Zealand gas supplies. Future gas supplies will thus be drawn from a number of smaller fields or from imported LNG, rather than one dominant field as is currently the case. This will require more flexible trade arrangements than those currently used. In particular, restrictions on access to transmission pipelines need to be closely re-examined.[13] Moreover, there is a need to develop protocols, standards and data management processes and define data requirements for the management of gas flows across the wholesale market (ACIL Consulting, 2001; Ministry of Economic Development, 2004d).

As in the electricity sector, recent developments have increased regulation of the sector. *First*, self-regulation has been replaced by a co-regulatory model in order to prepare the transition to a post-Maui era. This model is supported by the industry, and the operation and costs of the regulatory body will be directly borne by the industry participants. Moreover, the industry body would have a comparative advantage over a central regulator in assessing the costs and benefits to industry of alternative rules, as it will be able to leverage off the knowledge and experience of industry participants. *Second*, the Commerce Commission has proposed direct price control of two companies, Vector and Powerco, in response to complaints of abuse of monopoly position. Although such a measure can have some benefits, including reductions in excess returns and increased productivity, they may also have indirect costs by reducing service quality, distorting investment decisions and perpetuating productive inefficiencies. It would be preferable to introduce a surveillance system with price thresholds, similar to the one that exists for the electricity lines business,

which would be more flexible and less distortionary. This alternative has also been proposed by the Commerce Commission.

Telecommunications: How should competition in termination rates and broadband be stimulated?

New Zealand was one of the first countries in the OECD to start deregulating its telecommunications sector. The market was opened to entry in 1989, and Telecom New Zealand was sold to wholly-owned subsidiaries of Bell Atlantic Corporation and Ameritech Corporation in 1990. All the major competitors in the market today are privately owned. Following a period of self regulation, the 2001 Telecommunications Act restructured the telecommunications regulatory regime by providing for greater industry-specific regulation. It established a Telecommunications Commissioner within the Commerce Commission who is in charge of resolving disputes over access to certain regulated services and allocating the cost of the Telecommunications Service Obligations (TSO) including the "Kiwi Share" (Box 2.4). He is also required to make recommendations on a number of issues

Box 2.4. **The Kiwi Share**

The Kiwi Share was established when Telecom New Zealand was privatised in 1990 and is essentially a contractual agreement between the Crown and Telecom that enables the government to meet certain social objectives in telecommunications. It was renegotiated in 2001 to incorporate changes in the telecom environment. The updated Kiwi Share ensures that virtually all New Zealanders are able to access basic telephony and Internet services.

Specifically, Telecom's Constitution requires it to:

- maintain a local free-calling option for all residential telephone customers;
- limit the rate of residential telephone rental price increases so that the pre-GST standard rental will not increase in real terms from that applying at 1 November 1989;
- ensure that the line rental for residential (phone) users in rural areas be no higher than the standard residential (phone) rental; and
- continue to make ordinary residential telephone service as widely available as at the date of adoption of the (Kiwi Share) Articles.

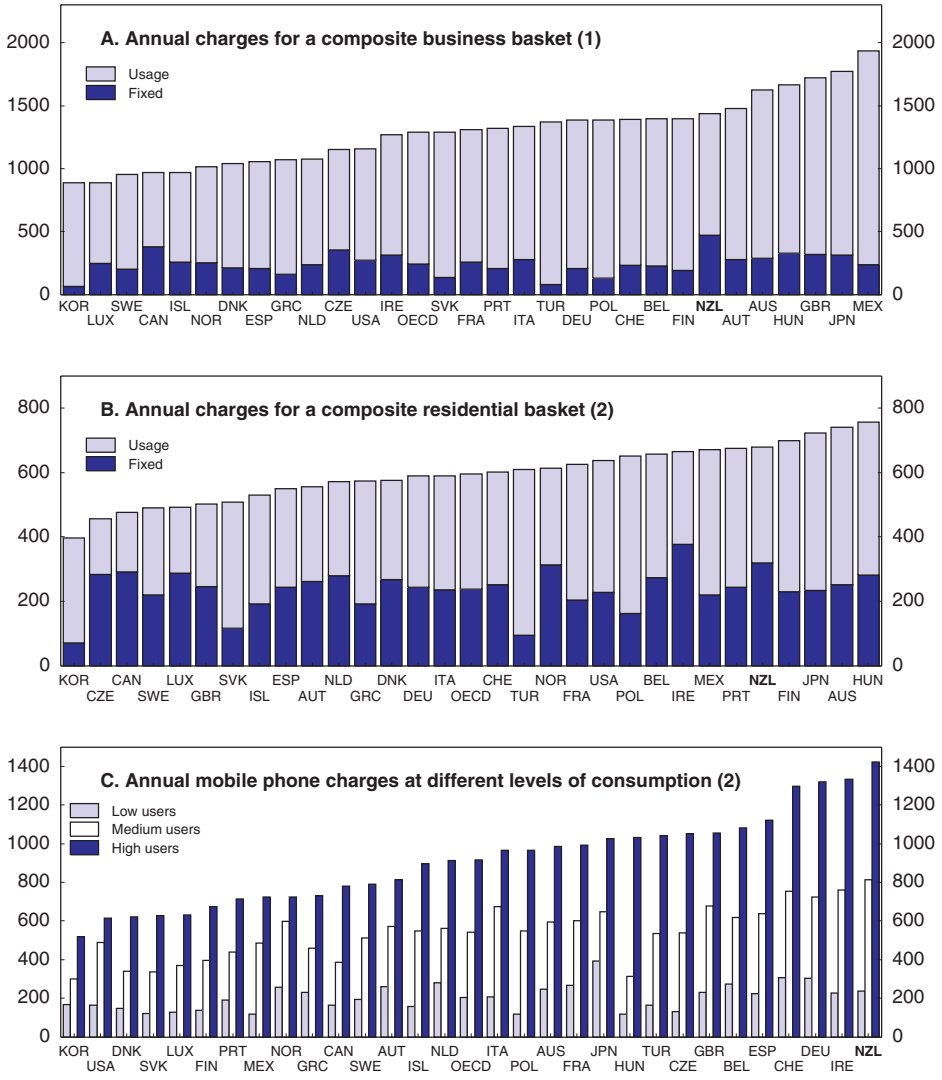
Source: Ministry of Economic Development.

and may act alone or with two other Commission members. A review of the Act is underway with the aim of fine-tuning and of clarifying the current legislation.

Despite these early reforms, prices in many categories of telecommunications are still unsatisfactorily high. Annual charges for the OECD composite basket of services for both business and residential users remain amongst the highest in the OECD countries (Figure 2.4). To some extent, this reflects issues of measurement, as residential telephone service prices are estimated to be lower when using a comparison basket of services that more accurately reflects New Zealanders' typical usage (Ministry of Economic Development, 2004e). One potential reason for this disappointing performance could be that operators charge high price for some services (for business or international calls) to compensate for the

Figure 2.4. **Telecommunications prices in OECD countries**

US dollars, August 2004



1. Excluding VAT.
2. Including VAT.

Source: OECD, Communications Outlook database.

costs they face because of the free local option established in the Kiwi Share. However, cross-subsidisation is estimated to be small in New Zealand.

Evidence on the state of competition in the mobile market is mixed. Mobile phone charges are very high by international standards: indeed they are the most expensive in the OECD for high and medium users, though there is no evidence that network costs in New Zealand should be different from other countries. Moreover, the market is highly concentrated with only two main competitors (Telecom New Zealand and Vodafone). A

number of significant barriers may deter or delay entry in the market: obligation to have demonstrated plans to build a national network to have access to regulated national roaming, high fixed costs due to low population density and rugged terrain and the absence of number portability (though this is expected to be available by 2007). At the same time, there are significant movements in market share (with Vodafone now having a higher market share than the incumbent), increasing market penetration and investment in new technologies such as 3G networks.

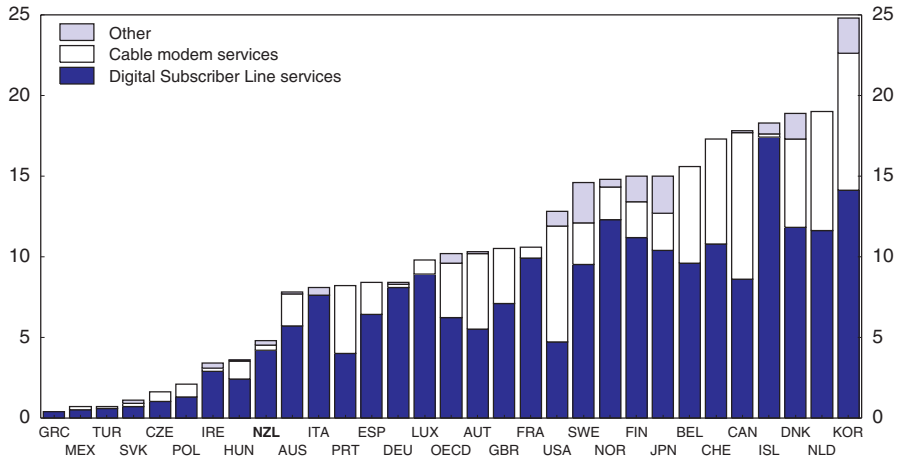
The price of residential and business users' fixed-to-mobile calls is significantly higher than in other OECD countries and has recently become a source of concern (Ministry of Economic Development, 2004c). This stems mostly from the lack of competition in mobile termination charges. This situation is common in OECD countries where the caller pays for calls to mobile, as mobile subscribers care only about prices of the calls they make (OECD, 2004b). A number of different approaches have been adopted in OECD countries to address these issues: in the United States and Canada, the receiving number contributes to the costs of both incoming and outgoing calls. This arrangement may have led to more competition because charges are paid by the end user who also chooses the network operator. Other countries such as Australia or the United Kingdom have chosen to extend their regulations to mobile termination charges. In June 2005, the Commerce Commission recommended to the Minister of Communications that the termination of fixed line voice calls on a cellular telephone network should be regulated. However, in order to avoid any delay in 3G investments, regulations are being proposed on existing non-3G networks only. The proposal relies on a cost-benefit analysis of a regulated reduction in termination charges that includes an allowance for an increase in mobile price, and finds an increase in the consumer surplus (Commerce Commission, 2005). However, it is extremely difficult to quantify the detrimental effects of termination rates' regulation on mobile price. The amplitude of these effects depends on the state of competition in the mobile phone market, for which evidence is mixed. Moreover, the regulation of termination charges should be designed so as to minimise the potential uncertainties and distortions it could generate.

The uptake of broadband Internet access is amongst the lowest in the OECD (Figure 2.5), particularly for households.[14] It has increased in 2004, but at a slower pace than in most other OECD countries. This cannot be explained by being at an earlier stage of the diffusion process of broadband compared with other countries, as New Zealand was one of the first OECD countries to offer commercial broadband services in 1996. Moreover, broadband availability compares favourably with other OECD countries. The rollout of broadband has even been spurred recently in remote areas by government subsidies to ensure that all schools and communities benefit from broadband by the end of 2004 (Probe Project). More recently, the 2005 Budget provided NZD 24 million over four years for the Broadband Challenge. It is part of the Digital Strategy and of the government's goal to be in the top quarter of the OECD for broadband uptake by 2010. It aims to promote high-speed capacity for regional centres and their businesses and to make broadband available for small communities.

The low uptake can be explained by a combination of factors (the first two being the most important):

- Relative prices favour dial-up over broadband. Indeed, there is evidence that broadband prices are relatively high by international standards.[15] Moreover, residential dial-up is very

Figure 2.5. **Broadband subscribers per 100 inhabitants**
December 2004



Source: OECD, Communications Outlook database.

cheap, reflecting low ISP cost. Although prices have moved down rapidly in recent months, dial-up and broadband prices have still not fully converged.

- Limited availability of cable access (except in Wellington) and a geographical profile that constrains its expansion. This differs markedly from Korea, Canada, the Netherlands and the United States where cable represents a significant share of broadband connections.
- Good quality and availability of dial-up services.

So far the low uptake of broadband does not appear to have been an impediment to growth, as Internet penetration has been high. The NZ authorities have indicated their desire to favour broadband deployment, as broadband communication is expected to become increasingly important with the development of electronic commerce and the delivery of services such as public health or education through the Internet. Development of new technologies is also likely to increase demand for the higher bandwidth capacity of broadband. Moreover, in the case of New Zealand, there is evidence that the dial-up market is approaching maturity and that dial-up users are migrating toward more efficient technologies, including broadband (Howell, 2003).

A range of demand and supply side initiatives have been used in OECD countries to support broadband. Direct financial supports such as tax incentives, low-interest loans and subsidies have been common, but they can inhibit competition and distort investment decisions. The implementation of unbundling policies that took place in many OECD countries in 2000-01 was an important regulatory initiative facilitating the development of broadband. However, New Zealand did not follow this trend. Following recommendations from the Commerce Commission, the government decided not to require full unbundling of the local loop in May 2004 but recommended an unbundled partial bitstream service.[16] This choice was criticised by some on the grounds that it was not supported by a sound cost-benefit analysis and revealed the dominant role played by the incumbent (Small, 2004). Still, mandatory unbundling is not the only way to achieve competition in the retail market.[17] Nor is it clear that complete unbundling has in fact resulted in more competition in the retail and

wholesale markets or enhanced investment and innovation, as illustrated by the experience in the United States, Canada, the United Kingdom and Germany (Hausman and Sidak, 2004). In any case, the emergence of alternative technologies such as wireless local loops, cable, fibre, satellite and Ethernet is likely to play an increasing role and reduce the relative importance of local loop unbundling in the future. It could be argued that the current regulatory framework actually encourages the emergence of new technologies that do not rely on the copper wire connection. New Zealand's small size might even be an advantage by providing operators with an opportunity to pilot new products before launching them on a larger scale in other countries.

In the specific case of New Zealand, one pre-requisite would be to investigate the sources of the low uptake and subsequently take the appropriate measures to stimulate broadband developments. Overall, the most constructive role for the government would be to limit itself to creating the right incentives to draw private firms into broadband deployment. In addition, given that broadband technologies are likely to develop rapidly in the coming years, measures need to be based on sound and systematic data analyses to avoid the risk that a regulatory intervention to support a particular delivery mechanism creates inefficiency in the market overall.

Public sector: resuming the privatisation process and making more use of market-based principles

After having implemented a large-scale privatisation programme, there has been a reversal of policy toward increasing public ownership since 2001. This change in direction contrasts with the trend observed in other OECD countries, where privatisation activities have continued, though at a slower pace. Currently, the government still owns a significant portion of commercial businesses assets: SOEs and Air New Zealand had total assets of NZD 15.3 billion (approximately 10% of GDP) in June 2004 (Treasury, 2004). Although the overall share is relatively low compared with other OECD countries (OECD, 2005), public ownership is particularly important in potentially competitive industries such as electricity (Box 2.5). Other SOEs operate in agricultural services, postal service and land management.

Since the 1986 State Owned Enterprise Act, SOEs in New Zealand have been expected to function like private enterprises and achieve a commercial rate of return. However, empirical evidence from a broad range of countries indicates that on average, private firms achieve higher efficiency than state-owned companies and that privatisations improve firms' financial health and enhance capital investment (Megginson and Netter, 2001). At the same time, privatisations have been found to increase consumer welfare (Gonenc and Maher, 2001) and to have a positive impact on multi-factor productivity (Nicoletti and Scarpetta, 2003). Moreover, although in principle SOEs should operate under the same market conditions as private firms (for instance, they are not exempt from New Zealand competition law), there is a risk that markets perceive SOEs as benefiting from special advantages due to their government ownership. The Genesis episode (see above) has reinforced this perception and undermined the credibility of the SOE model. Against this background, resuming the process of privatisation is likely to be a fruitful avenue and facilitate the smooth functioning of markets.

Another way to improve performance is to use market-type mechanisms such as outsourcing or Public-Private Partnerships in the delivery of public services. In New Zealand, government agencies are responsible for their own purchasing procedures within a policy framework based on principles of value for money and open and effective competition

Box 2.5. **Government ownership in selected industries**

Public ownership is mostly concentrated in strategic and infrastructure sectors. It has also increased in a number of commercial sectors since the beginning of the decade.

Electricity: The transmission grid connecting most of the major power stations is operated by Transpower, which was established as a stand alone SOE from ECNZ in 1994. The most important generation firms, Genesis Power Ltd, Meridian Energy Ltd. and Mighty River Power Ltd., were created in 1999 and are also owned by the government. The only private player in generation is Contact Energy, which was privatised in 1999. Overall, this sector represents about ¾ of total SOEs assets (including Air New Zealand).

Airlines: In 2001, the government announced a rescue package for Air New Zealand, which had experienced financial distress, and bought new equity. The government holds around 80% of the company's shares.

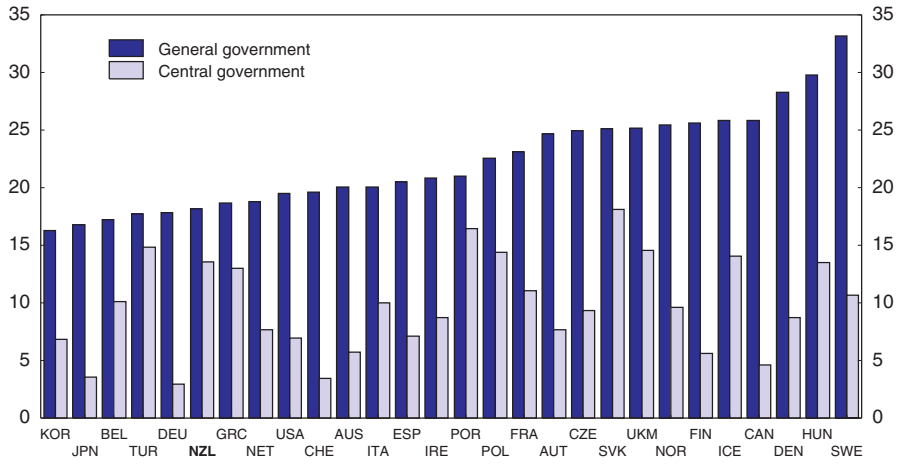
Railways: After having bought the Auckland railway corridor from Tranz Rail to support a regional initiative to reduce traffic congestion in 2001, the government purchased the national rail network and the associated infrastructure in 2004. An agreement was signed in July 2003 with the private company Toll Holding, giving it exclusive access rights to the network for freight services. The government is committed to investing NZD 200 million over four years on upgrading the track and replacing worn-out parts of the network. Toll will undertake up-front capital spending on rolling stock of NZD 100 million.

Banking: A publicly-owned bank, Kiwibank, was created in 2002. It is a subsidiary of the state-owned New Zealand Post. The bank was set up ostensibly for commercial reasons, but subsidiary public policy objectives included trying to foster lower fees and stimulate competition in the sector, although there was little evidence of weak competition (see Annex 2.A1). The government made a one-off investment to fund the establishment of the bank, while New Zealand Post made additional investments, representing a total NZD 138 (for the period 2002 to 2005). The bank has just reported its first profits.

(Ministry of Economic Development, 2002). Advisory services to purchasers are provided by the Industry Capability Network (ICN) and are reported to be helpful (Ministry of Economic Development, 2004f). Moreover, government tenders are listed in a password-protected website. As a result, government procurement is generally open and transparent: central government procurement is liberalised, while local government procurement is largely non discriminatory, though price differences exist in some local government activities (APEC, 2003). To increase transparency further in February 2004 the government defined notification requirements for government departments to the ICN, so that information about government purchasing needs is readily available to industry. However, the size of the government contestable procurement market was one of the lowest amongst the OECD countries over the 1990s (Figure 2.6). Since then, the use of market-type mechanisms has increased in New Zealand as in other OECD countries, but it remains secondary compared to the dominant traditional role for government provision (OECD, 2004c). Making more use of these mechanisms would introduce competition among different suppliers in areas where the government was previously the monopoly provider. This is likely to improve efficiency, reduce costs and, in some cases, raise quality. In particular, there are a number of areas where international experience shows the successful use of market-based principles for the supply of government services.

Figure 2.6. **Government procurement market**

Total expenditure, per cent of GDP, 1990-97 average or latest available year



Source: Audet (2002), *OECD Journal on Budgeting*, Vol. 2, No. 3.

A first area is the outsourcing of employment services. Contracting-out of active labour market policy measures already exists in New Zealand, as in many other OECD countries, but thus far it has been for the most part limited to training and job-creation programmes. By contrast, outsourcing was applied to the placement and reintegration functions of the Public Employment Service in Australia in the late 1990s and more recently in the Netherlands (Grubb, 2003). So far, the sole New Zealand experience is through a pilot programme, the Outcome Based Funding (OBF).[18] The overall assessment is that experience with private job-placement agencies has been globally positive, with generally better employment outcomes (Mourougane and Wise, 2005). However, special care should be taken in the design of these arrangements, as less favourable effects for hard-to-place workers were also observed.

A second area is opening up all areas of personal injury insurance to competition. This is an area that has successfully been left to the private sector in many countries. Currently, the Accident Compensation Corporation (ACC) is the monopoly public insurer. The portion of the scheme that covers workplace accidents was opened up to competition in July 1999. Five private insurers entered the market. Despite some promising initial results – prices dropped, especially for large- and medium-size enterprises – the new government re-instituted its monopoly over the scheme in 2000, arguing that private companies may have set premiums at unsustainably low levels to attract business. At the same time, no formal evaluation was done to justify this decision.

A third area is the provision of prison services. Private prison providers were permitted in New Zealand from the mid-1990s up until recently, and an Australian private management company had a contract to run Auckland Central Remand Prison. However, although no overall evaluation of this single experience had been undertaken, the government decided in 2003 that prison services would be henceforth provided exclusively by the Department of Corrections. This move contrasts with some international evidence that private prisons can generally provide both lower costs and better services and that opening up prison services to competition could encourage the publicly managed prisons to

operate more efficiently (National Audit Office, 2003; Blumstein and Cohen, 2003). Such arrangements exist in a number of countries, including Australia, Canada, the United Kingdom and the United States.

In a number of areas, competition appears stronger than in other OECD countries

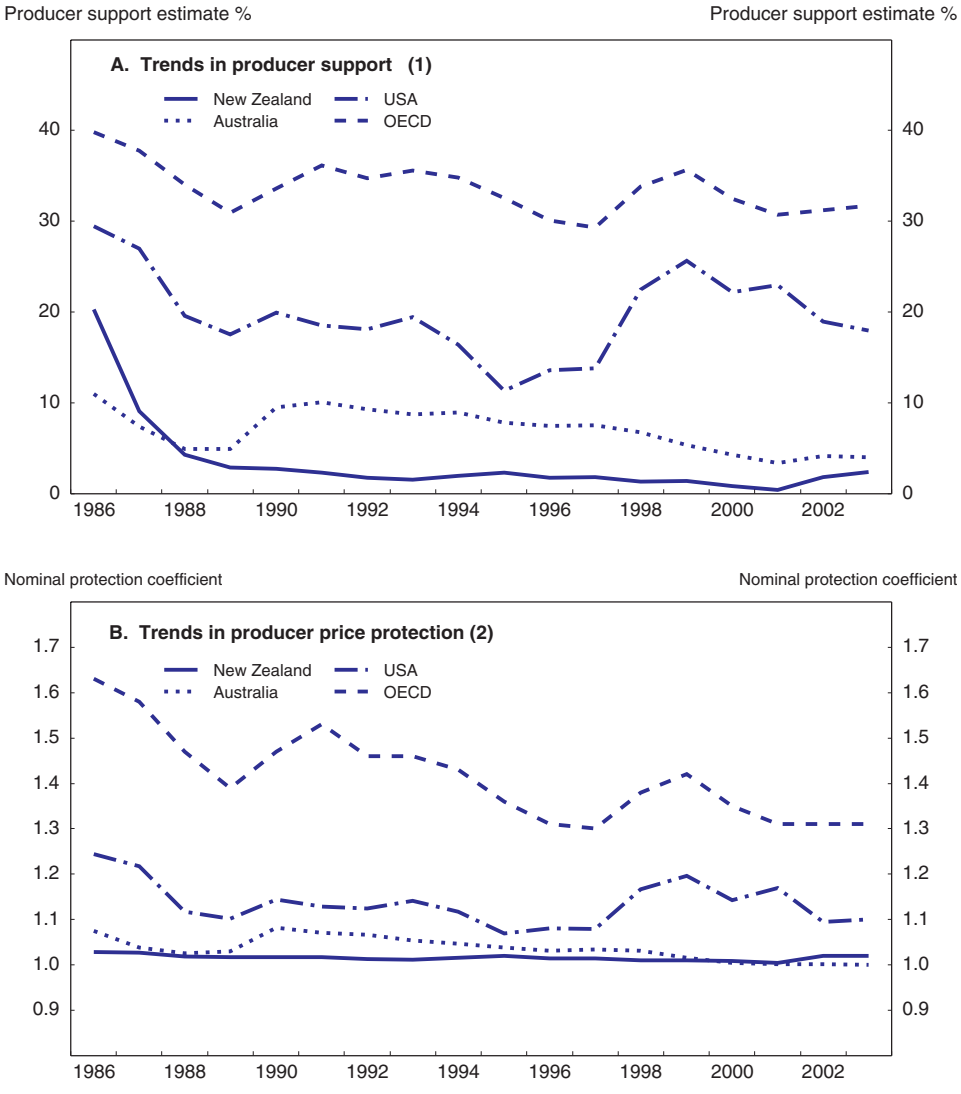
In many sectors (described below), the forces of competition appear to work well in New Zealand (see Annex 2.A1). Most of the time, the country uses efficient tools to ensure an appropriate balance between liberalisation and social objectives. However, as experienced in the energy sector, public intervention has been increasing in some industries. Moreover, some adjustments may be needed in some areas.

- The *transport sector* appears to have been one of the least restricted amongst the OECD countries in the late 1990s. Despite early reforms, special competition policy regimes continue to apply in international air carriage and international ocean shipping. Moreover, there has been increasing state ownership in the transport sector since 2001, especially airlines and railways. Foreign investment is also expressly limited in international air carriers,[19] restraining the development of competitive markets and strong international linkages. It protects Air New Zealand's access to traffic rights negotiated through most bilateral air service agreements,[20] but the government has endeavoured to re-negotiate agreements to replace the "substantial ownership" restriction by a "principal place of business" or "place of incorporation" criterion to define the designated carriers (Bradbury, 2004). This policy is welcome and should be pursued more broadly so that FDI restrictions on international airlines can be fully removed. An even better alternative would be to negotiate this change at a multilateral level through the International Civil Aviation Organisation.
- Regulation is currently very light-handed in the *broadcasting sector*, and the industry is to a large extent self-regulated by the relevant industry groups. However, since the beginning of the decade, broadcasting policies have moved towards more public intervention and the government is willing to reinforce further the role of public broadcasters (Ministry for Culture and Heritage, 2005). In 2003, TVNZ was restructured into a Crown company with a Charter requiring it to feature certain types of programmes to strengthen national identity, educational performance and civic participation. Moreover public funding for broadcasting has grown by more than 70% from 1999-2000 to 2003-04, with decisions often taken on a case-by-case basis to support particular initiatives, increasing the perception of political interference in the sector. Thus, the government's decision to review the current funding mechanisms and determine an appropriate level of public funding is welcome.
- Restrictions are low and price competition is strong in most *professional services* in New Zealand, in particular engineering and architecture (OECD, 2000; Nguyen-Hong, 2000). Restrictions have been relaxed for accountants and are now very low by international standards. The situation is somewhat less favourable for legal services, stemming from prior residency requirements and, more importantly, from restriction on incorporation designed to protect consumers. But these concerns can be addressed by other means, for instance by the use of professional insurance.
- The *retail sector* is one of the most liberal in the OECD, with very few restrictions posing any constraint to market entry. Despite this favourable context, there has been some concern that recent labour market legislation, in particular the Holiday Act, may have been

particularly detrimental by increasing labour costs. This may hamper future performance, in spite of liberal product market regulations.

- The *agriculture sector* has moved from heavy anti-competitive regulations at the beginning of the 1980s (with price controls, price and income supports) to almost full liberalisation. Producer support has been the lowest in the OECD countries for more than 15 years, even though it has marginally increased in the last few years (Figure 2.7). Moreover, the country has deregulated most marketing boards and major restructuring of the dairy sector took place in 2001 with the creation of a near-monopoly Fonterra.[21] Preliminary evidence

Figure 2.7. **Agricultural support**



1. An indicator of the value of monetary transfers to agriculture resulting from agricultural policies. It is presented as a share of the total value of production at domestic producer prices.
2. The nominal protection coefficient (NPC) is a measure of market protection defined as the ratio between the average prices received by producers and border prices.

Source: OECD, PSE/CSE database.

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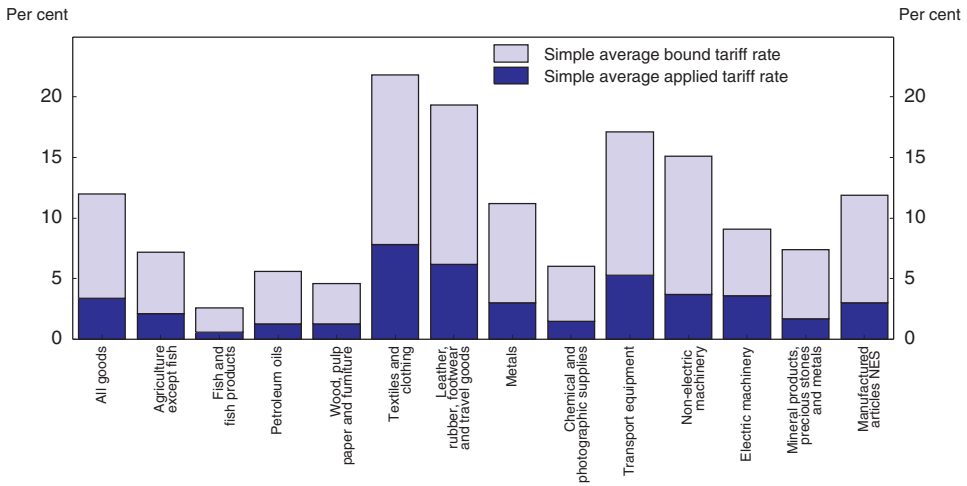
suggests that Fonterra has achieved technical efficiencies and reduced costs (Ministry of Agriculture and Forestry, 2004). However, there have been some concerns about the company's high share price and milk payouts. Fonterra has simplified its capital structure and introduced some flexibility for suppliers to increase milk supply without having to purchase matching shares. As for the export market, Fonterra has been given control over access to New Zealand's country-specific dairy product tariff quotas to restricted overseas markets. Fonterra's exclusive quota rights expire between 2007 and 2010 and the government is considering new policy for their allocation beyond this period.

Trade

The overall domestic environment is favourable to external trade: New Zealand does not impose non-tariff measures for industry protection purposes and average applied tariffs are below the OECD average (Figure 2.8). Remaining restrictions are expected to diminish over

Figure 2.8. **Tariff rates**
2004



Source: APEC 2004 individual action plan.

time. Indeed, after a freeze from 2000 to 2005, tariff reductions will resume in July 2006.[22] These changes are welcome and certainly go in the right direction. Still, the process of phasing out tariffs could easily be bolder, and the government could signal its intention to gradually reduce tariffs to zero. Moreover, the government has pledged support to the Textiles, Carpet, Footwear and Apparel (TCFA) sector of NZD 1.1 million over the next two years, to complement the NZD 2.3 million package announced in the 2004 budget. These measures are intended to help the sector cope with short-term transition costs associated with lower tariffs and a potential trade agreement with China. But such subsidies should be limited both in time and quantity to minimise the negative impacts on consumers and other producers, as well as the efficiency cost to the economy as a whole.

Conclusion and priorities for policies

This chapter has underlined the specificity of the small and isolated New Zealand economy, and its implication for competition policy and regulations. The country has been a leader in deregulating a range of sectors that were previously shielded from competition. Still, competition could be made more effective in a few areas.

The first area where improvements could be made concerns the competition legislation framework. The authorities should:

- Authorise the Commerce Commission to exchange information and co-operate in enforcement matters with its counterparts elsewhere, particularly with the Australian Competition and Consumer Commission by ensuring that the government's decision in this matter are reflected in the law.
- Devote more resources and attention to preventing horizontal collusion, and apply sanctions and the leniency programme vigorously.
- Eliminate the exemption that allows trade associations to recommend prices.
- Examine the marketplace effects of the dairy processing near-monopoly, including actual entry and competition in the affected markets, the allocation of the foreign quota rights and the effectiveness of the regulatory system.
- Eliminate the special regimes concerning restraints on competition in international carriage of goods by air and international ocean shipping, or provide for the Commerce Commission to be consulted in their application.

Further action is also needed in several sectors to improve the functioning of markets, even though major liberalisation reforms may have already been implemented. In particular, it would be helpful to:

- Remove current regulatory uncertainties perceived by market participants in the electricity sector by clarifying the situation regarding water property rights and the mandate of the Electricity Commission, in particular for the security of supply. The government also needs to make sure that risks of long delays in project approval and variation in local councils' approaches are effectively reduced by planned changes in the Resource Management Act.
- Assess the relative costs and benefits of splitting up vertically integrated generators and retailers or imposing Chinese walls. Identify the sources of the electricity hedge market's under-development and, depending on the results, take appropriate measures to favour its expansion.
- Re-examine restrictions on accessing natural gas transmission pipelines and define a set of conventions and protocols to favour exchanges in the wholesale market.
- Set up a surveillance system in the natural gas sector with price thresholds, similar to the one that exists for the electricity lines business, rather than direct price control.
- Assess the state of competition in the phone mobile market. Address the lack of competition in the call termination market by regulating termination charges and seek to minimise uncertainties and distortions such regulation could generate.
- Investigate the source of the low uptake in broadband and, depending on the results, take the appropriate measures to favour its development.
- Resume privatisation, in particular in potentially competitive sectors, and make more use of market principles in the delivery of publicly funded services.

- Pursue the policy of renegotiating bilateral international airlines agreements to replace the "ownership" criterion by a "principal place of business or a place of incorporation" criterion for the designation of the national carrier.
- Remove restrictions on incorporation for legal services.
- Announce a complete and rapid phase-out of all tariffs and limit subsidies to the Textile, Carpet, Footwear and Apparel sector.

Given New Zealand's low level of producer supports in the agriculture sector, its capacity to compete successfully on the world markets could be dramatically enhanced by the successful completion of the Doha round.

Notes

1. An example is the Herfindahl-Hirshman Index, which is used in some countries to screen merger proposals. It is a function of the number of firms in the market and their market shares.
2. These indicators have been recently updated (OECD, 2004a). They are based on detailed data collected from member countries. Summary indices are computed by aggregating detailed regulatory indicators with weights from factor analysis.
3. However, it should be noted that this rate includes mergers and acquisitions and thus cannot be considered as "true firms' creation or destruction". Moreover, data for New Zealand are for a different time period (Mills and Timmins, 2004).
4. That is, in balancing efficiency benefits against anti-competitive effects, the Commerce Commission considers the total, net effect on both producers and consumers, not just the market-power effects of lower output and higher prices. Thus, a merger or transaction that increased market power would be permitted if it led to efficiencies such as lower operating costs that were greater than the deadweight losses, even if producers retained all of those benefits in the form of higher profits.
5. Water storage for hydro generation is limited to the equivalent of about six weeks of normal hydro generation (Ministry of Economic Development, 2004a).
6. However, a possible alternative explanation could be that the price volatility reflected some asymmetry in information flows about short-term capacity, because although anyone can observe and assess water storage, the stocks of other fuels, notably coal, may only be known to the generator concerned. Thus, prices may have been driven to some extent by perceptions about looming shortages rather than an underlying physical gap.
7. These data should however be used with great care, given their lack of reliability (EECA, 2004).
8. Some 70% of New Zealand's total electricity volume is traded through the wholesale market, with the remainder covered by bilateral contracts made directly between generators and consumers (Dong-Wong, 2004).
9. The first draft Statement of Opportunities was released in May (Electricity Commission, 2005).
10. For instance, increased supply to Auckland consumers could be provided either by installing new generation capacity in the Auckland region or by upgrading in the transmission grid (and transporting electricity from other regions).
11. In April 2005, the Minister of Energy extended the deadline for the approval of the Grid Update Plan from September 2005 to mid-2006, to enable a thorough assessment of Transpower's proposals of a new grid upgrade, including benefits and costs of the grid proposal and of other alternatives, as well as environmental effects.
12. Six categories of information are requested: line charges; contracts; pipeline capacity; line charge pricing methodology; financial statement and performance measures; and methodology for allocation of cost and revenues.
13. The Maui pipeline does not offer open access, but an open access scheme to the Natural Gas Corporation (NGC) transmission pipeline is provided by its asset owners.
14. The definition of broadband usually varies across Member states, but the term generally applies to "always-on" services that are considerably faster than the basic rate ISDN which operates at

128 kbps. This definition may soon be out-of-date, as a significant number of operators in OECD countries now provide speeds higher than 512 kbps (OECD, 2003c).

15. The price of business services is high due to the heavy data transmission charge per megabyte (Ministry of Economic Development, 2004c). Broadband prices are average for residential services, but mostly because of caps on usage.

16. This allows broadband competition on Telecom's wires at a maximum level of 128 kbps upstream and minimum level of 256 kbps downstream. Moreover, Telecom has been given six months to provide unbundled partial private circuits. In April 2005, the Commission issued a draft determination on bitstream suggesting that Telecom should provide a bitstream access service to TelstraClear with a non rate-shaped downstream speed up to the maximum capacity of the line infrastructure. The Commission also recommended that Telecom be given six months to develop a satisfactory unbundled partial private circuits (UPC) service offering. The Commission stated that if a suitable outcome did not emerge in that time then the Commission considered that it would be appropriate to re-evaluate the merits of regulated unbundling of a partial private circuit service. Subsequently the Commission monitored Telecom's development of a UPC service and informed the Minister of Communications that regulation was not required at this stage.

17. One example is the increasing number of cable television providers in the US voice and high-speed data markets.

18. This programme was implemented in five regions from August 2001 to December 2002. Private contractors provided placement services and were rewarded for the outcomes they achieved.

19. The maximum allowable level of foreign investment in Air New Zealand Ltd. is 49% foreign ownership, or 35% by foreign airlines or airline interests, or 25% by any one foreign airline or airline interest. There are separate arrangements for airlines operating within the Australian-New Zealand Single Aviation Market only.

20. Under these agreements, other countries can deny operating authorisations (*e.g.* landing rights) to Air New Zealand if the airline is not able to demonstrate that it is substantially owned and effectively controlled by NZ nationals.

21. The Dairy Industry Restructuring Act has the following main features: the Dairy Board's statutory marketing privilege was revoked and the export sector liberalised; the two largest co-operatives, New Zealand Dairy Group and Kiwi Co-operative Dairies, were authorised to merge to form Fonterra Co-operative Group Limited. In this context, it has been necessary to regulate open entry and exit of shareholders and milk suppliers to Fonterra to ensure competitive pricing in the market for raw milk. Little entry has been observed in the market since 2001. In April 2005, however a new dairy export company, Synlait, was created.

22. Tariff rates of 5 to 7.5% will be reduced to 5% in 2008 and maintained at that rate until 2009. Higher tariff rates of 17 to 19%, which apply in the textiles and footwear sectors, will be gradually reduced to 10% by 2009.

23. In order to protect railways against increasing road competition, a restriction on the length of the haul for road freight was introduced in 1936. This restriction, which applied to almost all goods, was increased to 150 kms in 1977.

24. According to the Television Local Content Report, which is produced annually by NZ On Air, the major TV channels exceeded the agreed transmission targets for 2003. Radio broadcasters also collectively exceeded their target in recent years and appear to be on track for a target of 20% music content on NZ commercial radio by 2005.

25. One area of concern could be that the credit card market could lack competition and the no-surcharge rule for credit cards may distort competition between alternative payments systems (NZIER, 2002; Chandran *et al*., forthcoming). However, it remains uncertain whether these concerns are sufficiently significant to warrant intervention, and similar situations arise in many countries.

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ANNEX 2.A1

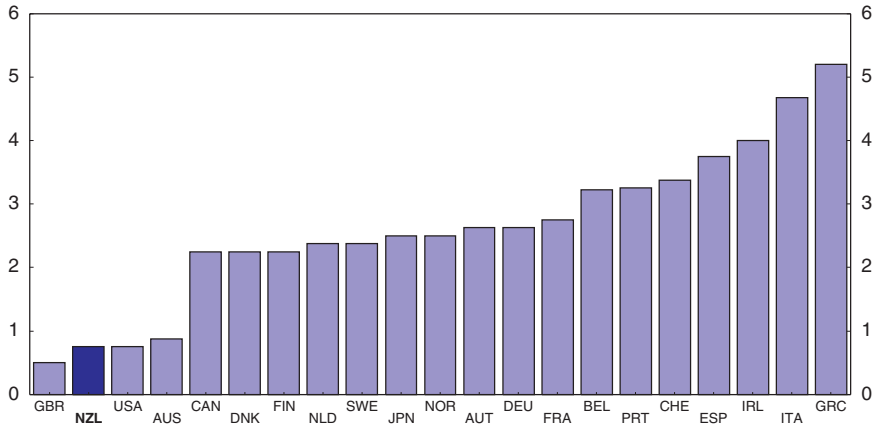
State of competition and progress of reforms in selected sectors

Transport

The transport sector appears to have been one of the least restricted amongst the OECD countries in the late 1990s, and the only major change since that period has been an increase in public ownership (Figure 2.A1.1). This low level of restriction is the result of a series of reforms that started in the early 1980s:

- *Airlines:* Domestic air services have been effectively deregulated since 1983. In 1986, the overseas investment restrictions on foreign ownership of domestic airlines were lifted. New Zealand's three major international airports and a number of provincial airports have been progressively restructured as limited liability companies. In 1998, the Government's shares in Auckland and Wellington International Airports and some provincial airports were sold. By contrast, the government rescued Air New Zealand in 2001 and since then has been the principal owner of the company. Since the mid-1990s, open skies agreements have been reached with several partners, including the United States and Australia. In 2001

Figure 2.A1.1. **Restriction index in transport**[1]
1998



1. Simple average of air, rail and road transport.

Source: OECD, PMR database.

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New Zealand initiated the first pluri-lateral open skies agreement (the Multilateral Agreement on the Liberalisation of International Air Transport includes the United States, Singapore, Chile, Samoa, Brunei, Peru, Tonga and New Zealand).

- *Railways*: In September 1993, the core business of the government's Railways department was sold to a consortium of New Zealand and overseas interests. In 2000 there was a significant restructuring of the business which included the outsourcing of core business functions, such as track and rolling stock maintenance. In 2003, the government concluded an accord with Toll Holding for access rights and investments on the network and it bought the infrastructure in 2004.
- *Roads*: In 1983 the Transport Amendment Act began deregulation in freight transport. The quantitative road transport licensing system was replaced by a qualitative system in 1984, and the 150 kilometres trucking restriction began to be phased out.[1] Entry to road transport became totally unrestricted in October 1986.
- *Shipping*: Cabotage on coastal shipping was freed up in 1995. Foreign vessels are also permitted to compete on the previously regulated trans-Tasman routes. The country has exemption for liner shipping price fixing arrangements, as is common elsewhere as well.

Ports

Given the dependence of the New Zealand economy on trade, it is important to ensure that the port industry performs efficiently. Ports operate under both industry-specific and general competition laws. A number of individual ports are characterised by vertical integration of port companies into the provision of operational port services, but the latter arrangements can be justified by efficiency considerations. Overall, ports are generally competitive, and market power of individual ports is limited. NZ ports compare very favourably with their foreign counterparts on efficiency, prices and quality of services (Charles River Associates, 2002).

Broadcasting

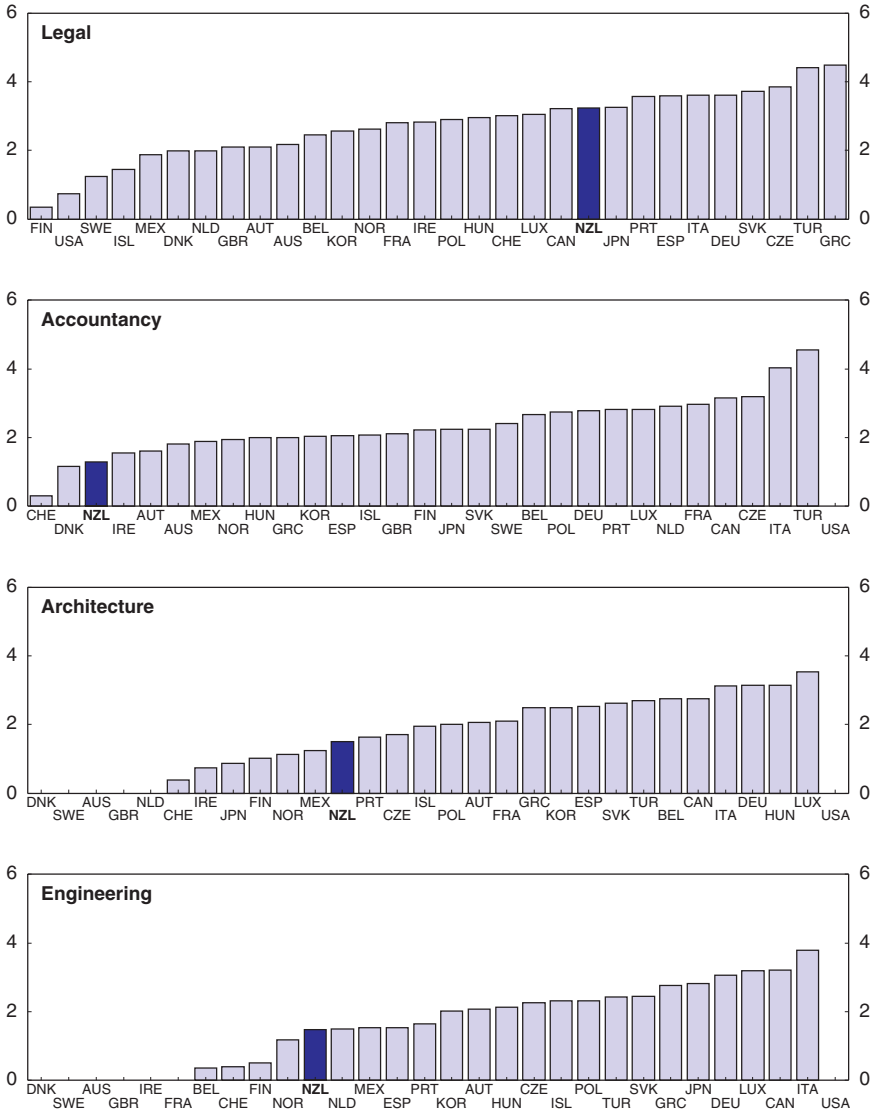
The broadcasting sector was restructured in the late 1980s and the 1990s with a number of privatisations and the removal of foreign ownership restrictions in 1991. Regulation is currently very light-handed, and the industry is to a large extent self-regulated by the relevant industry groups. Voluntary targets ensure that an increasing amount of local content – *i.e.* material that is both predominantly made in New Zealand and reflective of local identity and culture – is broadcast.[2] The promotion of Maori culture and language is obtained through the use of reserved licences. This differs strikingly from the use of compulsory quotas or foreign ownership restrictions in some OECD countries for cultural objectives. Moreover, New Zealand is now one of the only advanced country that does not have cross-media ownership restrictions. Standard competition rules for market dominance in the media sector are a safeguard against limiting the number of owners and voices in the media.

Professional services

Restriction indices for accountants, architectural and engineering services suggest that New Zealand is one of the least restrictive countries in the world (Figure 2.A1.2). Most

of the restrictions are barriers to establishment, while barriers to ongoing operations are very low. The most common barrier to entry is a residency requirement.

Figure 2.A1.2. **Domestic restrictions in professional services**[1]
2003



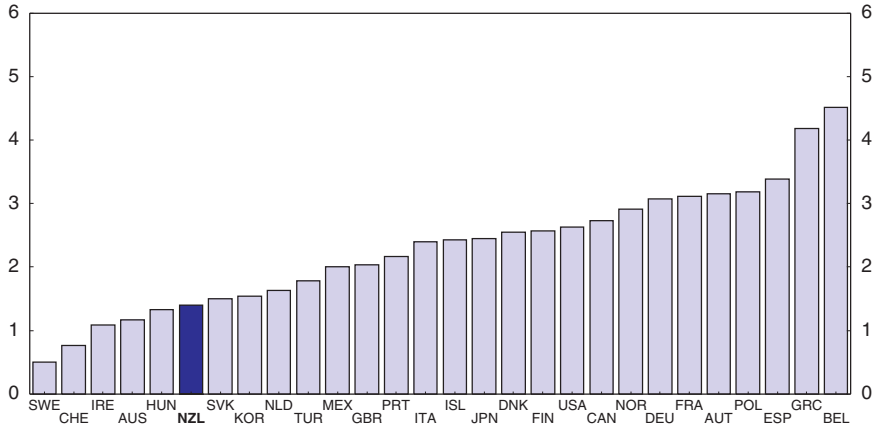
1. The restrictive index scores range from 0 to 6. The higher the score, the greater the restrictions.
Source: OECD, PMR database.

Retail trade

The retail sector is one the most liberal in the OECD, with very few restrictions posing any risk to market entry (Figure 2.A1.3). For instance, zoning regulation is much less stringent than in other OECD areas, there are no specific restrictions to the establishment of large outlets. Shop opening hours are among the least regulated in the world, and

retailers can open at any time on any day except Christmas Day, Good Friday, Easter Sunday and Anzac Day morning.

Figure 2.A1.3. **Regulation in the retail industry in OECD countries**[1]
2003



1. The restrictive index scores range from 0 to 6. The higher the score, the greater the restrictions.
Source: OECD, PMR database.

Progress toward an even more open trading environment is being made, and the few remaining restrictions are gradually being phased out. For instance, retail pharmacies were partially deregulated in September 2004, and new legislation removed the physical divide required when pharmacies operate within other stores. Moreover, the number of pharmacies that could be owned by one pharmacist was raised from one to five and the maximum shareholding a non-pharmacist can have in a pharmacy increased from 25% to 49%, while pharmacists can now invest in an unlimited number of pharmacies (as opposed to one before).

Banking sector

Since 1984, the financial sector has undergone a process of comprehensive deregulation, in particular with the removal of interest-rate and other controls. The sector is currently very concentrated: 85% of the New Zealand banking sector is owned by four Australian banks. Despite these oligopolistic conditions, the sector does not seem to suffer from major lack of competition and contestability (Smith and Tripe, 2001). In particular, transparency in operations is sufficient; the regulatory requirements for operating a bank do not appear overly onerous; and many markets for borrowing and lending money seem to meet the workable competition standards (NZIER, 2002).[3] Since 2002, the presence of the Kiwibank, a subsidiary of New Zealand Post, is reported to have helped to lower fees and promote efficiency in the market according to the Reserve Bank (Marsh, 2005), even though it has a market share of less than 1%. This well-functioning nature of financial markets, along with the favourable macro-economic outlook, mitigate the risks of instability in the system in the event that one of the main banks were to close. These risks are estimated to be low in the short term (International Monetary Fund, 2004).

Notes

1. In order to protect railways against increasing road competition, a restriction on the length of the haul for road freight was introduced in 1936. This restriction, which applied to almost all goods, was increased to 150 kms in 1977.
2. According to the Television Local Content Report, which is produced annually by NZ On Air, the major TV channels exceeded the agreed transmission targets for 2003. Radio broadcasters also collectively exceeded their target in recent years and appear to be on track for a target of 20% music content on NZ commercial radio by 2005.
3. One area of concern could be that the credit card market could lack competition and the no-surcharge rule for credit cards may distort competition between alternative payments systems (NZIER, 2002; Chandran *et al.*, forthcoming). However, it remains uncertain whether these concerns are sufficiently significant to warrant intervention, and similar situations arise in many countries.

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Chapter 3

Improving the settings for stronger productivity growth

Although capital and labour markets generally work well, this chapter considers a range of policy settings that could be tweaked to further enhance the climate for productivity growth. Tax rules have adversely affected some funding streams, raising the overall cost of capital, while gaps between depreciation allowances for tax purposes and economic depreciation have resulted in sub-optimal fixed investment patterns. Use of congestion pricing mechanisms would lead to more efficient utilisation of land transport infrastructure as well as signal where new investment is warranted. Obstacles to the development of new funding and pricing arrangements such as tolls and public-private partnerships need be addressed and new road projects should be systematically chosen according to highest net social return. Recent measures have reduced labour market flexibility, although it is too early to assess their full extent. Some mitigation could be obtained by allowing trial periods for new hires and/or by easing restrictions on fixed-term contracts. The practical impact of the new wage bargaining rules is also still somewhat uncertain and will need close monitoring. The innovation framework is generally well designed but would benefit from stronger linkages between universities and the private sector as well as closer integration with education, immigration and labour market policies. Simplifying government support programmes would facilitate innovation activity.

Raising productivity growth is the key route to lifting GDP per person back up to the top half of the OECD, the goal set by the government. Gains in productivity take place both within each firm and through the natural economic process of lower-productivity firms closing down and higher-productivity activities starting up. To facilitate this process, it is important that capital and labour resources be able to flow quickly and smoothly to their most efficient uses. In general, this process happens readily, but there are a few points where policies could be improved. Several aspects of the tax treatment of capital may distort the capital investment choices made by firms or inhibit the flow of funds for financing investments. Investment in transport infrastructure has become another policy pre-occupation, and more could be done to make efficient use of the existing infrastructure as well as identify where and how the network should be upgraded.

Although the labour market has demonstrated remarkable performance since the reforms launched in the early 1990s, more recent legislation has reduced labour market flexibility, although it is too early to establish the full impact of last year's changes. Nevertheless, the current strategy involves risks that industrial relations could evolve into arrangements that make it harder to sustain higher productivity growth. Innovation also plays a critical role and, although the country's overall policy settings seem to work well for encouraging innovation, more could be done to facilitate the transfer of knowledge to the private sector and to simplify the ways in which the government directly supports private-sector innovation.

Capital deepening

New Zealand's business investment rate has been low by OECD standards for most of the past two decades, although two factors that have traditionally explained depressed investment rates have now changed, and investment rates have surged in the last two years. *First*, the long process of restructuring the economy led initially to an excess supply of labour, making it relatively cheap compared with the cost of capital. But now labour is allocated to uses that are more productive and in high demand, with widespread labour shortages leading to rising real wages and making investment relatively more attractive. *Second*, the country risk premium on long-term debt, *i.e.* the gap between NZ government bond yields and other most developed countries, shrank during the 1990s, and the more recent widening mainly reflects a temporary dip in US interest rates that the OECD projects will be reversed over the next year or so.[1] Although a country premium on equity investment is likely to persist because financial markets are small, the ability to access foreign capital markets at a lower relative cost than previously should feed through to the domestic cost of capital as well. Despite these developments that suggest a more promising outlook for business investment, and an overall approach to taxation on investment that is more neutral than those of many other countries (OECD, 2001), there remain several specific aspects of taxation that have distorted investment decisions and made it more difficult for firms to make productivity improvements.

Eliminating a capital gains distortion

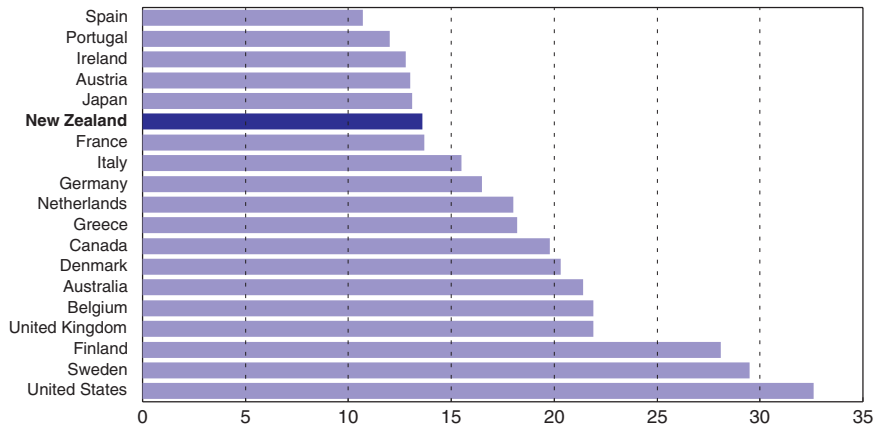
New Zealand has opted not to apply a capital gains tax because it does not consider that the compliance costs are justified relative to the gains (both in terms of revenue and neutrality) that a capital gains tax might bring, and there is a residual concern over the lock-in effects that a capital gains tax may create (in particular, to the extent it is applied on a realisation basis). However, capital gains are effectively taxed for unit trusts offering pooled investment services, leading to a potential misallocation of capital that favours certain types of financial instruments at the expense of others (Claus *et al.*, 2004; Stobo, 2004). In effect, this encourages savers to either put their savings into direct share purchases of larger and more established firms or into passive tracking funds. This may, in turn, handicap firms that might otherwise look to such pooled investment services as an optimal source of equity finance, making it harder – and more expensive – for them to finance their projects. Removing this distortion and providing a consistent treatment of capital gains across all financial instruments would thus result in a more efficient allocation of capital for firms. The government announced in the 2005 Budget that it would remove taxation on the gains made on the sale of domestic shares by collective investment vehicles. A detailed government discussion document on how to give effect to this will be released shortly.

Realigning depreciation allowances

In the absence of taxation, investment would normally flow to where the risk-adjusted rate of return is highest and thus where it would be most productive. Depreciation rates are neutral when they do not inhibit this process, and the ranking of the rate of return from projects is the same both before and after the imposition of tax.[2] NZ officials have assessed the current tax depreciation rules and identified two ways in which they may not properly reflect economic depreciation and bias investment away from short-lived assets, such as machinery and equipment (including ICT) and towards longer-lived assets, such as buildings and structures (Inland Revenue and NZ Treasury, 2004). This may go some way to explaining the relatively low share of ICT investments in overall investment (Figure 3.1).

Figure 3.1. **ICT share of investment**

As a percentage of non-residential fixed capital formation – Total economy, 2002[1]



1. 2001 for Austria, Belgium, Denmark, Finland, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden and United Kingdom.

Source: OECD Factbook 2005.

The two key features of current arrangements that need revision to get a closer alignment of tax rules with economic depreciation are the following:

- Depreciation for tax purposes is based on diminishing value with an assumed residual value of 13.5% of the original acquisition cost. The tax authorities can then prescribe an equivalent straight-line depreciation rate that businesses can choose instead. However, for plant and equipment, "double-declining balance" depreciation[3] would produce a result closer to economic depreciation, especially for shorter-lived assets.
- A 20% addition ("loading") applies to tax depreciation rates for most new assets purchased after 1 April 1995, so that they depreciate more rapidly than the rates calculated above.[4] If inflation were zero and economic depreciation approximately matched tax depreciation rates, this may lead to over-investment in assets and a bias towards shorter-lived assets. At 2% inflation, this loading may still lead to too much investment overall. However, the loading reduces the bias between short-lived and long-lived assets. The most straightforward way to get a better alignment with economic depreciation assuming 2% inflation would be to shift to loadings that are higher for shorter-lived assets and lower for longer-lived ones.

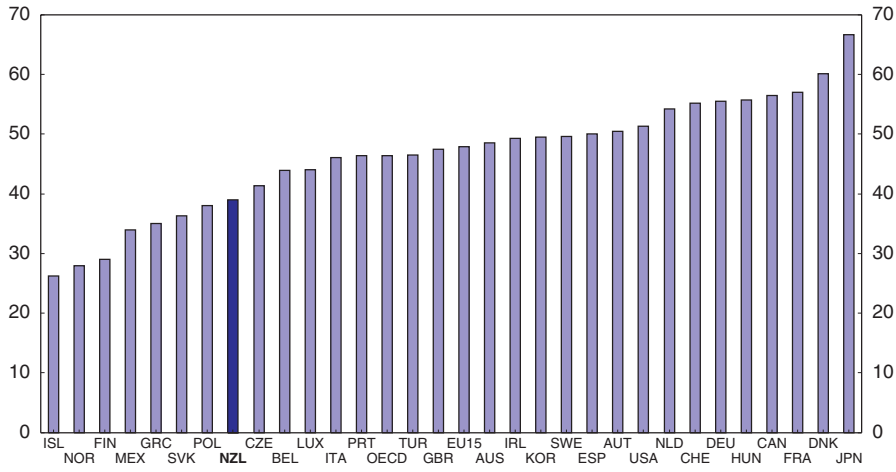
Legislation was introduced to Parliament on Budget day (19 May 2005) to reform the calculation of tax depreciation rates, so that these reflect more accurately the underlying economic depreciation of assets. In particular, short-lived plant and equipment would have faster depreciation rates – calculated using the double declining balance method – while buildings would have slower depreciation rates. The new depreciation rates would apply to plant and equipment acquired after 1 April 2005, and buildings acquired after 19 May 2005. The Bill has been referred to the Finance and Expenditure Select Committee for consideration.

Reducing taxation on non-resident investors

In general, the private sector has long been able to access world capital markets to finance its investment,[5] and banks provide an important channel making foreign capital available to a wide cross-section of domestic borrowers (Reserve Bank of New Zealand, 2004). However, the current tax treatment of foreign portfolio investment may adversely affect the user cost of capital, especially for larger businesses wanting to tap foreign equity capital. This factor will lower the overall investment rate because foreign financing will be called on to finance the marginal investment project.[6] Broadly, when a resident company pays fully-imputed dividends, the Foreign Investor Tax Credit (FITC) regime has the effect of limiting the combined tax burden on the taxable income derived by the resident company and distributed as dividends to a non-resident shareholder to a maximum of 33%. But if foreign investors are sensitive to the tax rate and build it into their required rate of return on capital, then lowering the effective rate would bring forth more investment in New Zealand.

One option is to reduce the statutory company tax rate to make the country more attractive to foreign investors, given that the current rate is higher than the OECD average and 3 percentage points higher than Australia. Lowering the company tax rate would not reduce the marginal rate on dividends, which is determined under New Zealand's comprehensive income tax approach,[7] and is already well below the OECD average (Figure 3.2). But it would place further stress on the imputation system by widening the gap between the top personal rate (39%) and the company tax rate (currently 33%). Thus, it would be a rather blunt instrument for reducing the taxation of non-resident investors.

Figure 3.2. **Top marginal tax rates on dividend income**
2003



Source: OECD (2004), *Recent Tax Policy Trends and Reforms in OECD Countries*.

Other options to lower taxes on non-residents are not necessarily straightforward, in part because of possible reactions from partners under double taxation agreements. One possibility might be to increase the credit for company tax available under FITC or allow dividend deduction for non-residents. Dividend deduction would effectively cede taxation of corporate income distributed as dividends to non-resident shareholders and tax-exempt entities such as charities. New Zealand would also forego the benefits arising from underlying foreign tax credits given by countries that export capital to New Zealand. Another approach would be to extend the current Approved Issuer Levy (AIL) scheme for securities[8] to also cover dividends.

Investing in land transport infrastructure

Considerable public debate has taken place about the state of New Zealand's infrastructure,[9] reflecting concerns that the country may have under-invested in such capital over a significant period of time. Infrastructure services are a necessary precondition for economic growth, making it possible for businesses and households to maximise their productivity. However, a degree of caution and scepticism is warranted. With transport – the major infrastructure pre-occupation in New Zealand, apart from electricity (see Chapter 2) – recent international reviews were unable to find a robust link between transport infrastructure and economic growth[10] (ECMT, 2002). However, for a number of years, the threshold benefit-cost ratio for road projects, given available funding, has been around four to one. This suggests that some economically worthwhile projects have not received funding. The government has responded by increasing the fuel excise tax (5 cents per litre from 1 April 2005), providing an additional NZD 300 million in capital spending on land transport over the next three years, and allowing for tolls on specific projects.

New Zealand has a system of land transport charges that includes some elements of road pricing (Box 3.1). But overall, users are paying significantly less than the full costs of transport (Table 3.1). Furthermore, while some of these charges may more or less

reasonably capture some of the externalities of road transport, such as carbon emissions for petrol taxes and road user charges for the cost of road maintenance, others bear no relation to actual usage, and none of them are appropriate for dealing with congestion.

Box 3.1. **Road transport costs and charges**

Key land transport facts

New Zealand has one of the highest rates of car ownership in the world, with one private motor vehicle for every two people. Three out of every four trips are by motor vehicle: one-third of them are for a distance of less than 2 kilometres and two-thirds are less than 6 kilometres. Only 2.2% of trips are made by bus and around 0.25% by rail.

There are 10 700 kilometres of state highways, which carry 46% of all traffic, and 82 000 kilometres of local roads under the responsibility of territorial authorities.

Around 60% of total domestic freight volume is transported by road, in close to 80 000 licensed heavy trucks.

Domestic transport accounts for 40% of New Zealand's total energy use and 42% of its total carbon dioxide emissions.

Road transport infrastructure funding arrangements

At the central government level, road transport funding is designed to recover from road users each year the total public-sector financial expenditure on the road system in that year, although a significant share of revenue is paid over to the general crown accounts. It is a form of the "fully allocated cost" approach to road pricing that is widely used internationally. In New Zealand's case:

- Charges are set to generate enough revenue to cover both maintenance and capital upgrade incurred during the course of the year and no depreciation or interest is charged on capital investments.
- Full costs are allocated between different classes of users and vehicle type, according to a model that attributes costs according to different users but also takes into account equity.
- Externalities such as environmental damage are not included in the framework.

Central government's road-related revenue sources are the following:

- Petrol taxes are paid at the pump as an excise duty per litre of petrol (or LPG/CNG), and include a levy collected on behalf of the Accident Compensation Corporation. They provide almost half of the road transport-related revenues collected, although less than half of this revenue is directly recycled within the road transport sector *via* the National Land Transport Fund, the rest going into government's general revenue accounts.
- Road user charges are levied on all diesel and commercial vehicles according to a formula that combines weight and distance travelled. These provide almost a quarter of road revenues.
- Initial motor vehicle registration and annual motor vehicle licensing fees also provide a quarter of revenues.

Roads under the responsibility of territorial authorities are funded from property taxes (local body rates), although a significant share of funds is disbursed from the National Land Transport Programme to local and regional authorities.

Source: Ministry of Transport (2005).

Table 3.1. **Users share of total costs for land transport**[1]

2001-02, per cent

	Non-recoverable assets[1]	
	Included	Excluded
Total roads	47	70
Cars	44	64
Trucks	36	56
State highways – urban	73	83
State highways – rural	52	86
Local road – urban	43	56
Local road – rural	37	73
Total rail	43	77
Rail freight	44	80
Long distance rail passengers	96	96
Auckland urban rail	16	21
Wellington urban rail	19	46

Note: Since these estimates were prepared, the government has bought back the rail infrastructure, and fuel taxes were raised by 5 cents per litre (approximately 14%) on 1 April 2005.

1. Including estimated environmental costs.
2. Non recoverable assets are those that would have no resale value for alternative use. If these assets are included in total costs then the users' share of the total is correspondingly lower than if they are excluded.

Source: Ministry of Transport (2005).

While no country has implemented comprehensive nation-wide road pricing, congestion pricing is becoming a more widely used tool for managing urban traffic density and is also being built into some motorway tolls.

Congestion charging may provide a better framework for managing demand.[11] The government has already commissioned a study of options for road pricing in Auckland, which is due for completion by November. In the meantime, initiatives such as the School Travel Programme to provide safe alternatives to taking children to school by car could make a contribution to reducing congestion, since some 40% of morning peak trips in Auckland are reportedly to a school or tertiary education institution.[12] However, this, and other "travel demand management" programmes being pursued to reduce the need for road use by influencing and changing travel behaviour would have a much greater chance of success if reinforced by road pricing mechanisms.

The Land Transport Management Act (2003) formalises the government's Transport Strategy and lays out a new framework underpinning road infrastructure investment. The key changes were to make provision for public-private partnerships and to allow for tolls on new roads, albeit under quite strict conditions including extensive consultations and the existence of alternative non-toll routes. While these measures provide more flexibility for introducing new approaches to infrastructure investment in land transport and reflect international trends (Molnar, 2003), they may not go far enough to be truly effective. In particular, the statutory requirements for public consultations before granting concessions and approving toll roads are equally stringent (which seems to imply that concessions would normally involve tolls). But whereas public consultation is appropriate where a direct user charge is involved, it may stymie concession agreements where the government uses shadow tolls as a contract payment mechanism. Such public/private partnership

schemes involve the government paying the operator under a set of rules that mimic the incentives that would operate if tolls were actually collected from users, but without those charges actually being collected.[13] More generally, concessions for road management (and other public services) are best evaluated according to their ability to enhance the efficiency of public-sector investment through the management involvement and discipline associated with private equity and to provide a clear and appropriate assignment of risks, rather than being seen as a way to make up a public funding gap (Joumard *et al.*, 2004; Lonergan, 2004).

The Act also introduced multiple criteria for project evaluation, highlighting the importance of social and environmental objectives, which may reduce transparency. It also carries risks that some factors will be double counted, which could result in projects no longer being ranked and chosen according to their true underlying merit. Well-designed benefit and cost analysis would assess projects according to their net social return using a method that rigorously and consistently takes account of all economic, environmental and social benefits and costs. Monitoring agencies will need to keep a close watch on developments to ensure this occurs in practice.

Safeguarding labour market flexibility

Employment protection has increased

New Zealand has one of the most flexible labour markets in the OECD and is one of the countries where performance has improved the most over the last few years (Brandt *et al.*, 2005). Labour mobility, as measured by a range of standard indicators, is high by international standards (Kongsrud and Wanner, 2005). Structural unemployment is estimated to have fallen by more than 2 percentage points in the last ten years, one of the steepest declines in the OECD. However legislative changes since the beginning of the decade have been in the direction of increasing rigidities in the market. In particular, New Zealand is the only country in the OECD that has increased regulation of both permanent and temporary contracts (Box 3.2), at the same time as many other OECD countries have enhanced workforce flexibility by easing the use of temporary employment while keeping the existing provision intact for permanent workers (OECD, 2004a). This has resulted in a marked increase of employment protection from the late 1990s to 2003, although the final level still remains low by international standards (Figure 3.3).

The increase in employment protection is likely to have reduced employment fluctuations by augmenting both job stability and the length of unemployment spells, although these effects may be masked in a buoyant labour market. In particular, heavier regulation of labour use is often associated with higher unemployment of groups that have weaker attachment to the labour market (Botero *et al.*, 2004; OECD, 2004a). The modified personal grievances provision requires that the employers' actions must reflect what a fair and reasonable employer would have done in those circumstances.[14] But although some protection is certainly needed to avoid unfair dismissals, it creates a disincentive to hire, especially for workers "at-risk" such as older workers, young people or immigrants, where the employer may find it particularly difficult to assess how suitable these job-seekers would be for the job. Introducing a minimum probation period for new employees during which the law relating to unjustified dismissal does not apply would be a way to encourage hiring of these marginal groups.[15] Indeed, this would give employers the opportunity to confirm the suitability of employees and would be particularly useful, as fixed-term contracts cannot be used as a form of trial period under the ERA. An alternative would be to loosen restrictions

Box 3.2. **Employment Relations Act and employment protection**

The Employment Relations Act (ERA), which came into force in 2000 and was amended in 2004, has marked a significant departure from the Employment Contracts Act (ECA) that deregulated employment contracting and removed compulsory unionism in 1991. The ERA's primary objective is to promote collective bargaining, requiring employers to bargain "in good faith" and restoring to unions their monopoly in collective bargaining. However, it also contains clauses that affect employment protection:

- It sets some regulatory provisions for dismissals and increases compliance costs associated with dismissal.
- It also tends to limit the use of fixed-term contracts, by requiring genuine reasons based on reasonable grounds to employ a worker under such a contract. The employer must advise the employee at the beginning of the contract when and how the contract will end.

The Employment Relations Act was amended in 2004 in the following respects:

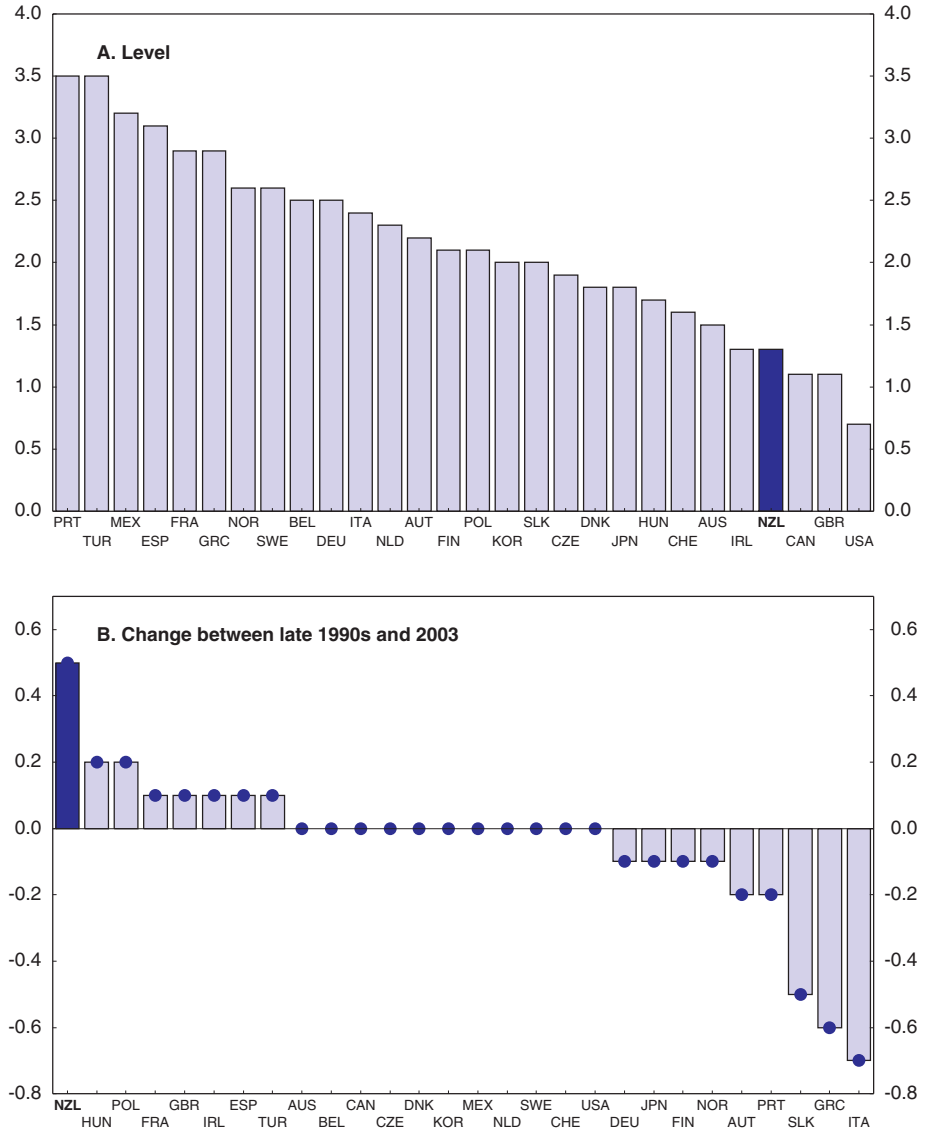
- It includes a test for deciding whether an employer's action, including dismissal of an employee, is justified. Employers already have to make sure that their reasons for an action or dismissal are fair and reasonable. However, the test makes clear that these matters must be assessed on an objective basis.
- It also provides employment protection for employees if their jobs are affected by the sale or transfer of their employer's business or if their work is contracted out. "Vulnerable workers' (in sectors such as food catering or laundry) have been given additional rights, including the right to transfer to the new employer on existing terms and conditions of employment in cases where a business is sold. Employment agreements for other employees must contain a provision that describes what steps the employer will take to protect employees in restructuring situations.
- It requires all fixed-term employment arrangements to be in writing.
- It makes all union members eligible for "employment relations education" leave, not just those members covered by a collective agreement. The aim of these courses is to increase skills and knowledge of employment matters, to improve relationships in the workplace and enable all parties to deal with each other in good faith.

Source: State Services Commission (2000); Employment Relations Service and Ministry of Labour (2004).

on fixed-term contracts. This option could be more appropriate for encouraging hiring of older workers, whom employers are sometimes reluctant to hire because of perceived risks that their competence may deteriorate over time.

Other features of the labour market may also have affected its flexibility and increased employment costs. The minimum wage has steadily increased since 1999, especially for youth, and rules covering the income assessment period for seasonal workers' unemployment benefit were eased in May 2005. All employees are currently entitled to a minimum of three weeks annual holidays, and this will be extended to four weeks in 2007. New rules were also introduced towards the end of last year for employees working on public holidays, who are now entitled to an alternative day's holiday as well as a minimum of time and a half payment for the work done.[16] By contrast, a range of activation programmes has been implemented since 2003 (*e.g.* WRK4U, an increase in the number of case managers and the Jobs Jolt initiatives) and may have compensated at least partially for the negative effects

Figure 3.3. **Employment protection**
2003



Source: OECD, *Employment Outlook* (2004).

of increasing employment protection on hiring rates. More generally, a rebalancing of overall labour policies towards more activation would be helpful to reduce the unintended effects of increasing employment protection on hiring rates.

Employment relations laws have been tightened

The primary objective of the ERA was to promote collective bargaining and reinforce the role of unions after a decade during which New Zealand experienced the largest percentage

decrease in collective bargaining coverage and in union density in the OECD (OECD, 2004c).[17] The ERA enacted a number of changes, including the introduction of so-called "good faith' bargaining; the promotion of mediation over litigation; the reintroduction of a union monopoly on collective bargaining; and the promotion of collective bargaining by *inter alia* requiring employers to provide union representatives with information and workplace access. Recent changes to the ERA that came into effect in December 2004 further strengthen collective bargaining and good faith provisions. Although these amendments were described by the government as "fine-tuning", there are some risks that they will significantly increase tensions in the present industrial relations environment.

In the amended legislation, an employer cannot automatically pass on collectively bargained terms and conditions to other employees not covered by that collective bargaining. Indeed, it is a breach of good faith if the employer does so with the intention and effect of undermining this agreement. Employers, unions and employees can still agree that a collective agreement be extended to non-union members as long as the non-members pay bargaining fees to the union. Non-union employees are able to opt out, and unions cannot strike nor can employers exercise lockout provisions over the issue of a bargaining fee. Overall, these changes are likely to render the voluntary extension of terms and conditions of collective agreement within a firm more costly and introduce new constraints, even though experience from other OECD countries shows voluntary extension can be a useful tool for employers, for instance to avoid discriminating among their employees (OECD, 2004b).

When the amendment bill was introduced to Parliament, it included a requirement for employers to attend the first meeting of a multi-employer bargaining process for a collective agreement, signalling the government's objectives to promote multi-employer bargaining. Multi-employer contracts, which had virtually disappeared under the Employment Contracts Act, would be particularly detrimental to the NZ economy: most employers are opposed to them and consider that they are incompatible with competition (as competing firms can become privy to commercially sensitive information). Moreover, such large-scale agreements are unlikely to consider the individual circumstances facing firms (such as size of business, business profitability and market share). Explicit reference to multi-employer collective agreements was removed before the Act was passed, except for the public health sector.[18] However, this has not sufficed to remove all the ambiguity in the law, and pressures for multi-employer contracts have recently increased.[19] Indeed, there is a specific provision for multi-employer bargaining in the ERA as well as a right to strike to support this type of agreement, and the duty of good faith extends to all parties involved in the collective bargaining process (State Services Commission, 2000). Thus, the strengthening of "good faith' rules in the amendment could be interpreted as giving unions additional means to press for multi-employer collective agreements. Recent Court decisions clarified the situation and may strengthen pressures even further. Thus, it will be important to monitor wage outcomes resulting from the recent legislative changes and to keep attention focussed on the need to settle agreements compatible with labour productivity developments.

It is premature at this stage to estimate the overall impact of all these cumulated changes on labour market flexibility and compliance costs, especially as the full implications of the ERA may take time to emerge and possibly require the development of a body of case law before becoming evident. Still, a free and flexible labour market remains a key requirement for a more productive economy. An increase in employment protection may sometimes be warranted to address social concerns, and its appropriate level is to

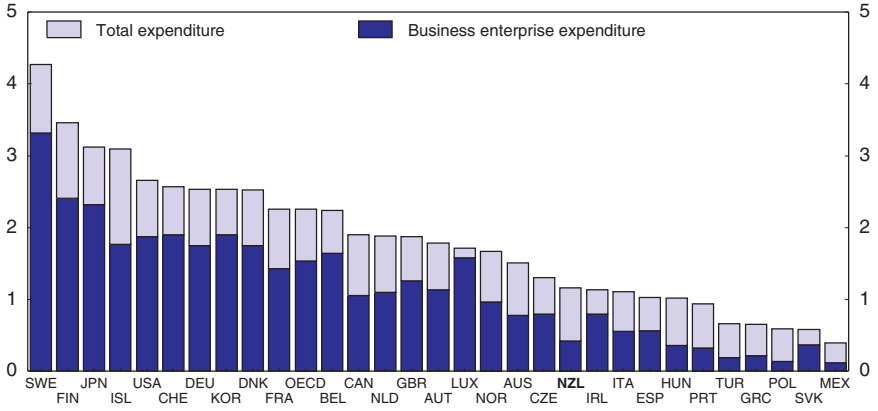
some extent a matter of social choice. Shifts in the balance of bargaining power between employers and employees may also reflect important social priorities. But labour market policies should aim to find the appropriate balance between these competing aims and the preservation of labour market flexibility.

Making innovation policies more efficient

Strengthening innovation has been a key element of the government's growth strategy within the Growth and Innovation Framework (GIF). Indeed, it is an obvious route to higher productivity growth, given its role in boosting multi-factor productivity, and NZ firms have stated that innovation has increased their profitability and efficiency (Statistics New Zealand, 2004). According to the 2003 innovation survey, 44% of NZ firms reported engaging in some form of innovation activity over the previous three years. A similar rate was observed for the weighted average of EU countries. In 2003, the proportion of innovating business was slightly higher in New Zealand than in Australia (Australian Bureau of Statistics, 2005).

Although innovation is broader than just R&D, such outlays are clearly an important part, and total R&D expenditure as a share of GDP was only about half the OECD average in 2002 (Statistics New Zealand, 2005). In particular, business R&D expenses are well below the OECD average (Figure 3.4), although increasing at a rapid pace in recent years.[20] The reasons usually put forward to explain this include the distance from major world centres; the lack of large firms by international standards, including multinationals, and an industrial structure that is more heavily weighted toward the primary sector than in most OECD countries. Despite these New Zealand-specific factors, performance is around average when measured using a broader range of standard indicators (Table 3.2). The low level of patenting can be largely attributed to the fact that a low level of research is undertaken in patent-intensive sectors such as pharmaceuticals and that most NZ R&D is done by public institutions and is basic and pre-commercial research.

Figure 3.4. **R&D expenditure**
As a percentage of GDP, 2002 or latest year available[1]



1. 1998 for Austria; 2000 for Australia, Luxembourg and Switzerland; 2001 for Greece, Ireland, Italy, Mexico, Netherlands, New Zealand and Sweden.

Source: OECD Main Science and Technology Indicators, Vol. 2004/2.

Table 3.2. **Indicators of innovation performance**

	Total researchers per thousand employment	Human resources in Science and Technology[1]		Number of triadic patents per million inhabitants	Science and engineering articles per million inhabitants	Percentage of government R&D activity financed by industry
		Average annual growth	As a percentage of total employment			
	2002[2]	1995-2002[3]	2002[4]	2001[5]	2001	2002[6]
Australia	7.3	3.1	35.6	19.2	758	5.5
Austria	4.7	2.1	24.7	34.9	564	3.1
Belgium	7.9	2.2	30.1	42.1	582	12.4
Canada	7.1	3.0	29.0	20.6	727	2.6
Czech Republic	3.1	1.7	29.7	1.2	256	9.6
Denmark	9.3	3.5	35.3	41.4	931	5.4
Finland	16.4	2.3	32.5	98.5	983	14.2
France	7.5	2.1	29.2	40.3	514	6.7
Germany	6.9	2.0	33.5	90.7	530	2.5
Greece	3.7	2.7	19.7	0.6	304	1.9
Hungary	3.9	–1.0	23.9	2.7	243	6.4
Iceland	–	5.6	29.0	21.8	610	5.0
Ireland	5.1	7.1	22.4	19.1	432	6.6
Italy	2.8	4.3	28.4	14.8	385	2.2
Japan	9.9	–	15.7	92.3	451	1.2
Korea	6.4	3.4	16.2	10.6	233	4.6
Luxembourg	6.2	5.4	31.6	46.5	–	5.8
Mexico	–	–	–	0.2	32	5.8
Netherlands	5.5	3.9	34.3	61.9	786	18.7
New Zealand	**7.0**	**3.1**	**26.0**	**9.5**	**742**	**20.3**
Norway	8.7	7.6	34.7	24.0	721	10.6
Poland	3.9	–1.1	23.5	0.2	147	23.3
Portugal	3.5	–0.6	14.8	0.6	208	3.5
Slovak Republic	4.6	1.0	28.8	0.7	177	14.0
Spain	5.1	8.4	23.1	2.9	387	4.1
Sweden	10.6	3.4	37.7	91.8	1 159	1.6
Switzerland	6.3	1.0	36.1	118.6	1 117	–
Turkey	1.1	–	–	0.1	60	1.3
United Kingdom	–	2.5	25.3	36.7	807	10.4
United States	–	2.0	32.7	57.7	705	0.0

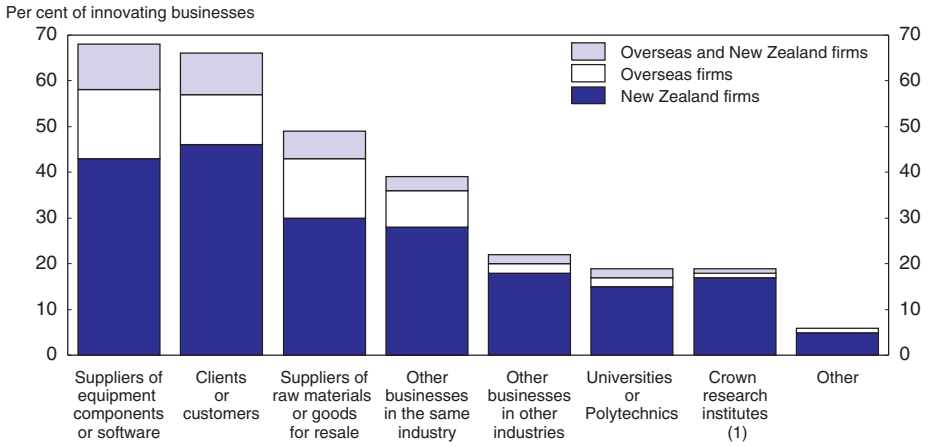
1. Encompassing workers in professional and technical occupations.
2. Ireland: 2001; Australia, Canada, Greece, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland: 2000; Austria: 1998.
3. Australia, New Zealand: 1996-2001; Austria, Belgium, Germany, Luxembourg: 1995-2001; Finland, Sweden: 1997-2001; Hungary, Iceland, Norway, Poland: 1999-2001; Slovakia, Switzerland: 1999-2002.
4. Australia, Austria, Belgium, Germany, Hungary, Iceland, Luxembourg, New Zealand, Norway, Poland: 2001.
5. Estimates. Triadic patents are those filed at the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO) to protect the same invention.
6. Belgium, Greece, Iceland, Mexico, New Zealand, Norway, Portugal, Sweden: 2001; Australia, Luxembourg: 2000; Austria: 1998.

Source: OECD, Patent and MSTI databases.

Facilitating the transfer of knowledge to the private sector

As most R&D is performed by public institutions or overseas, it is important to ensure there is no obstacle to new knowledge being effectively transferred to the NZ private sector and that the latter has the capacity to absorb it. Developing further collaboration between universities and the private sector is a way to facilitate knowledge transfer. While

Figure 3.5. **Collaborative or co-operative arrangements**
August 2003



1. And other public R&D providers.

Source: Statistics New Zealand, Innovation in New Zealand 2003.

universities in New Zealand are well linked to overseas sources of knowledge, very little of this knowledge is transferred to NZ business through collaborative research efforts (Figure 3.5). Universities receive very little private-sector funding for research,[21] and few firms report universities to be a key information source (Statistics New Zealand, 2004). Some initiatives have aimed at boosting collaboration and should be continued. Examples are research consortia established between private firms, Crown Research Institutes (CRIs) and universities, the Growth and Innovation Pilots that provide funding for tertiary education organisations to deepen linkages with the biotechnology, design, and ICT sectors, the Partnerships for Excellence Programme to establish joint university-industry research centres, and the Institutes of Technology and Polytechnic Business Links Fund. Still, more effort could be concentrated there. Improving the consistency and clarifying the interaction between programmes, which may involve consolidation of existing initiatives, might improve outcomes. Clarifying the policy on university investment in commercialising intellectual property could facilitate their collaboration with private firms. Favouring the mobility of researchers, for instance through sabbaticals, is also an important channel for diffusing knowledge throughout the economy.

Private firms will benefit from research generated by public institutions and elsewhere only if they are capable of absorbing and successfully applying this knowledge and the stock of human capital plays a fundamental role (Cohen and Levinthal, 1990; Pain and Jaumotte, forthcoming). This is a key challenge for NZ firms, as the stock of skilled human capital in the form of researchers, scientists and engineers is particularly low in the private sector (Williams, 2004), even though the share of total researchers as a proportion of employment is above the OECD average. This may stem from a lack of demand for such workers from the private sector, reflecting the relative balance of R&D performed by the private and public sectors in New Zealand. But there may also be a problem of supply in the current context of a shortage of skilled workers and the relatively low wages in science-related jobs compared with that seen in other countries. At the same time, a significant

number of highly qualified New Zealanders are working overseas.[22] This is a clear example where innovation policy needs to be co-ordinated with labour market, education and immigration policies to increase the supply of science and technology workers. A number of measures have already been put in place, but they are concentrated on post-secondary education.[23] Evidence from Finland suggests, on the contrary, that policies should focus on the entire supply pipeline, from primary to secondary schooling to university education, and should involve industry to leverage competencies and resources (Arajarvi, 2004). Moreover, well functioning labour markets and attractive career opportunities are also important to attract and retain science and technology workers. Indeed, salaries and career opportunities are reported to be the main factors underlying the location choices of New Zealanders currently living overseas (Inkson *et al.*, 2004).

Simplifying the delivery of public support

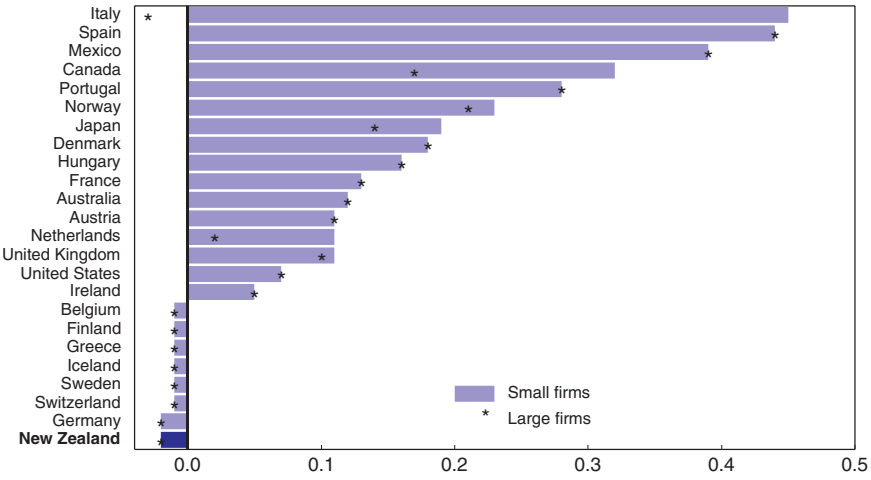
Public policy intervention in the innovation process is needed to reduce market failures, such as imperfect appropriability conditions and risks[24] (Guellec and van Pottelsberghe de la Potterie, 1997). It helps to ensure that the level of innovation expenditure is not far from the socially desired level. For that purpose, it is essential to ensure that public funding is allocated on a contestable basis. This appears to be currently the case for most of the funding system, but the Minister for Research, Science and Technology has proposed that the non-contestable proportion be progressively increased in the coming years.[25] Although such institutional funding can be useful to provide more stable long-term funding to research institutes, it should be limited as it can distort competition between research providers. Thus, most public funding should continue to be provided through contestable funding, as was indicated by the Minister.

The design of policy support for business R&D in New Zealand differs from most other OECD countries, as it is provided through grants rather than tax subsidies. Both tools have advantages and drawbacks, and the empirical literature provides relatively little guidance as to which model should be applied in practice. Indeed, the appropriate policy mix might vary across industrial sectors and depends on framework policies, such as the level of product market competition. Although the tax treatment of business R&D was simplified in 2001, the system was until recently biased against R&D (Figure 3.6). Very recent changes move the system toward neutrality, in particular through the possibility of immediate deduction of the costs of failed or withdrawn patent and resource management consent applications, changes to depreciation rules for short-lived assets, and changes to allow amortisation of R&D expenditure in cases where there are significant changes in ownership. Still, given the strong emphasis on grants in the NZ system, it will be important to assess regularly the relative effectiveness of the system against alternatives, such as tax relief or no assistance at all. Moreover, grants should be delivered in a contestable and transparent manner, and their impacts need to be examined on a regular basis (see below). The overall degree of subsidisation should also be closely monitored, as there is evidence of an inverted-U shaped relationship for the impact of public subsidies on private R&D (Guellec and van Pottelsberghe de la Potterie, 1997). Providing subsidies at too high a rate could lower the overall efficiency of policy.

Overall, innovation policy and the associated framework appear to work relatively well, but some improvements in the existing mechanisms of support would enhance their effectiveness. *First*, the delivery of public support is dispersed and administered by different institutions with no real co-ordination among them. This raises concerns about

Figure 3.6. **Tax treatment of R&D**

Rate of tax subsidy for 1 unit of R&D expenditure, 2004



Source: OECD Science, Technology and Industry Outlook 2004.

programme "clutter" for assistance to businesses more broadly.[26] The Working Group on Innovation has been set up to coordinate policy initiatives and ensure they are consistent with the government's broad objectives, but its role has been limited thus far. To some extent, the emphasis on sector engagements, one of the four pillars of the GIF, also aimed at coordinating policies across agencies. However, this initiative was not intended to replace ongoing involvement by the delivery agencies or affect their decision-making (Cabinet Policy Committee, 2004).[27] As a consequence, there is a risk of overlap between schemes, resulting in a waste of resources. With different objectives, incompatibilities could also exist between schemes.[28] Moreover, a fragmented research and industry assistance funding structure creates high transaction costs for bidders and can contribute to fragmented research (Entrepreneurial Sub Group, 2003). Increasing coordination between the various agencies involved in the delivering of public support would help to improve the efficiency and the consistency of the whole innovation policy. It will also ensure that the effective allocation of resources is fully in accordance with the government's economic development objectives.

Second, a recent report by the Controller and Auditor General (2004) has identified a number of weaknesses in the administration of grants programmes by New Zealand Trade and Enterprise (NZTE). It concludes that there was sometimes poor monitoring of grants recipients and an inconsistent approach to the assessment of the risks before delivering support. The publication of guidelines setting out principles for the allocation of grants, comparable to the one existing for government procurement (see Chapter 2), would be useful to avoid such situations.[29] This would be a good opportunity for the different agencies to share their experience and identify best practices. It would also ensure consistency across agencies.

Last, a systematic and full evaluation of assistance programmes is necessary. Such exercises are not only useful *ex post* (to guide future public intervention) but also while the programme is underway (to check whether it functions efficiently or whether some

adjustments are called for), and will be particularly needed when evidence of the effectiveness of a programme does not already exist. It should include an assessment on how the programme is delivered and of the outcomes of the programme including any spillover effects, even though information gaps and methodological difficulties render the latter evaluation extremely difficult. In New Zealand, all government agencies supporting innovation policy are required to undertake evaluation, which is subject to scrutiny by Ministers. Against this background a number of programmes have been or are in the process of being evaluated (Wilkinson and Berezovsky, 2003). However, given the lack of coordination between assistance providers, there is no unified framework for these assessments, so that it is difficult to compare across programmes. The Ministry of Economic Development, NZTE and the Ministry of Foreign Affairs and Trade are currently developing comprehensive evaluation and research plans for each industry and regional assistance programme.[30] This initiative is welcome, and further efforts should be undertaken to improve the current situation.

Access to capital for start-up SMEs

Access to finance plays a key role in the innovation process to fund research and its commercialisation. While access to capital does not appear to be an obstacle to investment for SMEs in general, NZ banks have indicated that they either do not, or are unwilling to, lend to those starting up or those whose only asset or collateral is intellectual property (PriceWaterhouseCoopers, 2003). Indeed the significant uncertainties associated with these investments makes it difficult to predict how much return will be generated. In this context, venture and angel capital are usually important alternative sources of finance for high-risk projects, especially in industries where the average time before profits are generated is long.

Despite a number of measures, including the creation of the NZ Venture Investment Fund (VIF) in 2001, the venture capital market remains small in comparison with other OECD countries. It can be expected to expand further in the coming years, as some impediments to venture capital investment have been, or soon will be, lifted. The government has announced it will exempt non-residents who invest in the VIF from tax on the profits when they later sell their shares. The changes complement the venture capital tax reforms enacted in 2004 to remove tax barriers to NZ companies attracting private equity and venture capital from institutional investors in some countries.[31] The government is also hoping to introduce a new legal structure which limits investors' exposure to company debt ("limited partnership") and to improve tax deductibility of R&D expenditure for companies bringing in new equity investors after their initial development stage. Uncertainties about the taxation of capital gains on venture capital funds are reported to have been an important factor holding back the expansion of the market, but they are expected to be removed soon.[32] At the same time, there is evidence that New Zealand's angel capital market has developed significantly in the last five years and that active business angel networks have emerged (Infometrics, 2004). Against this background, it would be premature to inject more public funds into the venture capital market before allowing the private sector to respond to a clearer and more neutral tax environment. However, close monitoring remains necessary.

Conclusion and priorities for policies

Although policy settings are broadly appropriate and should provide a climate for strengthening productivity growth over time, there are a number of areas where adjustments to policies could improve the country's economic performance.

Private-sector investment rates have picked up and economic forces are likely to continue encouraging firms to increase the capital intensity of their outputs. This process will be helped by the changes announced in the 2005 Budget to eliminate the present capital gains tax on pooled investment services and to realign depreciation allowances to more closely reflect economic depreciation rates. Further work is needed to find the most effective strategy for reducing effective taxation on foreign portfolio investment.

The contribution of investment in land transport infrastructure to economic efficiency could be enhanced by the following measures:

- Developing and implementing an effective congestion charging scheme in key urban areas.
- Relaxing the rules in the framework for the road infrastructure to ensure that more flexible funding arrangements can develop in practice. This would include re-examining the current statutory consultation requirements for concessions to ensure that they do not present an obstacle to the effective use of public/private partnerships.
- Monitoring the prioritisation of land transport projects to ensure that they continue to reflect rankings according to the highest net social return, determined using a consistent method for assessing the economic, environmental and social benefits and costs.

The NZ labour market is one of the most flexible amongst the OECD and has delivered excellent performance in the recent past. It is important to preserve this flexibility, by:

- Monitoring and minimising any risks of increased rigidities arising from recent changes in labour legislation and avoiding any further measures that could increase rigidities or employment costs and undermine overall growth objectives.
- Mitigating the effects of increased employment protection on hiring behaviour by introducing a trial period for marginal groups of workers, during which the law for unjustified dismissal does not apply. Loosening restrictions on fixed-term contracts could also be beneficial, especially for older workers.

The innovation framework appears to be well designed, and without compromising the general approach, a number of adjustments and additional measures could raise the efficiency of current policies, including the following:

- Taking appropriate measures to favour collaboration between universities and private firms.
- Fostering a closer integration of education, immigration and labour market policies with innovation policy to improve the private-sector capacity to absorb new knowledge.
- Limiting the increase in the share of non-contestable funding for research institutes.
- Improving coordination among agencies responsible for the delivery of public support and setting guidelines for the provision of grants to improve the coherence of policies.
- Undertaking systematic evaluations of programmes to support innovation.
- Monitoring developments in the venture capital market, in the light of recent and anticipated tax changes.

Notes

1. One important factor driving the country premium is the relative fiscal positions, with New Zealand's fiscal prospects currently looking much stronger than those of the United States and much of the euro area.
2. The only justification for departure from this principle is if there are spillovers from one firm's investments to others. In this instance, the tax system could, in principle, be used to offset the impacts of these spillovers so that the after-tax rankings reflected the benefits to society overall.
3. This method would allow a diminishing value deduction at the rate 2/T where T is an asset's economic life. For example a 10-year asset obtains a 20% rate of diminishing value depreciation. For very long-lived assets, the present rules are already equivalent to the double declining method. Nevertheless, this remains an approximation because establishing economic depreciation precisely is analytically challenging, complex and thus, expensive, except for assets where there is a well-established resale market, such as for cars.
4. For example, for computers and software, the straight-line depreciation rate of 40% becomes 48% with the loading, and the diminishing value rate of 50% becomes 60%.
5. One analysis of the period 1951 to 1986 found that over that period the private sector had been able to draw funds from the rest of the world to finance capital formation, so that domestic savings was not a constraint (Karaçaoglu and Roseveare, 1988).
6. If foreign investors shift the full tax onto the NZ-resident company (and its owners) by demanding a sufficiently high after-tax rate of return as compensation for both the country premium and the tax rate, then some investment will be rendered unprofitable by the imposition of the tax.
7. Under this approach, interest income is also taxed at the individual's marginal tax rate.
8. This allows non-residents to pay a 2% flat tax on interest received instead of the non-resident withholding tax if they cannot get a full tax credit in their home country.
9. The Growth and Innovation Framework notes that infrastructure is important for public policy because too little infrastructure may restrict what the economy can produce, but oversupply would imply an inefficient use of scarce resources. Furthermore, infrastructure tends to be in large units, often involves long lead times and can be stranded if overtaken by new technology. Furthermore, the same infrastructure can have many users with a range of quality, quantity and price expectations.
10. Others have suggested that whilst there may be a link between economic development and transport in New Zealand, it is difficult to show empirically. Furthermore, it is not yet clear what the specific outcomes of any decoupling policies that might be introduced in New Zealand might be, and whether or not decoupling may occur even in the absence of policy interventions (Ballingall *et al*., 2003).
11. Notwithstanding these efficiency and equity benefits, public resistance to more efficient road-pricing is often significant and sometimes fostered by opposition of certain groups that benefit from current arrangements (ECMT, 2003).
12. This is a joint central-local government initiative as part of the Auckland Sustainable Cities Programme and includes the Walking School Bus Programme, in which more than 55 Auckland schools are now participating.
13. Shadow toll arrangements now operate on some roads in the United Kingdom, although users may be unaware of them. They are designed primarily to address the agency issues involved in management of public assets. The design of the Private Financing Initiative in the United Kingdom has evolved considerably since the earliest projects were established: the shadow tolls have become progressively more complex and the financing arrangements covering risk have been clarified (Lonergan, 2005).
14. This is a strengthening of the provision already included in the ECA, which required employers to show "just cause" for dismissals and abolished employment "at-will".
15. At the moment individual employment agreements can provide for a probation or trial period, but the law relating to unjustified dismissal still applies even during this period. A trial period before compensation for unjustified dismissal is available already exists in most OECD countries, including many European countries where employment protection is stricter than in New Zealand.
16. The new Holidays Act was passed at the end of December 2003 and came into force on 1 April 2004 but required clarifying legislation in October 2004 to limit the rise in associated employment costs. Under current statutes, no penal rates are paid for public holidays on top of existing penal rates of

at least time and a half; no time and a half public holiday rates apply if an employee does not work that day; employers may request a medical certificate within three consecutive calendar days if they have reasonable cause to suspect the sick leave is not genuine, with the employer paying for the medical certificate; and the time limit for separating out time and a half for working on a public holiday from the employee's regular pay (when both are included in a "composite rate of pay") has been extended.

17. This decline can be explained by structural changes in the sectoral composition of output but may also have been reinforced by the implementation of the ECA.

18. According to Schedule 1 which describes the Codes of Good Faith Employment Relations for the public health sector, "the parties must support collective bargaining, including multi-employer collective agreements, when it is practical and reasonable to do so".

19. For instance, the Association of University Staff of the Auckland University took legal action in March 2005 against the Vice-Chancellor of the university after he failed to attend a meeting to negotiate a national employment agreement and because he offered a salary increase of 4.5% to non-union staff on the eve of the negotiations, which the union alleged was unlawful by undermining bargaining and was discriminatory. The court ruled that the University has to meet with the other employers for collective bargaining, but did not find that the University's actions breached good faith. The University has offered to increase all employees' pay – both union and non-union – by 4.5 %. Union members have voted to strike in support of their claim for a national collective agreement. In a separate development, the Metals and Manufacturing Industries Collective Agreement, the largest multi-employer collective agreement, has expired, and the union has obtained an across-the-board pay increase of 5% over 15 months.

20. Expenditure on R&D from private firms (that were included in both 2002 and 2004 surveys) increased by 9.5% from 2002 to 2004.

21. Only around 5% of R&D carried out by universities in 2002 was funded by the private sector, whereas 23% of that carried out by CRIs was funded by NZ businesses (OECD, 2005b).

22. The proportion of highly qualified people born in New Zealand and working overseas was estimated to be around 25% of the corresponding domestic workforce in 2001 (Dumont and Lemaître, forthcoming).

23. For instance, some measures aim to raise the interest of youth in sciences, revise higher education curricula and expand interdisciplinary training (to adjust to market demand), or provide funds to researchers and support entrepreneurship training for emerging industries.

24. Imperfect appropriability conditions would imply that the private rate of return to R&D is lower than its social return and that the returns to private research are subject to a risk premium that is relevant at the social level.

25. The first steps of this change were announced in the 2004 Budget with an increase in Organisational Capability funding (which will increase by approximately one-third to NZD 38 million for 2005/06) for CRIs.

26. NZ government and universities provided a total of NZD 782 million in 2002 for research, equivalent to 0.5% of GDP (OECD, 2005b). Institutions involved in the management of public funding for innovation include the Foundation for Research Science and Technology (FRST), the Royal Society of New Zealand, the Health Research Council, the Ministry of Research Science and Technology (MoRST), the Tertiary Education Commission and the Ministry of Education. Moreover, New Zealand Trade and Enterprise (NZTE) and the Venture Investment Fund (VIF) are also involved in the delivery of innovation support.

27. The GIF identified the need to focus scare resources and identified three sectors – biotechnology, ICT and creative industries – for particular attention. More recently, the government has sought to engage with a wider range of sectors to identify policy issues that may be constraining growth. The Food and Beverage Sector Engagement was launched at the end of last year.

28. For instance, the Technology New Zealand Scheme has a single objective – to enhance technological capabilities in NZ firms and induce commercially viable technological applications. By contrast, some of Industry New Zealand Schemes are targeted to building regional capabilities. There could be a conflict between the two objectives for regions that have firms with very low capacity to absorb new technological knowledge.

29. For the time being only limited guidelines exist for the delivery of grants administered by NZTE.

30. These plans will describe when and how programme performance assessment will be implemented, as well as specify a research agenda to support performance assessment or policy development for each programme.

31. Under these provisions, residents of the majority of countries with which New Zealand has a double tax agreement should be exempt from tax when they sell their shares in unlisted NZ companies.

32. Indeed, there is no general capital gains taxation in New Zealand, but as discussed above there are some pooled investments where capital gains taxes have been levied, and it is unclear whether capital gains on venture capital funds are taxable.

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Chapter 4

Human capital and labour utilisation

This chapter considers policies affecting human capital development and labour utilisation in New Zealand and examines ways in which they could be improved in order to help lift living standards. Participation in tertiary education has risen, but public funding could be more sharply focussed on labour-market-relevant priorities, and pay greater attention to the quality of courses. Compulsory schooling still delivers widely variable results: more effective teaching and learning strategies for poorly performing students are called for. The planned expansion of early childhood education and care is an important long-term investment in human capital, but supply constraints mean that making optimal use of scarce pedagogical resources will be critical to its success. Increased availability of high quality and more affordable childcare will also make it easier for mothers who wish to work, and reduce the current financial biases that discourage mothers from doing so. The Working for Families package was intended to improve the incentives for people to shift from benefits into work but while it does so for some, this comes at the expense of potentially discouraging others from earning additional income: changing the rules could minimise these effects. The proposed single core benefit should encourage and help working-age beneficiaries to move into work. But its success will depend critically on effective case management tightly oriented towards re-employment objectives.

Raising productivity growth and boosting labour utilisation are key challenges for New Zealand (see Chapter 1). Human capital development can play a significant part in lifting productivity growth, by enabling workers to use complex equipment and through the development and diffusion of new products and processes. Since extensive public funds are invested in education systems, they warrant closer examination to identify how they could contribute more directly and effectively to boosting human capital. Public spending on education is likely to make the greatest contribution if it is concentrated on interventions that generate the greatest net social returns,[1] and it is well established that the externalities from education are more likely to accrue to spending in the earliest years – early childhood education and care (ECEC) and schooling – than post-secondary education, where much of the value of that human capital investment is captured in higher market wages for the individuals involved.

A significant share of any individual's human capital is built up through on-the-job training, experience and increased responsibilities. But periods of absence from the labour market can lead to a deterioration in skills. Policies that discourage mothers from continuing to work while raising their children may result in a significant loss of human capital that cuts across other efforts to raise productivity, as well as reducing women's lifetime earnings. Of course, raising children provides an opportunity to develop different skills, and women who take time out to look after their own children are still working, even though that work is unpaid. But a lack of access to high quality and affordable ECEC limits choices for parents and New Zealand makes a smaller public investment in ECEC than do many other countries, despite the strong evidence that this spending can deliver high social returns. At the same time, the *Working for Families* package introduced last year, while it improves the incentives for some people, may discourage additional earnings for middle-income couples with dependent children. The Government has signalled that improving ECEC options are a priority and has taken some steps to assist with affordability and supply.

Although growth has been exceptionally strong over the past few years and labour shortages have become widespread, benefit dependency remains rather high. Some one-third of all working-age beneficiaries are sole parents, and they are responsible for a disproportionate share of children in poverty (see Chapter 1). A slightly larger and increasing proportion are drawing invalid or sickness benefits. Addressing the obstacles that these beneficiaries face in getting back into work would both boost labour utilisation and reduce public expenditure in the longer term, even if it requires some greater up-front costs.

Lifting human capital

Re-orienting the tertiary education sector

The tertiary education sector has undergone a major expansion, with an almost 35% rise in enrolments of domestic students since 2000. The sector provides a very wide range of subjects and levels (Table 4.1), but the number of students enrolled in university degree courses has grown only slowly, with the main expansion taking place in sub-degree

Table 4.1. **Enrolments in tertiary institutions**

As at July 2004

	Numbers	Per cent
Providers		
Universities and colleges of education[1]	149 690	41
Polytechnics	117 514	32
Private Training Establishments	59 158	16
Wananga	41 644	11
Level of study		
Certificate Level (NQF levels 1 to 4)	148 806	39
Diploma Level (NQF levels 5 to 6)	71 640	19
Degree Level (NQF levels 7)	130 575	34
Post Graduate Level (NQF levels 8 to 10)	28 643	8
Field of study		
Natural and Physical Sciences	18 489	5
Information Technology	17 315	5
Engineering and Related Technologies	24 215	6
Architecture and Building	8 127	2
Agriculture and Environmental Studies	11 265	3
Health	32 257	8
Education	25 458	7
Management and Commerce	81 074	21
Society and Culture	70 515	19
Creative Arts	17 791	5
Food, Hospitality and Personal Services	7 586	2
Mixed Field Programmes[2]	65 572	17
Age		
Under 18 years	15 742	4
Core Age (18-24 years)	155 069	42
Mature (25+ years)	197 192	54
Load		
Full time	173 819	47
Part time	194 187	53
Gender		
Male	153 437	42
Female	214 569	58
Ethnicity		
Maori	69 876	19
Pacific Island	19 060	5
Asian	39 645	11
NZ European/Pakeha	183 629	50
Other or not stated	16 792	5
International students	39 004	11
Total	**368 006**	**100**

1. Colleges of education provide training for teachers.
2. Includes general education, social skills, employment skills and other mixed field programmes.

Source: Ministry of Education.

courses and in polytechnics and wananga providing shorter community education courses (see Box 4.1). Some of these courses are of dubious labour market relevance.[2] Improving access to education has been a priority for the government, in part because participation in

Box 4.1. **Snapshot of the New Zealand tertiary education sector**

In New Zealand, formal tertiary education encompasses any post-secondary and adult education undertaken at a public or private tertiary education provider that leads to a recognised NZ qualification. The National Qualifications Framework (NQF) qualifications are established by the NZ Qualifications Authority (NZQA) according to 10 levels. Levels 1-3 are approximately the same standard as upper secondary education and basic trades training, levels 4-6 correspond to advanced trades, technical and business qualifications, and levels 7-10 correspond to university degrees. In addition, Modern Apprenticeships recognise both work-place based training and course work within the National Qualifications framework.

In 2003, there were 35 public tertiary institutions, comprising eight universities, four colleges of education (providing teacher training), 20 polytechnics and three wananga (providing tertiary education with special emphasis on Maori tradition and custom). Some 525 private tertiary education providers also received public funding and/or had students eligible for loans and allowances funding for targeted foundation and second chance programmes.

Providers receive government funding for each student enrolled ("student component") based on rates designed to take account of the different costs of courses. However, subsidy rates for undergraduate degree courses are only marginally higher than for non-degree courses in each discipline. A performance-based element of the student component is currently being developed and trialled during the course of this year. This will eventually make a maximum of 5% of the student component funding contingent on successful course completion rates, course retention rates and the results of a survey of student opinion. Additional funding comes through the performance-related research fund, which is designed to provide additional resources linked to the quality of research undertaken in tertiary providers.

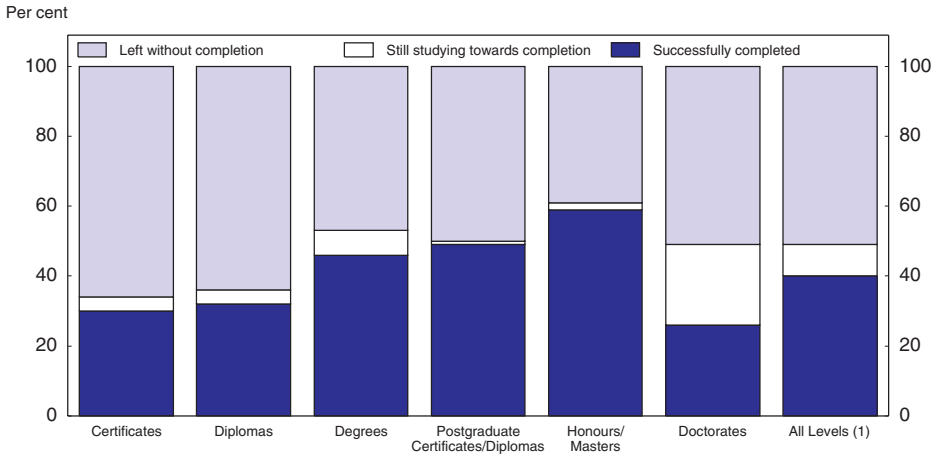
Providers are entitled to charge fees within maximum limits set by the government. Full-time students can receive grants, subject to their income, and that of their parents if they under 25 years old, for a maximum of 200 weeks over their lifetime. They can also take out student loans to cover course fees, course-related costs and up to NZD 150 per week for living costs. Interest incurred during the period of study is written off and the loan becomes repayable (in installments) once earnings reach an income threshold.

basic courses may help unqualified adults to gain the basic skills and confidence required to undertake more challenging studies. But there is relatively little evidence that the system has been effective in assisting a large share of its students in this way.[3]

The current institutional arrangements embody several weaknesses that have become increasingly evident over the past few years:

- The parameters of the enrolment-based funding rates tend to encourage providers to favour quantity of enrolments rather than the quality of courses.[4]
- The very wide range of courses eligible for government funding include some that have little relevance for meeting national goals and do not enhance students' career prospects or provide other benefits except to the individual.

Figure 4.1. **Tertiary education completion rates**
Students initially enrolled in 1998, after five years



1. Include students who change qualification level, whereas rates for individual levels do not.
Source: Ministry of Education (2003).

- Permissive regulatory frameworks, which were designed to encourage innovation, have weakened the gate-keeper functions for government funding.
- Reduced barriers to students through fee maxima and subsidies in the loan scheme have encouraged greater uptake, including in courses that are not in accordance with national priorities.
- Participation in tertiary education has risen, but less than half of those who enrol actually complete their programme of study and achieve a qualification (Figure 4.1). To some extent, these statistics reflect students only wanting to study certain parts of a course programme, but they could also indicate that some students are making poor choices about courses, some institutions are delivering poor services, or that incentives for completion are weak.

The government has already embarked on efforts to address these problems. The *Tertiary Education Strategy 2002-2007* set out a series of reforms intended to more closely connect the sector to the government's national development goals[5] and to other sectors of society and the economy. It was designed to build on the existing strengths of the sector, but also to address the problems outlined above. It provided the Tertiary Education Commission with two main instruments through which it can give effect to its priorities:

- The Tertiary Education Commission must approve the charters and profiles of providers. Each provider must establish a charter, which lays out how its strategic direction reflects government policy, and provide annual profiles to explain how it will give effect to its charter and the indicators against which its performance can be assessed.
- The government can adjust the funding channelled through the different formulae, which include the performance-related research fund and the strategic priorities fund and, once fully developed, the performance-related student funding component.

If these instruments are applied effectively, they could make the strategy more concrete and help to ensure that courses receiving public funding correspond to

high-priority areas and are of at least satisfactory quality. However, the changes are relatively recent and thus far, they appear to have relatively weak influence on the behaviour of the sector players although it may be too early to assess the results.

The government's *Statement of Tertiary Education Priorities*, released in April 2005, sends a much stronger signal about its intention to redirect spending into courses more directly relevant to the labour market and cut out low-quality courses. It includes several important features:

- a sharper differentiation of roles between universities, polytechnics and wananga, with universities concentrating on degrees and high-quality research, while the polytechnics specialise in vocational training, including at applied degree level;
- a clear signal that vocational programmes with relatively poor employment outcomes and courses that solely meet personal interests (such as hobbies) will not be eligible for public funding;
- increased emphasis on providers improving the effectiveness of their teaching and learning.

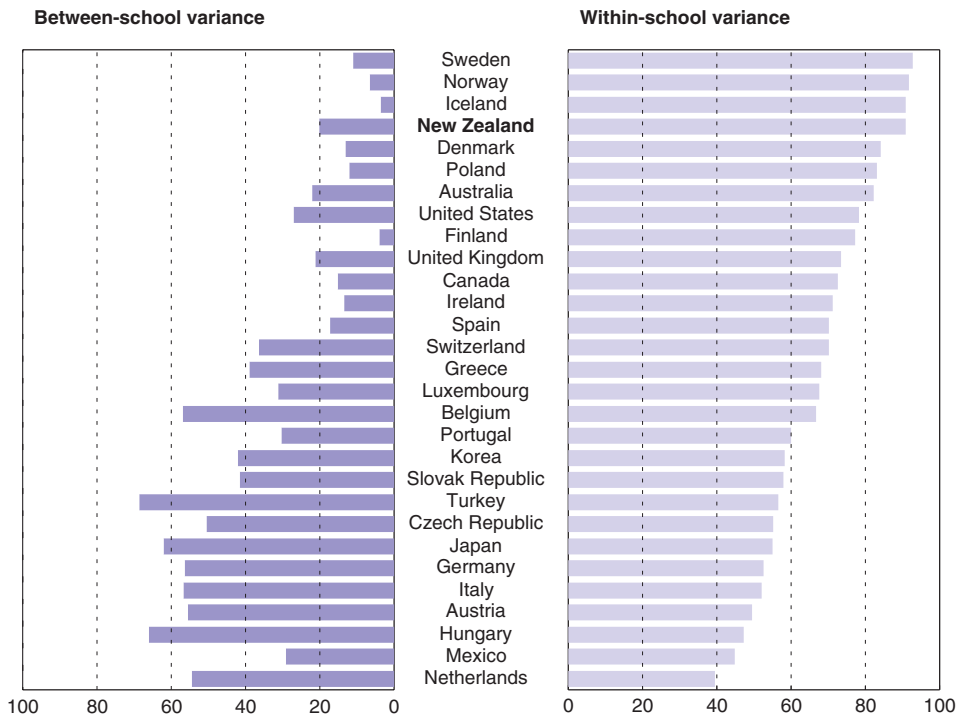
Tertiary education providers are required to align their profiles in 2006 so as to comply with these features, and it will be up to the Tertiary Education Commission to decide whether they have gone far enough. Given the rapid increase in public spending in the sector and growing doubts about the value to both students and society as a whole, strenuous efforts should be made to put these tools to work. If significant improvements cannot be obtained within a reasonable time-frame, a more radical rethinking of the strategy may be required, perhaps involving putting a much greater share of financial responsibility for choices about study back onto the shoulders of the students themselves.

Helping schools deliver better results

The foundations of human capital are laid down in schools, and it is obviously more cost-effective to provide all school-age children with an excellent education than dealing with the social and economic consequences of school failure through remedial efforts with adults. It also makes a significant difference to the quality of life of the individual school leavers. New Zealand students perform well on average in international tests such as PISA, but the variation is large, especially within schools[6] (Figure 4.2). Meanwhile, some 15% of school leavers depart without even basic school qualifications, with Maori and Pacific Island students disproportionately represented and boys doing consistently worse than girls at all levels (Table 4.2).

Reducing this long tail of under-achievement in the school system is a challenge, especially as the variation in student performance is mostly within schools rather than between them. This points to the importance of improving the quality of teaching within the classroom itself and the school as a learning environment (Alton-Lee, 2003). Building an evidence-based approach to improving the quality of teaching is well advanced, although there would probably be substantial returns to further research into ways of improving educational outcomes for all students. But at this point additional funding to the sector would not automatically lead to better outcomes: the main task is instead to develop the capability to effectively diffuse evidence-based best practices throughout the sector. Realistically, it will take time and patience to implement effective diffusion networks and establish more successful in-service training programmes. Greater emphasis on financial incentives for teachers to upgrade their professional skills with the active

Figure 4.2. **Variance in student performance in mathematics**
Expressed as a percentage of the average variance in student performance in OECD countries[1]



1. Average between-school variance is 33.6% and average within-school variance is 67.0%.
Source: OECD (2004), *Learning for Tomorrow's World, First Results from PISA 2003*.

support and encouragement of the teachers' unions would almost certainly accelerate the process.

Expanding early childhood education and care

Another important investment for human capital and, arguably, the one generating the greatest net social return on public funds spent, is ECEC (see, for example, Heckman, 2005; Cleveland and Krashinsky, 2003). International evidence shows that ECEC plays an important role not only in future academic performance, but also in important non-cognitive attributes such as curiosity and perseverance (OECD, 2001). NZ experience reinforces these findings: the strongest benefits are seen for children who started in some form of ECEC when they were between one and two years of age and then spent three to four years in it (Wylie *et al.*, 2001). School is compulsory from age six, but children are entitled to start school on their fifth birthday, and most children do so.

The New Zealand ECEC policy settings were designed to integrate care and education goals and accordingly have a strong educational focus. For children under the age of five, the availability, quality and user cost of ECEC services have been variable (OECD, 2004a). To address concerns about quality and to support the educational focus of ECEC, the government has tightened the regulatory requirements to require all centres to be led by a qualified teacher from this year and by 2012, all staff having any contact with children will

Table 4.2. **Highest attainment level for school leavers**

Per cent, 2003

	Ethnic group								Total
	European/Pakeha		Maori		Pacific Island		Other		
	M	F	M	F	M	F	M	F	
University Bursary (NCEA levels 3 and 4)	20	26	4	5	4	5	36	40	20
Entrance Qualification (at least 42 credits at NCEA level 3)	9	12	4	5	4	6	11	12	9
Higher School Certificate (14 to 41 credits at NCEA level 3)	13	14	9	12	17	24	15	15	14
6th form certificate (at least 14 credits at NCEA level 2)	26	24	25	26	27	30	20	18	25
NCEA level 1 and 1 to 13 credits (at level 2 or above)	10	7	10	10	9	7	4	3	8
at least 14 credits at NCEA level 1	9	7	15	14	13	10	4	3	9
No Qualifications (less than 14 credits at NCEA level 1)	14	9	34	27	25	18	10	8	15
Total	100	100	100	100	100	100	100	100	100
Share of total school leavers	0.33	0.32	0.09	0.09	0.04	0.04	0.05	0.05	1

Source: NZ Ministry of Education.

require a recognised teaching qualification. As an incentive to encourage centres to raise the proportion of qualified teachers beyond the regulatory minimum and to prevent the additional cost of those teachers being passed on to parents through fees, the government provides the highest subsidy rates to those ECEC centres that employ only registered teachers. But if teacher shortages emerge, which seems likely at least in the next few years, centres in affluent neighbourhoods would find it easier to attract the best-qualified staff while children in disadvantaged communities could be left with a lower standard of care. Thus, despite best intentions, the rising requirements for staff qualifications could make it harder for the children who would benefit most from high quality ECEC to get access to it.

The government has also announced that by July 2007 the government will fund all three and four year olds for up to 20 hours per week of free ECEC in kindergartens, other community-provided centres or home-based networks. However, this policy is not an entitlement to pre-school and there is no guarantee that all three and four year olds will be able to obtain a place. Instead, the policy is structured so as to provide a 100% subsidy for the first 20 hours per week of care delivered (see Box 4.2). But unlike the present subsidy rates which apply equally to both community and private for-profit providers, the latter will not be entitled to receive this additional subsidy. Given current participation patterns (Table 4.4), the supply challenges associated with a rapid expansion in ECEC are significant, as average weekly hours in kindergartens and other community operated centres are currently well below that level. The Ministry of Education is targeting additional support to areas of current undersupply to assist the expansion of existing services or the start-up of new services. However, if shortages do occur, there is a risk that some three and four year olds in poorer neighbourhoods may only be able to obtain access to their 20 hours in a lower quality setting while others in their cohort get not only their free 20 hours but also an additional subsidised 10 hours per week supervised only by highly qualified teachers. In addition, some disadvantaged older pre-schoolers may receive a weaker educational

Box 4.2. **Early childhood education and care subsidies**

Early childhood education and care services can be centre-based or supplied by a home-based care network and provided either by private, for-profit operators or community-based (non-profit) organisations. The latter include kindergartens, which generally provide sessional care, and kohanga reo ("language nests") that provide a Maori language immersion environment. There is no direct public provision of ECEC services. Each centre is licensed to take up to a maximum number of children at any one time and regulations govern the maximum ratio of staff to children depending on age.

Funding is provided through a complex voucher-type system, where the hourly per-child funding (ECE) subsidy depends on the age of the child, the ratio of hours worked by qualified teachers to those worked by other staff and the type of service provided. This results in some 30 different hourly subsidy rates (Table 4.3). In addition, some children are eligible for additional means-tested subsidies (at three different rates), while some centres are may also receive "equity" funding, which provides community-based centres in targeted communities with additional education resources to improve access. The funding subsidy is paid in bulk in advance, three times a year, with a subsequent reconciliation to actual entitlement. In 2003, 83% of government funding to the sector was the ECE subsidy, 12% was the income-tested childcare subsidy, and 2% was equity funding.

Table 4.3. **Per child ECE subsidy rates in ECEC**

Rate, NZD per funded child hour, as at 1 July 2005

	Under 2 year olds		Over 2 year olds	
	All day	Sessional	All day	Sessional
Centre based care				
Percentage of staff that are registered				
ECE teachers				
100%	9.48	8.82	5.30	4.85
80-99%	9.08	8.45	4.84	3.96
50-79%	8.14	7.58	4.08	3.49
25-49%	7.11	6.61	3.57	3.17
0-24%	6.46	6.01	3.24	2.97
Protected rates	6.51		3.26	
Home based care networks				
Quality rate	6.89		3.56	
Standard rate	6.06		3.15	
Parent/Whanau led licensed services				
Quality rate	6.69		3.35	
Standard rate	5.86		2.94	

Source: Ministry of Education.

Each child may receive funding only for a maximum of six hours per day and 30 hours per week. Thus, a child who spends eight hours per day on three days a week would be subsidised for 18 hours and a child attending six hours per day from Monday to Friday would be funded for 30 hours. Children may attend more than one service. Providers are required to keep detailed hourly records. Those children eligible for means-tested subsidies may receive an additional subsidy for up to 50 hours per week.

Box 4.2. **Early childhood education and care subsidies** *(cont.)*

Additional fees can be charged to parents; centres are completely free to set these as they wish. For middle- and higher-income families, a Consumer magazine survey in February 2003 found that parents paid fees ranging from NZD 2.30 to NZD 5.75 for teacher led centres, kohanga reo and home-based services. Kindergartens charged NZD 1.00 to NZD 3.00 per three-hour session.

Source: Ministry of Education.

Table 4.4. **Enrolment and hours in early childhood education and care**

2003

Type of service	Age at 1 July 2003						Total	Average weekly hours
	Under 1	1 year	2 years	3 years	4 years	5 years		
Free Kindergarten	36	60	885	16 349	27 534	245	45 109	12.0
Playcentre	1 467	2 899	4 103	3 902	2 723	106	15 200	4.3
Community Operated Education and Care Service	1 164	4 446	8 620	11 389	9 567	407	35 593	16.3
Privately Operated Education and Care Service	2 003	6 821	11 063	12 866	10 258	363	43 374	22.0
Privately Operated Home based Network	564	1 014	893	736	542	18	3 767	25.9
Community Operated Home based Network	552	1 414	1 506	1 319	945	84	5 820	17.3
Te Kohanga Reo	546	1 623	2 486	2 792	2 508	364	10 319	28.5
Correspondence School		5	26	371	565	24	991	n.a.
Total	6 332	18 282	29 582	49 724	54 642	1 611	160 173	n.a.

Note: Excludes casual education and care, but includes children enrolled in two or more different services.
Source: New Zealand Ministry of Education.

foundation at the same time as the government is encouraging exclusive teacher supervision of younger children, even during nap time.

The most obvious way to ease this potential ECEC centre supply constraint is to put the private for-profit providers on the same footing as the rest of the sector in qualifying for the 100% subsidy. The rationale for excluding private providers is not clear, since they already have to comply with the regulatory requirements and currently receive the same subsidies for their operations as non-profit entities. This restriction is likely to have three consequences: *first,* it means a greater degree of upheaval for a sector that is already facing major adjustments in order to meet the new staff qualification requirements; *second,* the distinction adds an extra layer to an already complex set of funding and management rules; and, *third*, it reduces the free ECEC options for working parents who currently rely on a for-profit provider and need more than 20 hours per week. If they cannot switch their child to a community-based provider for all the hours, then they would need to either arrange to ferry children between two different providers or forego their opportunity to access a centre where a 100% subsidy on the first 20 hours is available.

A better use of scarce teaching resources and stronger educational outcomes would be obtained if the subsidy rates were restructured so as to channel qualified teachers, first and foremost, to providing early childhood education for 20 hours per week for all three and four year-olds. Providing these hours in sessions clearly separate from the other activities

of ECEC centres could also make it easier to manage the delivery of important pedagogical content, to track and follow the development of each child, as well as to administer the disbursement of subsidies and ensure that the entire cohort has a consistent high quality of publicly-funded education. A sharper distinction between the objective of providing universal pre-school services for three and four year-olds and any additional work-related care requirements would also make it more straightforward for working parents to organise complementary care, either at the same centre or through a home-based network provider who could collect the child. Clearly quality remains important for these supplementary hours and for care of younger children, but this could be provided by a less-expensive mix of well trained staff as happens in most other countries[7] without compromising child development. However, this approach would represent a significant change in the policy settings in New Zealand, as the current approach assumes that educational outcomes are best achieved by providing an educational basis for all age groups and for all hours that children spend in ECEC.

Raising labour utilisation

Although New Zealand's participation rate is high overall compared with many OECD countries, there are pockets where participation is relatively weak. *First*, employment rates and average hours worked are relatively low among mothers with young and school-age children. *Second*, beneficiary numbers are discouragingly high, considering that the country has been experiencing widespread labour shortages and the macroeconomic environment remains highly favourable for people wishing to take up paid work. But despite the improvements in work incentives for some people as a result of the *Working for Families* package, those currently outside the workforce can still face disincentives to take up work, and increasing income from paid work – whether through longer hours or taking on greater responsibilities – is barely worthwhile at some points on the income scale, thanks to burdensome effective marginal tax rates (EMTRs) and the private costs of childcare. As a result, while it is reasonable to assume that many people are working the hours they prefer or that they are capable of, there are others who would choose more hours if policy settings were different. The rest of this chapter looks at how to address the obstacles they face and how policy settings might be adjusted in order to improve the incentives to work and boost labour utilisation overall.

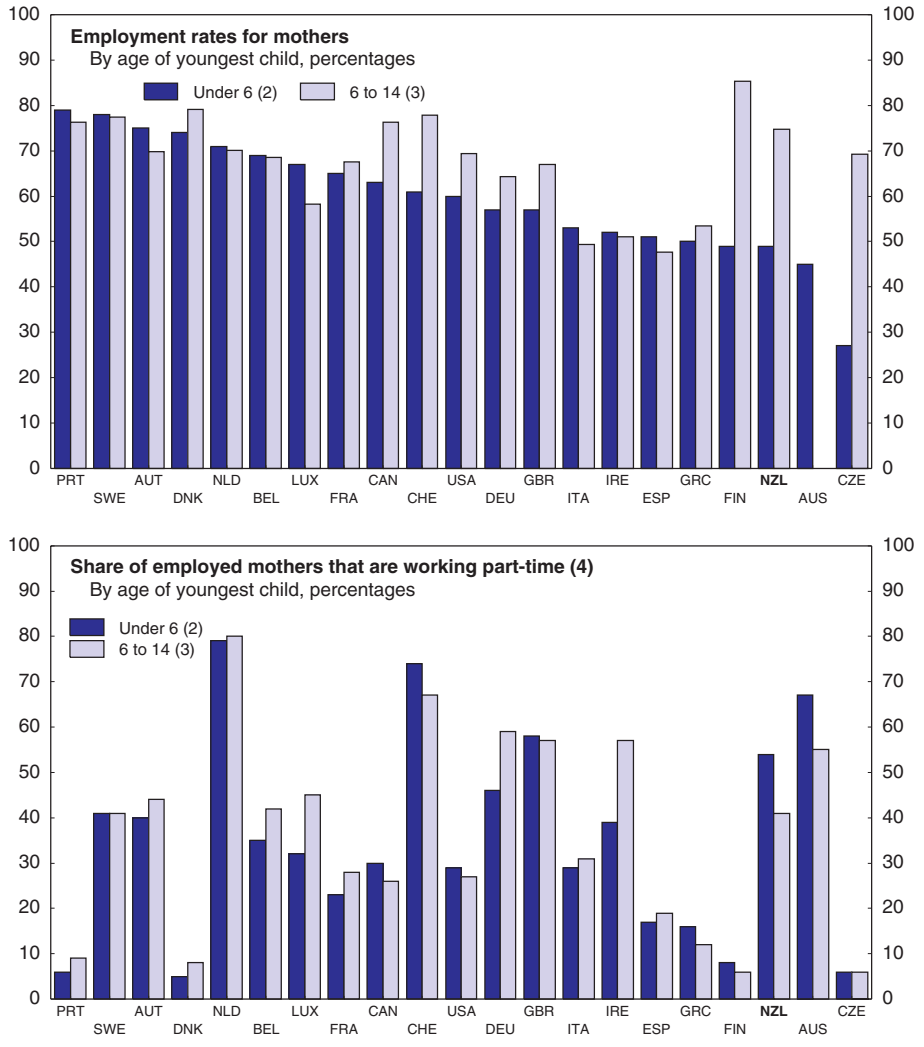
Broadening choices and options for families

While New Zealand's overall female participation is comparatively high by international standards, it has one of the lowest rates of employment among mothers with children under the age of 6 years in the OECD. Employment rates rise sharply once children go to school (Figure 4.3). However, NZ mothers who are employed are more likely to work part-time compared with other OECD countries. To some extent, this may reflect a lifestyle preference among NZ families and a belief that mothers want to and/or should stay at home to care for their children in the early years,[8] although there is little hard evidence about what mothers' underlying preferences are.[9]

Significant economic disincentives discourage some mothers who might otherwise want to undertake paid work or extend their working hours, especially if the household is within the income brackets over which family assistance or the accommodation supplement is phased out and/or they are faced with having to find and pay for childcare. Some of these economic incentives persist once children go to school albeit to a reduced

Figure 4.3. **Employment of mothers**

2002 or latest available year[1]



1. 2001 for Canada, Denmark, Ireland, Japan, New Zealand, and United States; 2000 for Australia.
2. Under 5 years old in Australia; under 7 in Sweden.
3. 6 to 13 in the United States; 6 to 16 in Canada, Finland and Sweden; 6 to 17 in New Zealand.
4. Part-time work is less than 30 hours per week.

Source: OECD, *Society at a Glance: OECD Social Indicators* (2005).

extent, which is reflected in high share of part-time work. Countries where distortions to the economic value of market work are less significant generally have higher participation rates amongst mothers with young children, and their women working part-time tend to work more hours (OECD, 2005c). This suggests that reducing such obstacles would allow NZ families to exercise a wider range of choices about how to reconcile paid work and family responsibilities.

Having access to good quality, affordable care for children is an important prerequisite for parents who want to undertake paid work. Although the move to providing 20 hours

Table 4.5. **Childcare costs for couple households**

		Percentage	
Gross wage earnings, as percentage of APW earnings[1]			
Primary earner income	100	100	100
Secondary earner income	33	67	100
Fees paid by parents, as percentage of APW earnings			
Young children (two children, aged 1 and 4)			
Part time childcare fees	23%	23%	23%
Full time childcare fees	45%	45%	45%
School age children (two children aged 7 and 9)			
Out of school hours care fees	14%	14%	14%
Average effective tax rates on second earners[2]			
Without childcare fees	17%	19%	21%
With part time childcare for two children	85%	53%	43%
With full time childcare for two children[3]	153%	87%	66%
Without out of school hours care fees	17%	19%	21%
With out of school hours care for two children	58%	40%	34%

1. Average Production Worker annual earnings in 2004 were NZD 41 778.
2. Average effective tax rates on second earners are calculated as the difference between the increase in gross earnings and the increase in net income when a second earner starts work, expressed as a proportion of the second earners' income.
3. Some of these situations are unlikely to occur in practice, for example, someone earning only 33% of the APW wage would probably not require full time childcare.

Source: OECD (2004), *Babies and Bosses*, Vol. 3.

free education for all children is important in its own right, it will also help to reduce the financial cost faced by working parents. But the costs of care are still substantial for younger children, for supplementary hours for three and four year olds and for after-school care (Table 4.5). Overall, NZ households face significantly higher parental childcare costs than many OECD countries for a two-earner couple earning the average male and female wage (Bradshaw and Finch, 2002). Reducing the care costs faced by parents would impact on one important factor that makes paid work or increasing hours less attractive to second earners, in particular. Although the *Working for Families* package increased income-tested childcare subsidies, these are fully abated once household income has reached just over 75% of the average household income for couples with dependent children.[10]

Cost is not the only obstacle that parents face; they also need to be able to find quality childcare and out-of-school-hours care, the supply of which is somewhat patchy in some areas. As a result, parents in areas where there is inadequate availability may have little choice but to forego work, unless they can make informal arrangements, for example by resorting to relatives (Byrne, 2002). In many other OECD countries, either the local authorities systematically provide collective care through early childhood centres, after-school and holiday programmes (usually with a parental fee and sometimes through sub-contracting arrangements) and/or parents make their own care arrangements but can claim back some of the cost against their taxes. Either way, parents in these countries can have reasonable confidence that if they wish to work, they will be able to obtain care. This suggests that if the authorities want to raise labour force participation amongst those mothers who wish to work, they might need to redesign the subsidy arrangements to ensure that they encourage sufficient supply to match work-related demand. Of course, some working parents might use an expansion of subsidised supply as an opportunity to

switch from informal care provided by relatives, neighbours and friends, to formal care. However, this may actually provide better care for the children: one recent study in the United Kingdom found that informal, unpaid carers provided lower quality care on average than either paid home-based carers or care centres (Gregg *et al.,* 2005).

Considerable fiscal costs would be associated with a significant reduction in the outlays that parents face for care. Judging whether this public spending would be justified depends not only on the immediate impact it would have on labour supply, but also what benefits it would deliver to parents and to society over the longer term.[11] If the labour supply elasticity for mothers is low in New Zealand, then the deadweight losses of additional subsidies would be high per additional hour of paid work induced. But such a weak response would be rather surprising, given the extent of reported under-employment among NZ women[12] and that mothers in a range of other OECD countries generally want to work more hours than they currently do (Jaumotte, 2003). Overseas experience also suggests that labour supply elasticities may be higher in the longer run than the short run, especially if it becomes easier for women to remain more closely attached to the workforce in the first place. In New Zealand, availability and affordability of child care and after-school care have been cited as important obstacles (Wylie *et al.,* 2001).

Strengthening the incentives to work for low- and middle-income families

The *Working for Families* package announced in the 2004 Budget will be phased in progressively by 2007 (see Box 4.3). However, while the package provides significantly larger income transfers to many families, it will be likely to encourage the labour supply of sole parents, and discourage the labour supply of secondary income earners (Nolan, 2004). For beneficiaries, the package has lowered EMTRs at two points in the income spectrum – for initial earnings (up to NZD 80 per week) and around the point where it becomes more attractive to take up the in-work payment than to stay on income assistance. Even so, once the abatement rates for the different components are aggregated, the effective marginal tax rates (EMTRs) faced by some single-income households are so high as to create a poverty trap – if they increase their hours worked they lose almost all the extra market income they would earn (Figure 4.4). For couples, the higher ranges of income over which the income-tested transfers are abated could have the effect of discouraging the potential second earner from working or the principal earner from earning additional income (Figure 4.5). In sum, increase in levels of assistance and provision of the new In Work Payment come at the expense of much higher EMTRs for higher incomes.

There are several ways in which these negative incentives to work could be addressed. One approach would be to shift to family assistance that is targeted on other features rather than income, such as number and age of children.[13] Such transfers have the strongest effect on incentives to work if paid in forms especially attractive to working parents, most notably through reducing the cost of childcare and after-school care. In contrast, the work incentives associated with universal childcare benefits are weaker because non-earned income reduces the amount of market income the family needs to earn to meet a given level of outgoings. Even without taking into account childcare costs, most OECD countries already structure their tax and transfer systems so as to provide a higher net income to families with dependent children than those without, for a given level of gross earnings (Figure 4.6). Indeed, New Zealand is unusual in providing virtually no income boost for families earning the annual average production worker wage or higher. The *Working for Families* package will provide larger income transfers when fully

Box 4.3. **Family assistance and the Working for Families package**

Present structure of income-tested family assistance

Income-tested family assistance is delivered through several channels.

- Several elements are paid through the tax system. Family Support is the main payment per child and is paid at a higher rate for older children. It is paid to all income-qualifying families, regardless of the source of their income. The Child Tax Credit is an additional payment available only to non-beneficiaries. The Family Tax Credit is paid to families on very low incomes where at least one parent is working and is designed to bring income up to a guaranteed minimum level for a family. The Parental Tax Credit is a payment for the first eight weeks after birth to help defray one-off costs.
- The Accommodation Supplement is a non-taxable benefit delivered through the Work and Income Department and provides assistance towards accommodation costs, depending on housing circumstances and location. It is available to both beneficiaries and non-beneficiary families.
- Childcare and Out of School Care and Recreation (OSCAR) subsidies are non-taxable and paid directly from Work and Income to the care provider (see Box 4.2). The childcare subsidy is available for children under five years old for up to 50 hours per week, while the OSCAR subsidy is available for up to 20 hours per week during term time and up to 50 hours per week during school holidays.

Working for Families package

The *Working for Families* package has three objectives: making work pay, improving income adequacy, and achieving a social assistance system that supports people into work. The reforms will be fully implemented by 1 April 2007, in the following sequence:

October 2004

- For beneficiaries, abatement of the accommodation supplement during the first NZD 80 of gross weekly earnings was eliminated, and, for non-beneficiary families, the thresholds for abatement of the accommodation supplement were raised.
- Childcare and OSCAR hourly subsidy rates were increased.

April 2005

- The maximum rates of the accommodation supplement were raised for some locations.
- Family Support rates were increased and the child component of core benefits was eliminated.

October 2005

- The Childcare and OSCAR subsidy rates will be further increased.

April 2006

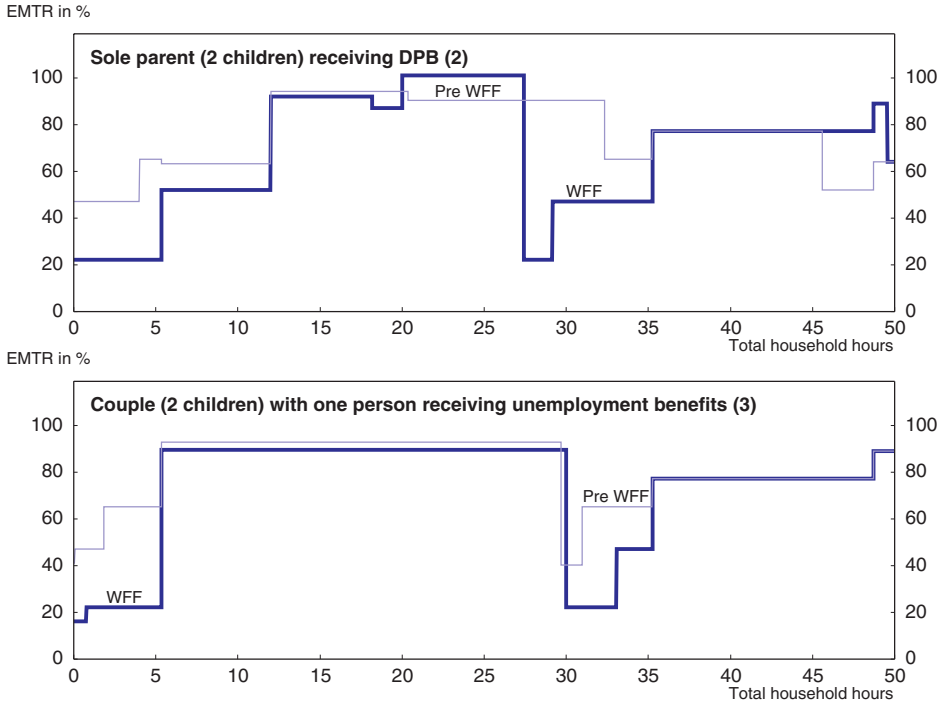
- The NZD 15 per week per child Child Tax Credit will be replaced by an in-work payment of NZD 60 per week available to families not on benefits and working at least 30 hours per week for a couple or 20 hours per week for a sole parent.
- The thresholds for abatement of family assistance will be raised and the Family Tax Credit increased to provide a guaranteed minimum family net income of about NZD 17 000.

April 2007

- Family Support rates will increase by NZD 10 per child per week.

Figure 4.4. **EMTRs faced in moving from benefits to work**[1]

Before and after the Working for Families package



1. Two chidren (both under 16, one under 12), supplementary earnings at NZD 15 per hour.
2. Annual rent of NZD 10 000.
3. Annual rent of NZD 15 600.

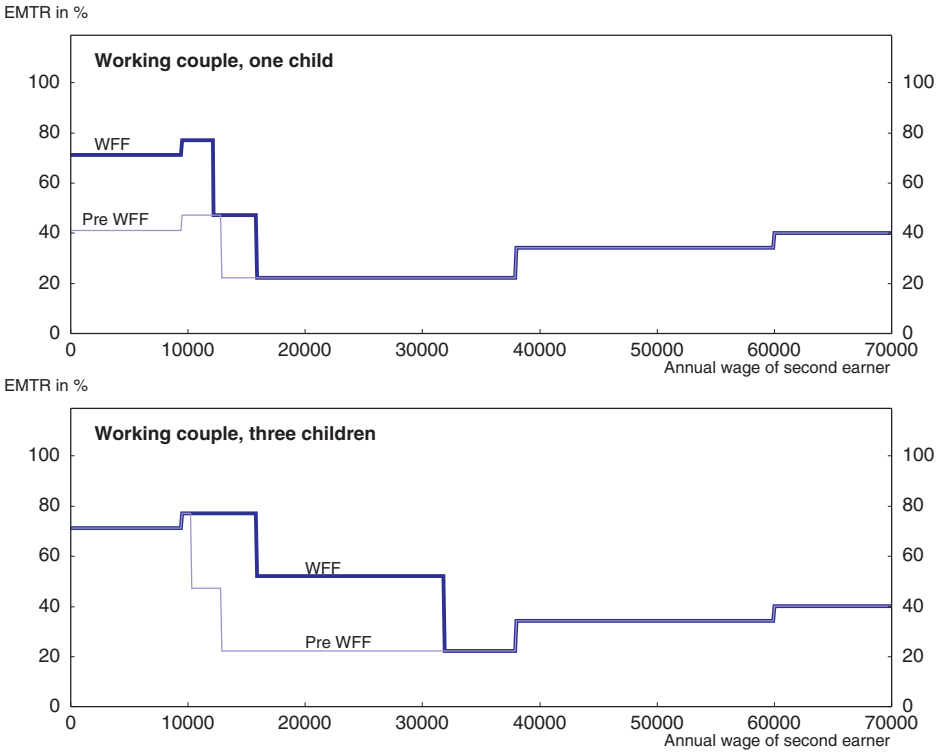
Source: New Zealand Treasury.

implemented but at the expense of higher EMTRs. The fiscal cost of a shift away from income-tested family assistance towards more universal transfers could be contained by targeting other forms of support most generously on very young children, given that once children are in school, parents could be expected to rely more heavily on market income if they wish to ease the household budget constraint.

Another possible approach focuses more directly on couples with children who are particularly adversely affected by the increased EMTRs embodied in the *Working for Families* package. These households would get minimal additional disposable income from the second earner unless the additional hours lift the household's annual income above around NZD 60 000 (depending on the number of children, accommodation costs, and where in the country they live). Some 34% of couples with children earned household income less than this in the year to June 2004. But couples with one earner drawing on family assistance have the advantage of having extra hours available for unpaid household work or leisure. This bias against market participation would be mitigated if the definition of household income used to qualify for assistance were adjusted to include an imputed income for the potential second earner, set, for example, at the minimum wage. This would mean that fewer one-earner couples would qualify for family assistance in the first place, but couples that did would not face punishing EMTRs if the second person obtained market income up to the imputed income level. This approach would involve fiscal savings

Figure 4.5. **EMTRs faced by potential second earners**[1]

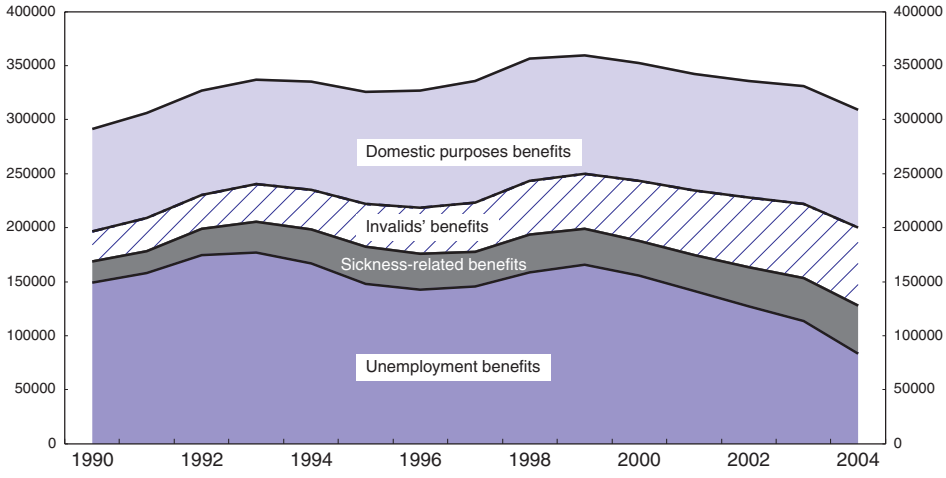
Before and after the Working for Families package



1. Assuming the working partner earns NZD 40 000 per year and the family pays rent of NZD 15 600 per year in Auckland.

Source: New Zealand Treasury.

Figure 4.6. **Working-age beneficiaries**



Source: Ministry of Social Development (2005).

compared with the present arrangements and provide explicit recognition of the value of unpaid household work, thereby also improving horizontal equity.

For sole parents, some of the damaging impact on work incentives arising from the abatement rates on mean-tested benefits could be reduced by strictly limiting the DPB only to those with young children, as many countries already do. Around half of those drawing the DPB have no children younger than 5 years old, and face very little pressure to find a job since the work test was removed in 2003. In contrast, people on unemployment benefit face clear employment expectations and effective active case management tools are available and being used[14] (OECD, 2005b). In any case, the proposed shift to the single core benefit approach is expected to address this issue more directly (see below).

Redesigning the benefits framework

Although the numbers receiving unemployment benefits have dropped sharply in recent years, the total number of working-age beneficiaries has fluctuated over time, rising to a peak in 2000 before decreasing by 20% between 2000 and 2005. As a result, numbers have now returned to similar levels to 15 years ago, with significant increases in those on sickness-related and invalids' benefits (Figure 4.6). To some extent, this reflects benefit shifting. Each year, around 20% of those quitting unemployment benefits move directly onto another working-age benefit (and only around 42% quit unemployment benefits to take up paid work), while close to 40% of those being granted sickness-related benefits transferred directly from another core benefit. Invalid benefits have increased particularly sharply and are currently paid to 2½ per cent of those aged 40-49 years and 4% of those aged 50-59 years. In the New Zealand context, sickness benefits are relatively short-term, with only 30% of current recipients having received them for longer than two years. But invalid benefits tend to be permanent.[15]

With unemployment now low, the government is focussing attention on how to move working-age people more effectively from other forms of benefit dependency into sustained employment, while providing income security for those who cannot make that transition. The underlying thrust is to increase incentives, opportunities and practical support for all beneficiaries who are able to work, focusing on outcomes rather than the reason why they came onto a benefit. The authorities have agreed in principle to introduce a single core benefit from 2007 that will replace the present range of working-age benefits with a single set of criteria and reform the case management practices of the Ministry of Social Development using a three-pronged approach:

- Active assistance with services focussed on getting people into work as quickly as possible, though better initial assessment, matching services, providing assistance and stronger links to services such as childcare and rehabilitation services that those out of work might need in order to overcome barriers.
- Integrated support within the social assistance system, but with more incentives to take up some hours of work and clearer expectations about future work outcomes.
- Streamlined delivery with clearer and simpler rules, so that case managers can devote more time to focusing on achieving employment outcomes instead of determining complex income support entitlements.

The authorities are now considering the practicalities of this intended reorientation of policy direction, which reflects the shift that is taking place within the rest of the OECD (see Box 4.4). It builds on and extends the success of policies that have already been put in place

Box 4.4. **Transforming disability into ability in OECD countries**

Policy principles

A paradigm shift is starting to take place within OECD countries in the approach taken towards disability, with more emphasis on separating the concepts of "disability" and "ability to work" (OECD, 2003b). At the same time, integration into the workforce rather than passive compensation for loss of income is becoming a more important policy objective in almost all OECD countries.

Following the logic of a social insurance scheme, this implies that efforts should be made to provide cost-effective, individually tailored assistance to reintegrate beneficiaries back into the workforce. If unable to do so, the "insurer" pays a penalty in the form of income compensation. In return, more responsibility is thrust back onto the individual to do their best to participate in the labour market, and failure to do so implies sanctions, most directly through loss of benefits. This is often referred to as the "mutual obligations" approach.

Disability is notoriously difficult to assess objectively, and dealing with moral hazard – where people make less effort to help themselves because of the presence of a third-party payer – can be a particular problem. This also reinforces the need for effective sanctions on beneficiaries who do not co-operate, while endeavouring not to penalise those genuine cases of need.

Recent reforms and recommendations

Reforms have been undertaken in many OECD countries. The common threads and policies recommended on the basis of countries' experiences are the following:

- Recognise the status of disability independent of the work and income situation.
- Introduce a culture of mutual obligations.
- Design individual work/benefit packages.
- Introduce new obligations for disabled people.
- Involve employers in the process.
- Promote early intervention.
- Make cash benefits a flexible policy element.
- Reform programme administration.
- Design disability programmes as active programmes.

Source: OECD (2003b).

in New Zealand to move people from unemployment into work and the rehabilitation strategies used by the Accident Compensation Corporation. The test of this new strategy will be how effectively the "mutual obligations" are enforced, providing both carrot and stick. This can be difficult, unless those at the client interface can count on having available support when tough decisions about sanctions are required. At the same time, the international evidence indicates that up to two-thirds of working-age people who are economically inactive, including those dependent on the taxpayer for income support, would like to work if the right conditions existed (OECD, 2003a).

Conclusions and priorities for policies

Given the role that human capital development plays in the rise in living standards and the long lead times before investments in young people's education come to fruition, a well functioning education system plays a critical role. There are a number of areas where policy settings could be improved. A first key element is to make greater efforts to redirect public spending on education to the areas where the net social return is greatest, and all the available evidence points to such social benefits coming from efforts made in the early years of a child's life. The following policy adjustments could play a role in this reorientation:

- Reduce wasted expenditure in the tertiary sector by vigorously pruning low-priority and low-quality courses.
- Invest additional resources in research and development on effective teaching and learning strategies in schools, and ensure that best practices are rapidly and effectively diffused across all classrooms.
- Ensure that the provision of 20 hours of free early childhood education to all three and four year-olds by 2007 is provided in the most cost-effective way. This would be helped by extending the provision to private "for-profit" centres. The integrated education and care model could be changed to allow scarce teaching resources to be spread further by having these free hours organised in separate sessions with supplementary hours and care for younger children provided by a wider range of staff.
- The strategy to increase staff qualifications needs to be monitored closely to ensure it does not result in teaching resources being more readily available to more affluent children at the expense of disadvantaged who would benefit most from early childhood education.

Several changes in policy could help to raise labour utilisation, either by making it easier for people to move back into paid employment or by encouraging people working part-time to boost their hours. These could include the following:

- Further reducing the cost and expanding the availability of high quality childcare and out-of-school-hours care.
- Examining ways of reducing potentially very high EMTRs faced by couples with dependent children if the second income earner increases his/her hours in paid work. Options that could be explored include targeting assistance on work status, the number and the ages of children instead of market income, or adjusting the definition of household income used for family assistance by imputing a notional second income into the calculation to take account of the value of unpaid household work.
- Providing greater encouragement and assistance to beneficiaries to shift from public income support back into paid work where they are capable of it. For sole parents, a clear expectation of return to work once the youngest child starts school would not only reduce benefit dependency and increase labour supply, it would also help to lift children out of poverty. The development of a single core benefit for all working-age beneficiaries is an important initiative in this direction, but its success will depend critically on making both the carrot and the stick work.

Notes

1. Net social returns take account not only of the net benefits and costs to the individual but also the costs and benefits of any externalities. In the case of education, the externalities are generally

assumed to be positive and of two main types: *i)* those that flow from better social citizens; and, *ii)* those that stem from the impact of one individual's productivity on another.

2. For example, these include courses in homoeopathy for animals, the art of health, and contemporary urban music.

3. Only 17% of domestic students successfully completing a certificate level qualification in 2001 went on to a higher level of study, although another 25% were enrolled in another course at the same level (Ministry of Education, 2003).

4. This has become known in New Zealand as "putting bums on seats". The funding formula can lead to institutions delivering courses in ways that minimise cost, which is an advantage if the quality of educational services remains the same. However, the risk is that the quality of the services provided to students is compromised in the drive to minimise per student cost. It is also unclear whether the increase in funding rates according to level of difficulty sufficiently reflects the relative costs involved, which may also encourage institutions to offer lower-level courses rather than more challenging ones.

5. These goals are economic transformation, social development, Maori development, environmental sustainability, infrastructural development and innovation.

6. Only a small amount of this variance can be explained by the international index of economic, social and cultural status of students (OECD, 2004b).

7. Countries that provide more formal pre-school settings for 3 to 6 year olds tend to have a mix of qualified teachers and teaching assistants for those hours, while staff in centres for under 3-year olds usually have a mix of qualifications more closely related to the education and care of very young children. Countries with integrated early childhood education and care systems covering birth to six years, usually have a staffing structure that involves a highly-trained "pedagogue" as the main worker, supported by trained assistants (OECD, 2001).

8. The balance of evidence also suggests that as long as high quality childcare is provided, maternal employment can be beneficial to children not only though the quality of the care itself, but also because of the extra household income generated (Ministry of Women's Affairs, 2004).

9. In the Competent Children project, when the children were aged 10 years, 32% of their mothers were in full-time jobs, 46% were in part-time work and 22% were not in paid employment. Just over half of the mothers who were not in paid employment would like paid work, and cited as barriers the availability of work with flexible hours and decent pay rates, availability and affordability of childcare or after school care and the need to care for younger children (Wylie *et al.*, 2001).

10. The average age of children in these households were five years for couples with one child, seven for couples with two children and eight for couples with three or more dependent children. It would be reasonable to assume that households with younger children, incomes would be lower and childcare costs higher than these averages.

11. The gains to society of increasing maternal employment need to be carefully assessed, as they do not flow directly from increasing paid hours worked. Shifting someone from unpaid work across the boundary and into paid work boosts GDP, but does not, in itself, raise living standards. Instead gains to living standards are obtained in two ways; *First*, if women who would choose to work if they had more affordable childcare have higher productivity in the workplace than in the home then the more efficient allocation of available economic resources would raise economy-wide productivity. *Second*, reducing periods of absence from the workforce avoids the associated deterioration in the individual's human capital, which otherwise puts a brake on productivity growth through human capital. The overall effects also depend on the general equilibrium outcomes, *i.e.* once all the impacts have worked through the economy, including those that would result from the cost of raising tax revenue to pay for the additional subsidies.

12. There were twice as many women as men reporting under-employment in the Household Labour Force Survey of December 2004. The under-employed currently work part-time but say they would prefer to work longer hours.

13. A shift towards targeting alternative characteristics instead would also conceivably be easier to administer and less stigmatising than focussing on household income.

14. In 1997, a requirement on the lone parent to be available for part-time work when the youngest child was aged 14 or older was introduced and the threshold was lowered to age six, as from 1999. These requirements were changed in 2003, where work requirements were replaced by an obligation for benefit recipients to participate in an annual personal development and

employment planning process, where each year the beneficiary must establish some objectives for him/herself with a case manager.

15. "Permanent" is defined in the legislation as a restriction that is expected to last at least two years, or would be fatal within that period. However, there is no review and renewal process in place.

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Chapter 5

Enhancing public finances

Although New Zealand's fiscal position is better than most in the OECD, the country faces ageing and other expenditure pressures. These demand a prudent approach to fiscal management in order to deliver a sustainable position over the long term. A more rigorous approach to prioritising expenditure by identifying and pruning low-priority activities and by successfully implementing the government's "managing for outcomes" strategy would help to improve effectiveness and minimise expenditure creep. More could be done to improve productivity in the public sector, especially in education and health care, where a lack of information makes it difficult to judge the real increase in outputs achieved as a result of the additional resources allocated over recent years. Investment in high-quality information systems to monitor productivity across providers and through time is an important prerequisite to assessing efficiency gains, while the incentives facing providers to improve their performance merit further examination.

One of New Zealand's challenges is to manage public finances effectively and responsibly against the backdrop of several years of strong economic activity. Buoyant revenues, lower debt servicing, and falling income benefit rolls have boosted the government's surplus measured on a SNA basis to more than NZD 6 billion, corresponding to around 4½ per cent of GDP, for the year to June 2004. The government has utilised some of the room created by this increase to implement a significant range of new spending and tax initiatives. But economic and fiscal prospects are likely to make prudent fiscal management more challenging in the near future. Decisions presented in the Budgets for 2004/05 and 2005/06 reduce the structural surplus significantly, even with a much smaller allowance for new spending initiatives in the future. In light of this, this chapter first examines New Zealand's fiscal sustainability and the recent moves to place greater emphasis on longer-term projections and risks. Next, the chapter turns to some of the recent and medium-term pressures on spending and considers ways in which public spending could be more closely matched to the government's priorities by more rigorously pruning back low-priority programmes and by successfully implementing the "managing for outcomes" strategy now embodied in legislation. Lastly, ways of improving public-sector productivity are considered, especially in the two sectors that absorb a large share of public outlays and have also seen significant increases in their resources, namely education and health. The chapter ends with some priorities for policies.

Ensuring fiscal sustainability

New Zealand's fiscal policy framework has delivered excellent overall results, with an impressive turnaround over the past 15 years from a cyclically-adjusted deficit to the one of the largest cyclically-adjusted surplus positions in the OECD (Figure 5.1). This can be attributed to a combination of the Fiscal Responsibility Act and a strong political commitment to putting public finances onto a more sustainable path. Indeed, the NZ government's balance sheet is in good shape, and the government forecasts that its net worth will increase by around 10 percentage points of GDP over the next five years (Table 5.1). But the present solid fiscal position should not be taken for granted: a number of OECD countries have been unable to sustain their surpluses over time (Figure 5.2). Erosion is a perennial risk, even when clear fiscal rules have been put in place (OECD, 2002). On OECD estimates, NZ's cyclically-adjusted primary surplus shrank by a percentage point in 2004 and is projected to decline further in 2005.[1]

In any case, looking ahead, New Zealand faces ageing pressures, although the working-age population is likely to keep expanding for a longer period than a number of other OECD countries. Nonetheless, the old-age dependency ratio is projected to climb over the next 45 years by some 20 percentage points, driven by two separate factors, the temporary effect of the "baby boom" reaching retirement age and the on-going trend towards increased longevity (Oliveira Martins *et al.*, 2005). This will put pressure on public pension spending, although the flat-rate nature of the public pension system[2] and the recently completed increase in the qualifying age to 65 years both help to attenuate the

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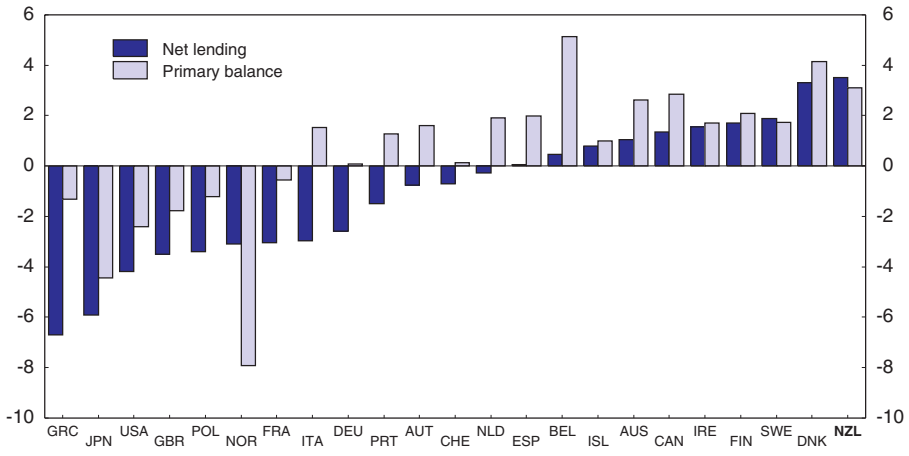
Figure 5.1. **Cyclically-adjusted general government balances**
As a per cent of potential GDP, 2004



Source: OECD Economic Outlook 77 database.

Table 5.1. **Central government balance sheet**[1]
NZD billions, June years

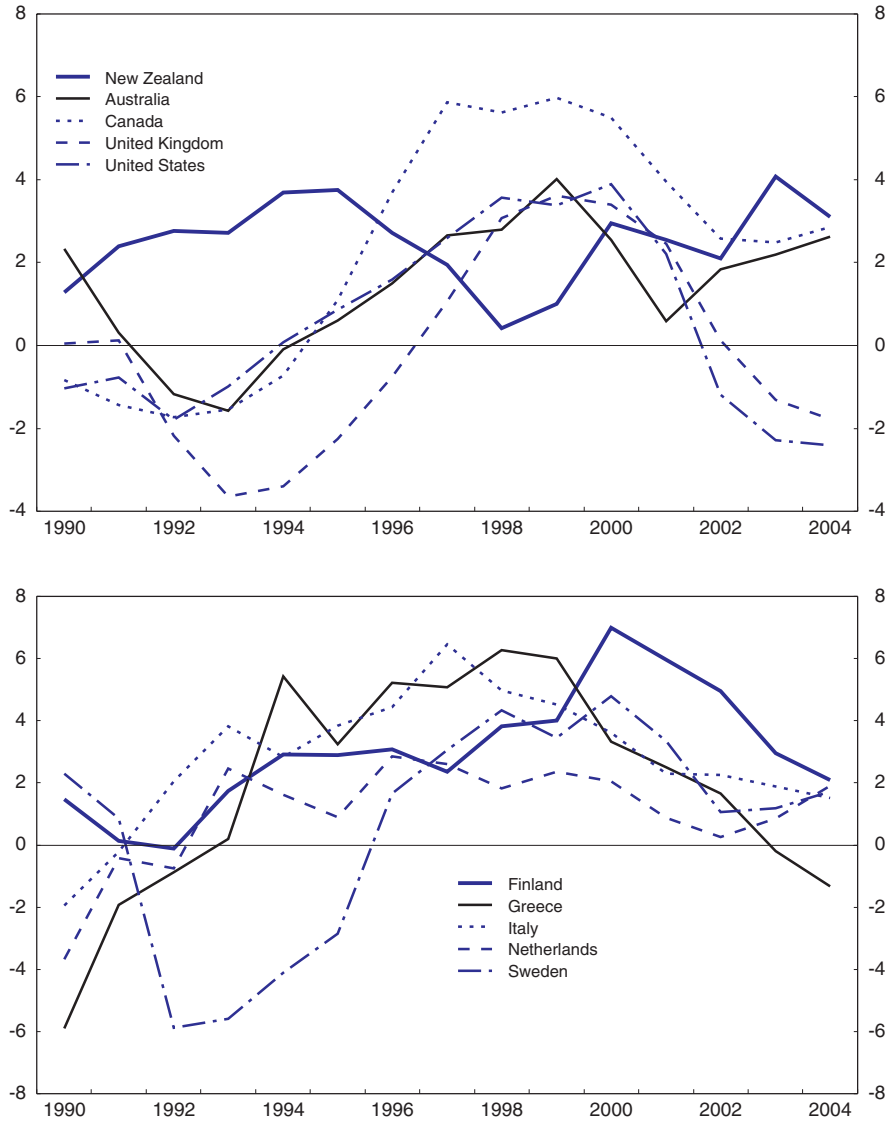
	Actual	Forecast
	2004	2009
Assets		
Financial assets in hand	35 531	57 121
Property, plant and equipment[2]	57 940	71 510
Other	17 201	17 793
Total assets	110 672	146 424
Liabilities		
Total borrowings	36 825	37 836
Provisions for Government Superannuation Fund liability	13 542	13 803
Provisions for outstanding Accident Compensation Corporation claims	9 347	13 552
Other	15 495	18 097
Total liabilities	75 209	83 288
Assets less liabilities = net worth	35 463	63 136
Net worth (as per cent of GDP)	25.2	35.4

1. Including crown entities and state owned enterprises.
2. Including forecast new capital spending.

Source: Treasury, Budget 2005.

future expenditure increases. Nevertheless, partial pre-funding of future public pension obligations through the New Zealand Super Fund is an important instrument in reducing the fiscal stress that would otherwise be associated with these expected demographic developments.[3] However, the need for further changes to the parameters of the system cannot be ruled out and if the age of eligibility for public pensions were to be indexed to increases in longevity, the costs of future ageing would be reduced considerably.[4]

Figure 5.2. **Cyclically-adjusted government primary balances**
As a per cent of potential GDP



Source: OECD Economic Outlook 77 database.

Another major reason for concern over the longer-term fiscal outlook is recent trends and prospects in public health expenditure. Analysis of population ageing and government health expenditures in New Zealand shows that demographics have thus far played only a small part in explaining the rise in public health spending as a share of GDP from around 4% in 1951 to over 6% in 2001 (Bryant *et al.*, 2004). Part of this increase is undoubtedly attributable to an income effect, although the range of empirical estimates of the income elasticity of health spending – the extent to which demand for health care rises with income – is wide.[5] Also of

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concern is the impact of expansion in coverage and increases in relative prices, which means that per capita health expenditure for each age group has shifted upward over time, and in some countries it may also have tilted more steeply towards the elderly[6] (Dormont and Huber, 2005). These upward shifts in health spending are prevalent across OECD countries and, if the coverage (*i.e.* service standards including the use of technology) and cost trends continue in the future, they are likely to dwarf the impact of ageing itself on health budgets. This could threaten the long-term fiscal position if not reined in.

Against this backdrop, the decision to bolster the Public Finance Act with stricter requirements to present a transparent assessment of the long term outlook is a welcome reinforcement of the framework for sustainable public finances (Box 5.1). It is also broadly consistent with the lessons learned from OECD countries' experience with fiscal rules and their contribution to fiscal sustainability. Although rules cannot in themselves deliver sustainability, well designed and properly implemented rules do make the task easier (OECD, 2002).

The first official statement on the long-term fiscal position should be available sometime next year. In the meantime, some assessments of long-term sustainability have already been made (Janssen, 2002) and regular projections for at least 10 years ahead are published in each Fiscal Strategy Report. Although they are very sensitive to initial assumptions, they do not provide complete reassurance that the long-term situation is sustainable, especially if health and education spending continue to rise faster than aggregate productivity (see previous *Survey*). Given that the structural surplus has already been scaled back in as a result of the two most recent Budgets, and the forces driving spending outlined below, the long-term statement could play a valuable role in developing public understanding of long-term fiscal perspectives and constraints. This is especially important since current assessments suggest that there is little room left for any further significant policy initiatives involving permanent spending commitments or tax cuts without weakening the long-term outlook. This would not rule out initiatives that involve an up-front cost but deliver long-term fiscal gains, either directly through reducing future spending pressures or liabilities or indirectly *via* economic growth. The more uncertain are these future gains, the more caution is warranted.

Matching public spending to priorities

One general concern is that governments may focus so much attention on improving fiscal sustainability that they are willing to tolerate rising tax shares to accommodate their desired spending programmes. This has led some national and sub-national jurisdictions to set caps on tax-to-GDP ratios or impose direct expenditure limits.[7] This is appealing in principle, both because higher taxes have a negative impact on economic growth[8] and because a binding constraint can encourage stricter prioritisation of spending, but it can be difficult to implement in practice. Such restrictions tend to be circumvented over time and may degrade the efficiency of public finances in the process.[9] Perhaps a more fundamental difficulty is determining the optimal tax or expenditure ratio for any particular country to aim for. *First*, there are differences in social preferences between countries and the trade-offs between efficiency and other objectives that they are willing to make – and these may change over time. *Second*, the economic impact of a particular tax-to-GDP ratio depends on the quality of programme and tax system design.[10] In light of these practical difficulties, it is not clear that New Zealand would gain from incorporating binding tax or spending limits into the present framework. Nonetheless, within the present legislation the government

Box 5.1. **Responsible fiscal management, fiscal strategy and the long-term fiscal position**

Principles of responsible fiscal management

The Public Finance Amendment Act (2004) incorporates the principles of responsible fiscal management that were previously set out in the Fiscal Responsibility Act. The Act sets out that the government must pursue its policy objectives in accordance with the following principles:

- reducing total debt to prudent levels so as to provide a buffer against factors that may impact adversely on the level of total debt in the future by ensuring that, until those levels have been achieved, total operating expenses in each financial year are less than total operating revenues in the same financial year;
- once prudent levels of total debt have been achieved, maintaining those levels by ensuring that, on average, over a reasonable period of time, total operating expenses do not exceed total operating revenues;
- achieving and maintaining levels of total net worth that provide a buffer against factors that may impact adversely on total net worth in the future;
- managing prudently the fiscal risks facing the government;
- pursuing policies that are consistent with a reasonable degree of predictability about the level and stability of tax rates for future years.

The legislation also specifies the conditions under which the government may depart from these principles. Any departure must be temporary, and the Minister must explain why the government had departed from the principles, what approach would be taken to bring the situation back on track and how long it expects the process to take.

Fiscal strategy report

The Act requires the government in its annual fiscal strategy report to state its longer-term objectives for fiscal policy and, in particular, for total operating expenses, total operating revenues, the balance, the level of total debt and the level of total net worth, as well as explaining how these accord with the above principles. These longer-term objectives are now required to be specified for at least 10 years ahead.

Statement on long-term fiscal position

The Act incorporates a new requirement for the government to present a statement on long-term fiscal position. Before the end of the 2006-07 financial year and then at least every four years, the Treasury must prepare a statement on the long-term fiscal position that the Minister must present to Parliament. It must cover at least 40 years ahead, specify all significant assumptions underlying the projections and reflect the Treasury's best professional judgments about the risks and the outlook.

can set its long-term fiscal objectives in ways that convey its intentions about the size of government. Making such intentions more explicit would both help the public to assess the direction of policy and set boundaries for spending growth, thereby encouraging prioritisation of outlays.

Overall, central government public outlays excluding debt servicing have declined slightly relative to GDP since reaching just over 30% in 1999 (Figure 5.3). To some extent this reflects the effects of the business cycle and structural reforms in reducing social welfare rolls, while health and education have expanded as a share of GDP. In these sectors,

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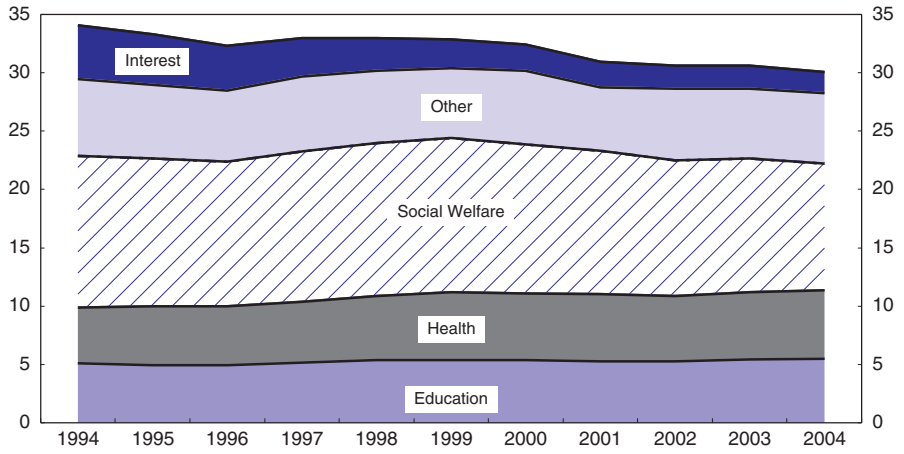
Figure 5.3. **Crown outlays by purpose**
As a per cent of GDP



Source: Statistics New Zealand.

employment numbers have risen by 12% and 10%, respectively since 1999, while salary and wage rates have risen throughout the past decade, with teachers and health workers pay rates rising 35% and close to 25% higher, respectively, compared with private sector wage gains of around 20% over the same period (Treasury, 2005).

The government is forecasting an increase in core crown expenses of around 2 percentage points of GDP and in core crown revenues of less than a percentage point over the next five years. Its finances are subject to a combination of stresses, some of which may be difficult to fully incorporate in its forecasts.[11]

- The flow-on effects of earlier policy initiatives, such as the *Working for Families* package, increasing the availability and quality of early childhood education and care, and upgraded bio-security programmes. A separate line for new spending and revenue initiatives that have not yet been defined has also been included in these forecasts.
- Demand-driven strains on spending such as expansion of education enrolments, health services and expanding prison populations.
- Regulatory changes that are boosting the public-sector wage bill. These include the Holidays Act (see Chapter 3), collective pay agreements that *inter alia* are designed to enhance pay and employment equity objectives, and the new State Sector retirement scheme.[12]
- Continuing real wage demands in some sectors, despite significant recent pay settlements, reflecting the on-going tight labour market, and some flow-on effects (for example, with other health-care workers seeking to restore parity with the recent nurses' pay settlement.) The increased prevalence of collective and multi-employer wage agreements may add to wage pressures by reducing responsiveness to geographical and occupational variations in labour market conditions.

While the evolution of spending may reflect the government's priorities, it is less clear whether the aggregate impact on its objective of raising living standards has been rigorously assessed against the alternative options of either increased pre-funding of

ageing or providing tax cuts. It is also not apparent that the shift in fiscal management three years ago away from the provisions approach has yet delivered on its promise to provide a more effective mechanism for making room for new initiatives by cutting out spending in low-priority areas[13] (see previous *Survey*). Notwithstanding this experience, continuous programme reviews – a process of examining allocative efficiency of public spending, initiated and supervised from the centre of government – can play a useful role in identifying areas where outlays could be pruned. This task can be more difficult if there is no pressing need to identify savings to restore sound public finances; thus far, only the Netherlands and the United Kingdom have managed to make them work successfully over time (OECD, 2005b). Canada has also now instituted a comprehensive review process covering all departments and agencies over a multi-year cycle and reported its first list of identified savings in its 2005 budget.[14]

The process of reinforcing the connection between spending and outcomes is ongoing. Progressively, since the 2002 budget, government departments have been required to prepare Statements of Intent to document their planning and their chosen outcomes and outputs. Their chief executives are not held accountable for the outcomes themselves, but they are accountable for "managing for outcomes". This requirement has now been codified in the Public Finance Amendment Act, 2004. The Statements must also be presented to Parliament immediately after the budget has been delivered, and the responsible minister must confirm that the information is consistent with the policies and performance expectations of the government. The Act also requires the department to specify the measures and standards that it will use to assess what impacts and outcomes it has achieved (or contributed to) and to establish the cost-effectiveness of its activities. This legislative emphasis on outcomes provides a framework that, over time, should deliver better results and which is consistent with the key elements that have been identified for successfully integrating outcomes into the budget system (see Box 5.2).

However, although a good start has been made, the new approach is very ambitious, and considerably more work will be needed to develop and refine effective outcome-based performance measures. The approach is potentially quite burdensome on departments, especially those with a broad range of activities,[15] and several risks have been pointed out. These include departments retrofitting their new outcome-based performance management approach to match whatever their current activities are, or restructuring along outcome lines before having demonstrated a clear, consistent and direct relationship between their present activities and outcomes achieved (Webber, 2005). This would be of particular concern if it inadvertently undermined the current strong accountability structure embodied in the public management framework. In any case, New Zealand is not alone in facing this task as a growing number of OECD countries are adopting outcome-focussed approaches and grappling with the challenge of specifying outcomes and suitable measures of performance: international best practices should emerge more clearly over time.

Improving public-sector productivity

Productivity growth remains an important issue for the public sector, especially given the substantial increases in resources devoted to the health and education sectors in the recent past and forecasts for the next five years. Although it has long been generally assumed that an expansion of inputs would directly feed into a rise in output (or equivalently, the labour intensity of many public services make productivity gains virtually impossible to achieve), it is now increasingly obvious that this assumption is false. Major

Box 5.2. **Key elements of successfully integrating outcomes into the budget system**

A recent review of country experience with the evolution of budget management systems towards more emphasis on performance management has identified a number of key factors that are important for success (Diamond, 2005).

Key elements for integrating performance with the budget system

An already well established public expenditure management system is an important pre-requisite for integrating outcome-oriented performance into the budget process To make the "managing for outcomes" approach work, it is important to: *ex ante*, clearly specify the performance expected of each agency head, and agree arrangements for collecting the information required to assess performance; and, *ex post*, provide a transparent performance assessment that reports actual performance against initial targets.

Successful implementation also requires that incentives and sanctions encourage agency heads to act in line with the government's objectives and that agency heads have the degree of managerial autonomy they need to achieve the tasks assigned to them.

Key elements for establishing effective performance measures

Measuring performance especially for outcomes is not necessarily straightforward, and it can be even more difficult to clearly pinpoint the contribution made by a particular programme or agency. Several key traps have been identified, including: over-reliance on performance measures; use of inappropriate indicators; misuse or misinterpretation of the data collected; and information overload. To minimise these dangers, the following guidelines for performance measures are relevant:

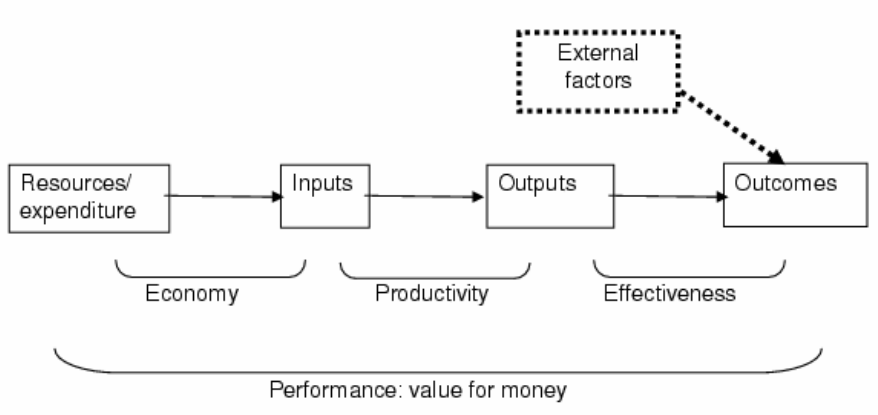
- Clearly establish the purpose of the measures – who will use the information, how and why.
- Focus on core information, prioritising between different performance measures to avoid information overload.
- Align the outcome measures with the practical needs of the agency, so that the information is also useful for the efficient and effective management of the organisation.
- Maintain a balanced approach to performance, recognising that some activities merit more sophisticated approaches to performance measurement than others.
- Keep the performance measures under regular review to identify scope for improvement in the light of experience.
- Ensure that the basic information underpinning the measures is robust, easily verifiable, free from bias and timely.

Source: Diamond (2005).

international work is underway to upgrade the measurement of public-sector outputs for the national accounts, which will help to provide an overall assessment of productivity growth for the sector as a whole. However, this approach is not a substitute for microeconomic measures of public-sector productivity performance (Atkinson, 2005).

The role of productivity is clearly embedded within a broader "value for money" framework linking the money spent to outcomes delivered (Figure 5.4). Developing reliable measures of productivity is a pre-requisite for identifying where and how gains could be realised. In particular, the health and education sectors merit significant investment to

Figure 5.4. **Performance: value for money framework**



Source: NZ Treasury.

develop better measures of productivity, partly because they involve such a large share of public outlays, but also because outputs are complex. These sectors also seem to be prone to widespread misperceptions about the links between inputs and outputs, which can lead to public pressure for more of certain types of inputs, even where it is not clear that acceding to these demands would increase outputs or deliver greater gains in productivity than alternatives – hiring more teachers to reduce average class size is a classic example (OECD, 2004a).

One measure of the output of the school system and thus the sector's overall productivity would involve standardised testing at the beginning and end of each school year. The average progress pupils have made over the course of the year's educational experience can then be gauged and analysed. This could contribute to a deeper understanding of the factors affecting classroom productivity, and complement the existing data being collected *via* the Assessment Tools for Teaching and Learning and the National Education Monitoring Project and the evidence-based research on educational best practices (see Chapter 4). Such a testing system would need to be designed carefully to ensure that it captures all the dimensions of education outputs. Although educational inputs are not the only factors that determine results,[16] other influences such as parental involvement could be reasonably assumed to change only slightly from year to year. Such testing would probably be more readily accepted if it were clearly understood first and foremost as a way of identifying how the overall system is performing and to provide pointers to where improvements could, and have, been made,[17] rather than a performance assessment tool for individual teachers or pupils.[18] While a high quality national testing programme could be established for a relatively small sum[19] in the context of overall educational budgets (Hoxby, 2002) this option should be considered against the alternative of getting more information about system-wide productivity out of existing assessment instruments.

The health sector is more difficult, because it produces diverse outputs that can be difficult to measure and complicated to combine together. *First*, a distinction is needed between activities such as operative procedures, diagnostic tests and the number of visits and the actual output produced, which is a course of treatment involving a bundle of activities (Dawson *et al.*, 2004). Diagnostic Related Groups (DRGs), for example, are an already

well-developed classification of treatments used in some other countries. *Second*, since there are no market prices to indicate the consumer's marginal valuation of the course of treatment, an alternative method must be employed to weight together the individual treatments to arrive at an assessment of the productivity of the sector as a whole. The two main options for weights in the base year are using the average unit cost or assessing the relative health gain of each treatment.[20] *Third*, it is necessary to separate out real expansion of inputs and outputs from price effects, so it is important to construct reliable and disaggregated price and volume indexes that also take account of quality improvements.

New Zealand is currently a long way from having the information base to permit a rigorous assessment of productivity in the health sector. Centrally collected regular statistics for discharges coded according to the diagnosis and the treatment received currently cover only between 35% and 45% of total hospital output: there are no centralised output data on rehabilitation, minor procedures or outpatient activity. There is also a lack of centralised output data for non-hospital-based services which represent 40% of all DHB-funded outputs. The Ministry of Health is consulting on proposals to collect data on non-admitted patients including outpatients, which is a move in the right direction.

Given the additional funding that has been allocated to the sector to expand services to New Zealanders over recent years, it is regrettable that it is not possible to evaluate comprehensively the extent to which output has actually increased. In light of this, a key priority investment would be to develop output measures covering a much larger proportion of the sector and robust price and volume measures for major classes of inputs, such as key staff groups and clinical supplies.

The current weak state of information raises doubts about whether DHBs and other providers are set sufficiently clear expectations about making productivity improvements and face strong enough incentives to improve their performance. Current monitoring emphasises financial performance (which is of course important), rather than efficient and effective service delivery. The Ministry of Health is working with other stakeholders in the sector to review the existing performance management systems and to identify where there is scope for improvement.

Conclusions and priorities for policies

Changes embodied in the Public Finance Amendment Act 2004 that put more emphasis on fiscal sustainability are welcome and should help focus public attention on longer-term requirements and constraints. At this point, any policy initiatives that permanently weakened the long-term fiscal outlook would be unwise and could require corrective action.

The government forecasts significant increases in public spending as a share of GDP in the next five years, reflecting the roll-out of policy initiatives, demand-driven strains, regulatory changes and real wage pressures. While these may largely reflect deliberate choices about government priorities, there has been little success in counter-balancing these increases by pruning back lower-priority activities. Establishing a well designed, ongoing process of programme review could provide a mechanism for reallocating expenditure more effectively.

The shift towards managing for outcomes recognises the importance of linking public outlays to the difference they make for individuals and society as a whole. New Zealand's approach is very ambitious and it will require major efforts to implement it. The first

priority is to pin down the intervention logic behind current spending and how it will contribute to outcomes. The second priority will be to find a sensible and workable set of performance indicators to monitor progress towards improving outcomes. At the same time, progress on outcomes should not come at the expense of reduced control and accountability for outputs.

Greater efforts should be made to develop measures of productivity growth in all significant areas of the public sector, and particularly in education and health. This would require a significant improvement in information and could involve the following:

- Stronger incentives on managers in the public sector to provide relevant information on performance.
- In *education*, a national testing system for children at the beginning and end of each year could provide valuable information about classroom productivity, and should be considered against the alternative of extracting more system-wide information out of existing assessment instruments.
- In *health,* output measures for a much larger share of the sector and robust price and volume measures for major classes of inputs need to be developed.

Notes

1. To facilitate cross-country comparisons, OECD estimates of cyclically-adjusted general government balances are calculated for calendar years.
2. The NZ public pension system is universal, with only age and residence qualifications, and provides an income transfer equal to a proportion of the average wage that varies between 60 and 65%. As a result, for all but relatively low-income earners, estimated net replacement rates are the second lowest in the OECD (OECD, 2005a).
3. Around half of all OECD countries now follow some form of pre-funding strategy (Comley and McKissack, 2005).
4. These savings would be fully realised only if those approaching the rising retirement age did not increasingly take up other public welfare benefits instead. However, strong emphasis on work testing for benefit eligibility can minimise these risks. The Swedish public pension system builds in a longevity adjustment (OECD, 2004b).
5. The range of estimates of income elasticity of health care depend on the level of analysis. Cross-country comparisons have generated estimated elasticities significantly higher than unity, while cross-province or cross-state analyses have produced elasticities slightly lower than one (Bjornerud and Oliveira Martins, 2005).
6. For France, per capita spending was approximately seven times higher for a 70 year old than for a one-year old in 2000, compared with only four times higher in 1992, with a much steeper slope between the ages of 50 and 70 in the more recent period. In New Zealand, per capita spending on the 0-4 year-olds relative to other age groups is considerably higher than it is in France, but the per capita spending ratio of 5-9 year-olds relative to 70-74 year-olds in 2001 is remarkably similar at 1:6.8 (Bryant *et al.*, 2004).
7. Several OECD countries (as well as 27 US states, one Australian state and two Canadian provinces) have implemented some form of statutory tax or expenditure limit (Wilkinson, 2004).
8. It has been estimated that an increase of about one percentage point in the tax burden could be associated with a direct reduction of about 0.3% in output per capita, increasing to rising to 0.6-0.7% if indirect effects *via* investment effect are also taken into account (OECD, 2003).
9. For example, the use of nominal expenditure limits has led to greater use of tax expenditures in Sweden (OECD, 2004b), while the tax freeze in Denmark has locked in a sub-optimal mix of taxes (OECD, 2005c). More generally, evidence suggests that as fiscal rules bite or threaten to do so, governments become increasingly tempted to take advantage of any room for judgement in accounting conventions and resort to fiscal gimmickry (Koen and van den Noord, 2005).

10. Thus, a tax system that is highly inefficient will involve a greater loss of economic welfare for a given tax-to-GDP ratio than a more efficient one.

11. The Government's December Economic and Fiscal Update 2004 includes a number of these items as unquantified risks.

12. This new public employees voluntary pension scheme includes an employer subsidy matching employees' contributions up to a maximum of 3% of gross salary. It was established as part of the government's "Partnership for Quality" agreement with the Public Service Association signed in November 2003. The Government Superannuation Fund previously offered to all civil servants was closed to new entrants in 1992.

13. New Zealand did undertake a "value for money" reallocation exercise in the lead-up to the 2002 budget, but although cabinet agreed to review 17 different areas of expenditure, significant reallocation occurred only under two ministers, who had opted into the process voluntarily (OECD, 2005b).

14. A number of countries have undertaken reviews when fiscal difficulties have made finding savings more important for restoring fiscal balances (OECD, 2005b).

15. According to one assessment, the two organisations where the outcomes model has been implemented most readily in New Zealand are the Department of Corrections and the Ministry of Fisheries, both of which are responsible for outcomes that are quite easy to define and straightforward to monitor (Webber, 2005).

16. However, it has been suggested that one of the reasons that early childhood education produces such high social returns is because the early investment in both cognitive and non-cognitive skills increases the efficiency of learning at later ages through a self-reinforcing effect (Heckman, 2005).

17. Of course, there may be a lag between identification of best practices or change in inputs and any resulting improvements in outputs.

18. It should be noted that national qualifications systems do not work well as measures of the value added of schools, for two reasons: *i)* because they measure the net result of all the influences on children's knowledge, understanding and performance, not each unit of schooling they have received; and *ii)* because they introduce a political incentive to dilute the standards in order to give the illusion of improved productivity.

19. For example, even the most expensive testing programmes adopted by US states cost less than 0.25% of total per pupil spending (Hoxby, 2002).

20. For example, coronary bypass would receive a high weight in a cost-based index but a low weight in a health-gain-based index, whereas hip replacements and upper genital tract procedures receive a greater weight based on health gain assessed using a measure such as quality-adjusted life years (Dawson *et al.*, 2004). Another demonstration of the limitations of cost-based weights is that a shift to cheaper procedure for a particular condition (for example, by moving from in-patient to day surgery) would perversely appear as a reduction in productivity.

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