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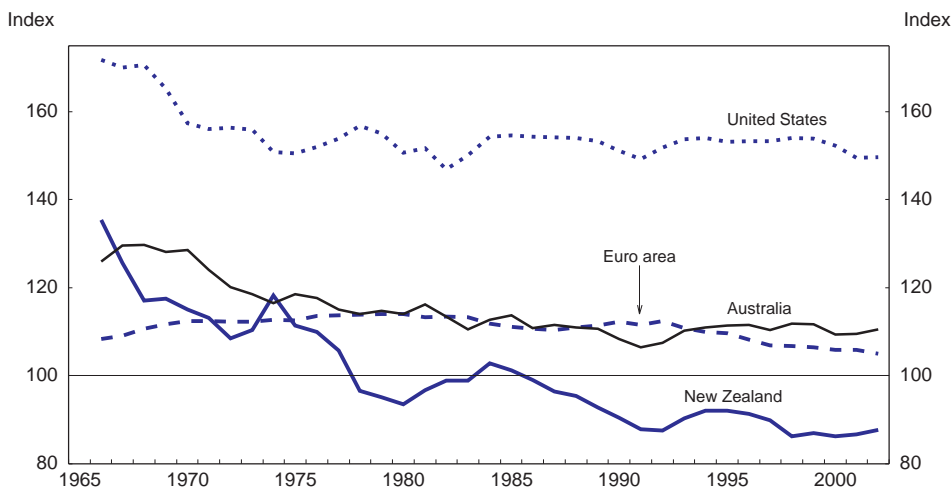
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## I. Key challenges

The government has set the goal of returning GDP per person to the top half of the OECD, a spot last occupied in the mid-1960s. In the past four decades, per-capita incomes have fallen from well above to about 12 per cent below the OECD average<sup>1</sup> (Figure 1). Low labour productivity is the main explanation of this income shortfall, as employment rates and hours worked are relatively high when compared with other countries (Figure 2). The key economic challenge is therefore to boost productivity growth by enough to begin climbing the OECD ladder. But the country faces other challenges as well. While the performance of the labour market has been impressive, employment rates are still 5-10 percentage points shy of the OECD's star performers. Lifting employment rates to their levels would go a third of the way to achieving the government's goal. It also has the rather pleasant challenge of

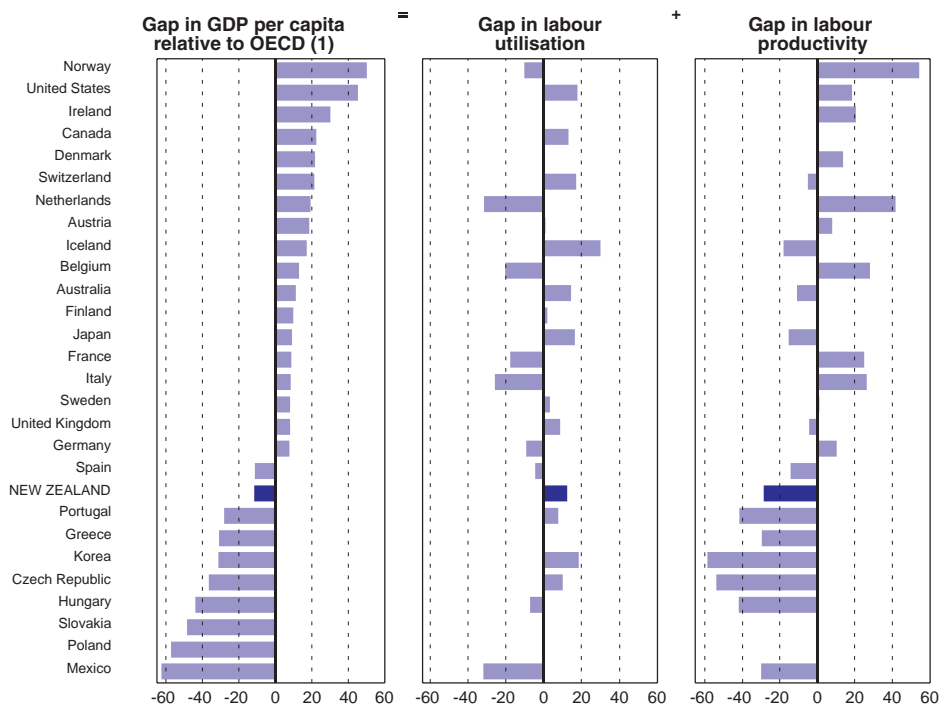
Figure 1. **Real GDP per person relative to the OECD average**  
At 2002 purchasing power parities, OECD = 100



Source: Statistics New Zealand and OECD.

Figure 2. **Decomposing the income gap**

Percentage point differences in GDP per person relative to the OECD average, PPP-adjusted, 2002



1. The gap in GDP per capita is only approximately equal to the sum of the two components shown as there is a small additional demographic effect (differences in the share of population that is of working age). Productivity is measured on a per-hour basis.

Source: OECD.

maintaining public spending discipline in the face of some surprisingly large budget surpluses. And in all its policies, the government must ensure that economic development is sustainable in both environmental and social terms. This *Survey* discusses those key challenges, concentrating on policies to build a more globally connected economy as a way of achieving these objectives.

### Understanding the productivity performance

It is becoming increasingly clear that significant progress is being made towards the goal of raising productivity growth. In the decade to 2002, output grew

by a respectable 3.6 per cent per year on average, or 2.5 per cent per capita. Labour productivity did not contribute much to growth in the first few years of that period, with growth being “job rich” as the economy re-absorbed workers who had been made redundant by the earlier economic restructuring (Table 1). In particular, the unemployment rate has halved in the past decade to around 4½ per cent, and the labour force participation rate has recovered to its pre-reform peak. But in the second half of the decade, labour productivity growth began to make a more significant contribution.

While the growth performance has been impressive, some of it was a cyclical bounce-back from the deep recession in 1991.<sup>2</sup> However, it is hard to know how much has been cyclical and how much is sustainable because the past decade has been so turbulent. External shocks have included: a global slowdown in 1991; an immigration surge in 1995-96 followed by a policy-induced slow-down in 1998; the Asian crisis later in 1998, the effects of which were compounded by the central bank’s initial tightening response; a terms-of-trade spike in 2001-02; another immigration surge that began in 2001 and is still in train; two severe droughts and three periods of electricity shortage. So bearing in mind the considerable uncertainty around estimates of potential output for New Zealand, it seems that after being well below the OECD average for at least two decades, the trend rate of productivity growth recovered over the 1990s and is now close to the middle of the pack (Figure 3).<sup>3</sup>

The aggregate productivity improvement reflects a mixed bag of successes and failures in different industries. The agriculture, mining, transport and communications sectors have done particularly well (Table 2), while the utilities sector, which was restructured early on, had its main productivity burst from 1988 to 1993. The biggest disappointment has been manufacturing, which has shown only weak labour productivity growth and no multifactor productivity growth over the past 14 years.

It is also revealing to contrast New Zealand’s productivity performance with Australia’s (Table 2). *Multifactor* productivity growth in the two countries has been similar since 1998, although Australia may have had a slight edge depending on technicalities such as the definition of the business sector and the measurement of capital. The difference, however, lies in Australia’s much more impressive rate of *labour* productivity growth, due to its higher rate of investment (a point that is discussed in more detail below). The story at the industry level is surprisingly similar to New Zealand’s. Bearing in mind the difficulties of making reliable industry-level comparisons between countries, it seems that Australia’s labour productivity growth has been higher than New Zealand’s in most broadly defined sectors and, like New Zealand, has been strongest in the primary, utilities, and transport and communications industries. Unlike New Zealand’s, however, Australian manufacturing has done well.

Table 1. **Medium-term potential output growth**  
Annual average, percentage points

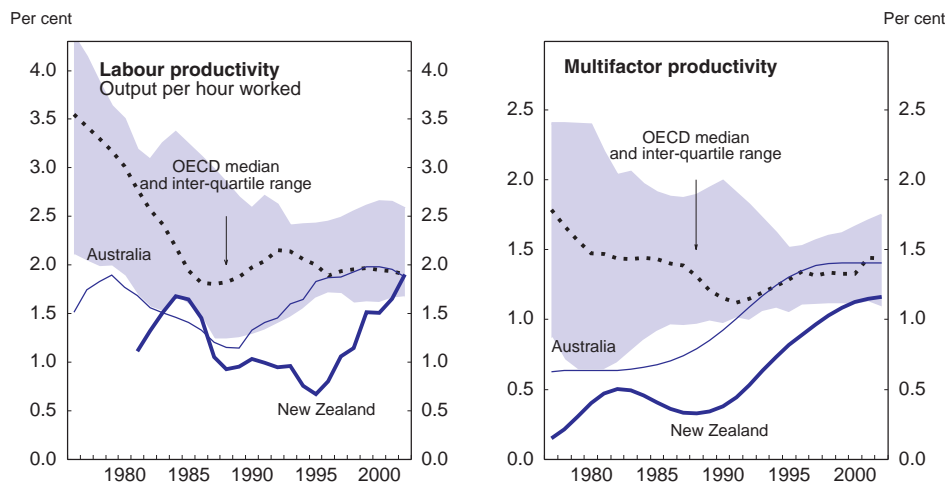
	Potential GDP growth		Potential labour productivity growth (output per hour worked)		Potential labour input growth (hours worked)		Contributions to trend labour input growth								
	=		+				Working-age population	Trend participation rate	Change in structural unemployment	Total hours worked per person	1992-2002		2003-09		
	1992-2002	2003-09	1992-2002	2003-09	1992-2002	2003-09					1992-2002	2003-09	1992-2002	2003-09	
<b>New Zealand</b>	<b>2.7</b>	<b>3.3</b>	<b>1.0</b>	<b>2.1</b>	<b>1.6</b>	<b>1.2</b>	<b>1.4</b>	<b>1.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>-0.1</b>	<b>0.0</b>
<i>Actual<sup>1</sup></i>	3.3	3.1	0.9	2.1	2.4	1.0	1.4	1.1	0.4	0.0	0.5	0.0	0.1	0.0	0.0
Australia	3.2	3.5	1.8	2.0	1.5	1.4	1.2	1.4	0.2	0.0	0.1	0.0	0.0	-0.1	0.0
Austria <sup>2</sup>	2.3	2.0	1.8	1.8	0.5	0.3	0.4	0.2	0.1	0.0	0.0	0.0	0.0	..	..
Belgium	2.1	2.0	1.9	1.7	0.2	0.4	0.1	0.3	0.5	0.4	0.2	0.0	0.0	-0.6	-0.3
Canada	3.0	3.0	1.3	1.8	1.6	1.2	1.2	1.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Denmark	2.2	2.2	1.9	2.1	0.3	0.1	0.2	0.1	-0.1	0.0	0.2	0.0	0.0	-0.1	0.0
Finland	2.3	2.4	2.6	2.8	-0.3	-0.4	0.3	0.2	-0.1	-0.3	-0.2	0.1	0.1	-0.3	-0.4
France	2.0	1.9	1.9	1.6	0.1	0.4	0.3	0.4	0.4	0.0	0.0	0.1	0.1	-0.6	-0.1
Germany	1.8	1.6	1.9	1.7	-0.2	-0.1	0.0	-0.2	0.4	0.4	-0.1	0.0	0.0	-0.6	-0.3
Greece	2.6	3.5	2.1	3.2	0.5	0.2	0.4	0.0	0.3	0.3	-0.1	0.1	0.1	0.0	-0.1
Iceland	2.3	2.8	1.4	1.6	0.9	1.2	1.1	1.2	0.0	0.0	-0.2	0.1	0.0	0.0	0.0
Ireland	7.0	4.7	4.5	3.4	2.4	1.2	1.8	1.0	0.7	0.4	0.9	0.1	0.1	-0.9	-0.3
Italy	1.7	1.5	1.6	1.1	0.1	0.4	0.0	-0.1	0.3	0.5	0.0	0.2	0.2	-0.2	-0.1
Japan	1.7	1.3	2.2	1.6	-0.5	-0.3	0.0	-0.4	0.4	0.3	-0.1	0.0	0.0	-0.8	-0.2
Netherlands	2.7	1.7	1.8	1.4	0.9	0.2	0.5	0.4	0.8	0.4	0.3	0.0	0.0	-0.7	-0.6
Norway	2.7	2.0	2.2	1.6	0.5	0.4	0.6	0.5	0.2	0.0	0.1	0.0	0.0	-0.5	-0.1
Spain	2.9	2.6	1.2	0.8	1.7	1.7	0.6	0.3	0.9	1.1	0.2	0.3	0.3	-0.1	0.0
Sweden	2.2	2.2	1.9	1.9	0.2	0.3	0.4	0.6	-0.3	-0.3	-0.1	0.0	0.0	0.3	0.0
Switzerland	1.1	1.1	0.8	0.6	0.3	0.4	0.5	0.5	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
United Kingdom	2.6	2.4	2.1	1.9	0.4	0.5	0.3	0.4	0.1	0.0	0.3	0.0	0.0	-0.2	-0.1
United States	3.1	3.1	1.6	2.1	1.4	0.9	1.2	1.1	0.2	-0.2	0.0	0.0	0.0	0.0	0.0
Euro area	2.1	1.9	1.8	1.5	0.3	0.4	0.2	0.1	0.4	0.4	0.1	0.1	0.1	-0.3	-0.1
Total OECD	2.5	2.4	1.8	1.8	0.7	0.5	0.6	0.5	0.3	0.1	0.0	0.0	0.0	-0.4	-0.2

1. This line shows actual and forecasts rather than potential (or trend) growth in GDP and its components.

2. On a per-worker rather than per-hour basis.

Source: OECD.

Figure 3. **Trend productivity growth**  
Annual per cent change, cyclically adjusted



Source: OECD.

Looking forward, there is only limited scope in the absence of policy changes to boost income growth further by bringing more people into work. Participation rates are already high and the labour market is tight (the unemployment rate fell to 4.4 per cent in September 2003, the fifth-lowest standardised rate in the OECD). Moreover, demographic changes are more likely to depress than to raise participation rates over the medium term. For example, the *ageing* of the population is projected to lower participation rates by more than one percentage point by the end of the decade and by four percentage points by 2020.<sup>4</sup> The impact of *cohort effects*, however, could go either way. In most countries, rising education levels mean that today's 40 year-olds, for example, tend to have higher participation rates than their counterparts did in the past. It is unclear whether this is also true of New Zealand. Male participation rates for all age groups below 55 are lower now than they were in 1987. The cohort effect for men may therefore be a drag on participation, but this will be offset by the rising female participation. A third effect is the rising Maori and Pacific share of the labour force, with both groups having relatively low participation rates (see below). The overall impact of these three inter-related effects is uncertain. On balance, however, increases in labour utilisation are likely to contribute less to GDP growth over the next few years than they have done in the recent past (Table 1). In the absence of further productivity increases, the income gap with the rest of the OECD is not projected to decline noticeably over the medium term.

Table 2. Productivity growth by sector in New Zealand and Australia

Market sector, annual average growth rate, per cent

	Labour productivity						Multifactor productivity <sup>2</sup>					
	New Zealand		Australia		New Zealand		Australia		New Zealand		Australia	
	1988-1993	1993-2002	1988-1993	1993-2002	1988-2002	1988-2002	1988-1993	1993-2002	1988-2002	1988-1993	1993-2002	1988-2002
<b>Total excluding services<sup>1</sup></b>	<b>2.5</b>	<b>1.6</b>	<b>1.9</b>	<b>2.1</b>	<b>2.4</b>	<b>2.3</b>	<b>0.5</b>	<b>1.4</b>	<b>1.1</b>	<b>0.8</b>	<b>1.3</b>	<b>1.1</b>
Agriculture	1.0	3.6	2.6	4.3	3.2	3.6	-0.5	2.4	1.4	3.5	3.9	3.7
Mining and quarrying	6.3	2.0	3.5	6.7	4.6	5.3	-1.9	0.7	-0.2	2.9	0.8	1.5
Manufacturing	2.4	-0.1	0.8	4.0	3.3	3.5	0.3	-0.2	0.0	1.8	1.5	1.6
Electricity, gas and water	9.9	1.7	4.6	7.6	4.1	5.4	1.1	-0.9	-0.2	4.5	0.7	2.0
Construction	-2.5	0.1	-0.9	-0.3	0.5	0.2	-4.6	0.2	-1.5	-1.2	0.5	-0.1
Retail and wholesale trade	0.1	1.6	1.0	-0.3	3.1	1.9	-0.4	1.4	0.8	-1.1	2.3	1.1
Transport, storage and communications	8.6	5.6	6.7	5.6	3.5	4.2	6.7	5.5	6.0	2.9	2.3	2.5
Business services	-2.0	0.3	-0.5	..	..	..	-2.5	0.7	-0.4	..	..	..
Personal and community services	1.2	1.5	1.4	..	..	..	0.8	1.5	1.2	..	..	..
Finance and insurance	..	..	..	3.9	3.1	3.4	..	..	..	-0.4	0.5	0.2
Cultural and recreational services	..	..	..	1.4	-0.9	-0.1	..	..	..	-1.3	-3.6	-2.8

1. New Zealand data excludes business and property services and personal and community services, and ownership of dwellings. Australian data excludes property and business services, government administration and defence, education, health and community services, personal and other services, and ownership of dwellings. This data differs from that shown in Figure 3 as it is not adjusted for cyclical effects and does not cover the whole economy.

2. New Zealand and Australian multifactor productivity estimates are not entirely comparable. In particular, Australia's capital stock includes inventories, land and livestock (New Zealand's does not) and it uses a different aggregation approach.

Source: Black *et al.* (2003a); Australian Productivity Commission; OECD.

## Lifting productivity growth

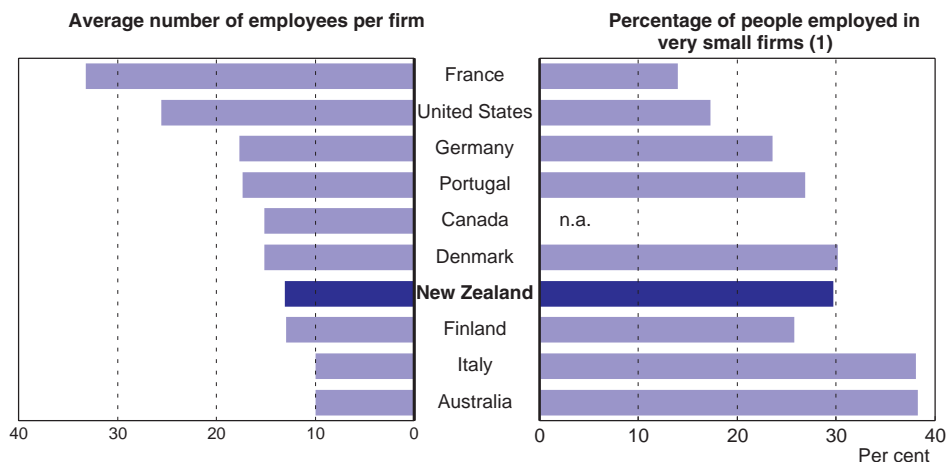
While trend productivity growth has picked up to a rate at which per-capita incomes can keep pace with the OECD average growth path, it has not yet risen by enough to appreciably close the gap. The mystery is why a country that seems close to best practice in most of the policies that are regarded as the key drivers of growth is nevertheless just an average performer.

An optimistic answer is to argue that the benefits of reform take time and that further improvements in productivity growth are in the pipeline. This possibility should not be discarded lightly, since some of the most important reforms were put in place only recently. In particular, the uncompetitive market structure that continued to characterise some key primary export sectors until the dismantling of producer boards a few years ago provided little incentive for innovation in those sectors. New Zealand's biggest merchandise export sector, the dairy industry, was reformed as recently as the 2002 season and will retain some monopoly rights until 2007.

However, there may be country-specific factors which are partially offsetting the benefits of the economic reforms. The two most commonly cited are size and remoteness. A growing literature argues that size and distance can be important because the interaction of transport and communication costs with economies of scale and agglomeration effects – as well as with the more traditional factors such as resource availability – plays a decisive role in determining the location of economic activity. A small, remote economy is likely to have more difficulty becoming competitive in sectors with significant economies of scale; for the same reason it will be a less attractive location for export-oriented FDI, it will have less scope for gains deriving from the agglomeration of economic activity in large urban areas, and it will tend to have smaller firms, which are less able to exploit economies of scale. While these factors are no doubt important contributors to the level of per-capita income, the relevant questions are whether they are becoming more important over time and whether they affect not just the level but also the growth rate of GDP. On the first question, the balance of evidence suggests that broadly defined transactions costs have been falling over time (McCann, 2003). However, there are countervailing forces such as the trend towards more frequent “just in time” production methods, for which the handicap of isolation may have intensified in those types of industries. It is clear that communication has also become cheaper and easier, but the importance of face-to-face contact may have increased in areas where goods and services are complex and thus trust becomes a factor (though it will have fallen where products have become more commodotised). Moreover, falling transactions costs may actually benefit large centrally located economies and harm peripheral ones if economies of scale exist at the economy-wide level (McCann, 2003), although the evidence on this is not clear. The question of whether size and distance affect the level or the growth rate of income is still hotly debated.



Figure 4. **Average size of firms**  
Excluding sole proprietorships



1. Less than 20 employees.

Source: New Zealand Treasury, Australian Bureau of Statistics and OECD.

Balancing these theoretical arguments is the evidence from comparing New Zealand and Australia. From 1988 to 2002, NZ GDP per person grew by an average 1.5 per cent per year, compared with 2 per cent in Australia and 1.7 per cent in both the United States and in the median OECD economy. Yet in terms of isolation, Australia is not that much closer to its main markets than is New Zealand, and in one sense may be more isolated because it doesn't have the advantage of having a big, fast-growing economy next door. When it comes to size, Australia's population is 5 times as large, yet its cities are not particularly big by OECD standards.<sup>5</sup> More importantly, its firms are on average no larger in employment terms than New Zealand's (Figure 4). There are two main reasons why a small domestic market can constrain growth. First, it reduces spillovers or agglomeration externalities, such as the dissemination of marketing information and the transmission of tacit knowledge. Second, it results in smaller firms who face larger barriers to exporting (because of the fixed costs of breaking into foreign markets), to investment (new technology has a larger minimum efficient scale), to expansion (finance constraints due to signalling problems in capital markets), and to profitability (regulatory compliance costs may hit small firms harder). On the first point, it is unclear whether spillovers or agglomeration effects have become more important over time, nor is it obvious how big an agglomeration needs to be to achieve critical mass. Attributing New Zealand's poorer performance to city size

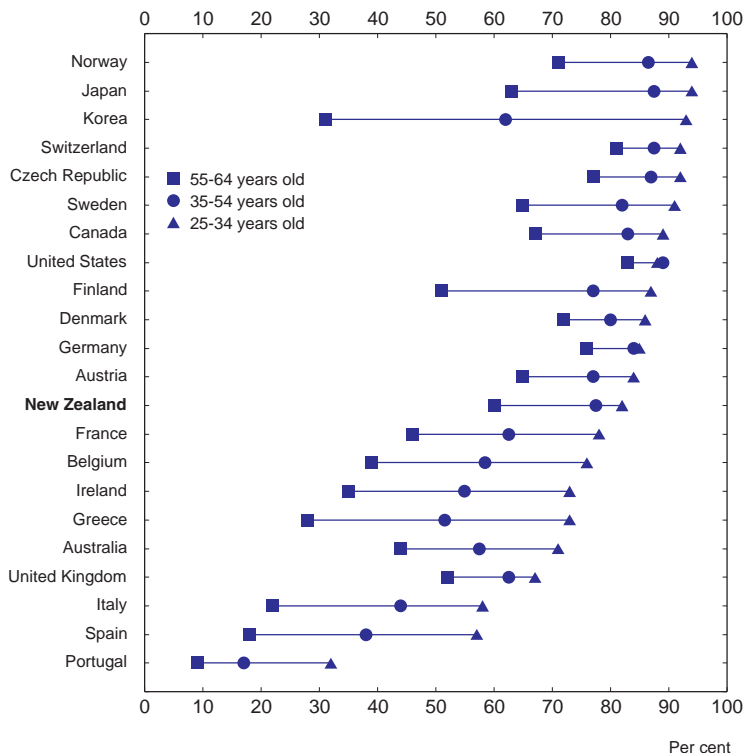
implicitly assumes that the roughly two million people living in reasonable proximity in the upper North Island are insufficient, yet the Melbourne metropolitan area's 3-4 million, for example, is enough. On the second point, the potential problems stemming from small firm size do not appear to have been significant barriers to productivity growth in Australia, with the possible exception of the difficulty that small firms have at breaking into export markets. In principle, the high degree of economic and labour market integration between the two countries should mean that NZ firms can treat Australia as part of their domestic market, in which case the handicap of small size may not be as serious as it looks. But the fact that in practice the two markets have not become one implies that the main obstacle for firms is related to exporting, not to distance *per se*. In other words, a national border reduces trade by much more than does physical distance.<sup>6</sup> If it is exporting itself that is the major barrier, rather than the actual distance over which goods and services are shipped, then New Zealand's geographic isolation places it at not much more of a disadvantage than many other well-performing small economies.

In sum, policymakers should be wary of attributing too much to these handicaps, given that Australia has performed well with handicaps of size and distance that, superficially at least, appear only a little less severe than New Zealand's. And if geography does matter, its effects are not mechanical as they interact with the other fundamental determinants of a country's comparative advantage. Policy should therefore not lose sight of the fundamentals, such as those highlighted in the OECD's *Growth Study* (OECD, 2003a), where continuing progress needs to be made. These include upgrading skills and human capital, boosting investment in physical capital (especially new information technology), removing barriers to trade and investment, encouraging innovation, stimulating firm creation, improving the regulatory environment and strengthening the economic and social fundamentals. Focussing on improving global linkages can be an effective way to make progress in each of these areas. For example, inward foreign direct investment (FDI) and immigration are not ends in themselves but are ways of boosting innovation, productivity, competition and human and physical capital. To attract them, the economic fundamentals need to be strong, and that will benefit domestic firms as well. This *Survey* concentrates on the ways in which stronger global connections may contribute to the policy recommendations highlighted in the OECD *Growth Study*. The following few sections assesses New Zealand's relative strengths and weaknesses in this regard, while Chapter II then looks at the specific policies that might help lift its rankings.

### ***Investing in human capital***

The first and probably most important area is to continue to improve on the already-good human capital performance. Older New Zealanders are fairly well educated by OECD standards – a large proportion of older age groups has at

Figure 5. **Population with at least an upper-secondary qualification**  
2001, Per cent



Source: OECD.

least an upper-secondary qualification (Figure 5), and the average number of years of education of 1970's working-age population was among the highest in the OECD. That said, adult literacy is an area of concern. While prose literacy is high compared with other countries, quantitative and document literacy are on the low side (OECD, 2000a), and the spread of outcomes from best to worst is very wide. In addition, the country has not matched the significant gains in education levels that have occurred elsewhere, despite high tertiary enrolment rates. With drop-out rates remaining high,<sup>7</sup> the proportion of younger New Zealanders with at least an upper-secondary qualification is now in the middle of the pack.

However, those who succeed at school succeed well. The OECD's PISA study found NZ 15 year-olds to be among the best in the world, ranking third in reading and

maths and sixth in science (OECD, 2001a). But as with the adult population, the spread of outcomes between the best and the worst achievers is unusually wide, with Maori and Pacific Islanders faring particularly badly relative to Pakeha (those of European descent). These performance gaps become apparent at an early age<sup>8</sup> and widen as students go through school.<sup>9</sup> A distinctive feature of the NZ education system is that schools are relatively similar to each other in terms of their student mix<sup>10</sup> and their educational outcomes, but have to deal with a wide range of abilities within each school (the average spread in student achievement within individual schools is the highest in the OECD). This suggests the problem is more likely to be a generic feature of the school system rather than failures of individual institutions or problems caused by the segregation of students into “poor” and “wealthy” schools. Looking within the schools themselves, differences in socio-economic standing do not explain the entire performance gap between ethnic groups. Remarkably, Maori and Pacific Island students from the most advantaged households (those at the 95th percentile) do no better at school on average than Pakeha children from the *least* advantaged Pakeha families.<sup>11</sup>

Thus the main skills challenge is to raise the performance of under-achievers, both the youngsters who are currently at school and the adults who have already left. For young people, that includes basic literacy and numeracy, participation in school, attainment of qualifications and progress on to tertiary education. For adults, an adult-literacy strategy could usefully be tied into labour market programmes as half of the unemployed are at the very lowest level of literacy. Projected demographic changes make the challenge particularly pressing. Maori and Pacific Islanders currently make up approximately a quarter of 15 year-olds, and on average they have schooling outcomes that would place them among the bottom few countries in the OECD. By 2020, their proportion is expected to rise to a third. Over the same period, the number of Maori and Pacific Islanders of working age is projected to increase by nearly half, while the number of working-age Pakeha will fall.

Immigration can also contribute to boosting human capital. Large outflows of New Zealanders and sizeable inflows of immigrants have been long-standing features of the country's population dynamics. Since 1970, for example, more than 650 000 NZ citizens have permanently left the country, and they have been largely replaced by 620 000 foreigners, amounting to a fifth of the average population over that period.<sup>12</sup> The majority of emigrants are young and well educated. There is no shortage of people with medium or low skills who would like to migrate to the country, but policy has typically restricted such flows to those with family links or entitlements under humanitarian or regional policies. Immigration policy has been focussed on attracting skilled migrants and making the most of them by ensuring they integrate well. The immigration rate is high (more than 1 per cent of the population each year), which underscores the need for immigrants to be skilled and to integrate well. Recent policy has had its weaknesses in these two areas. While the majority of immigrants enter under a points system, formal education

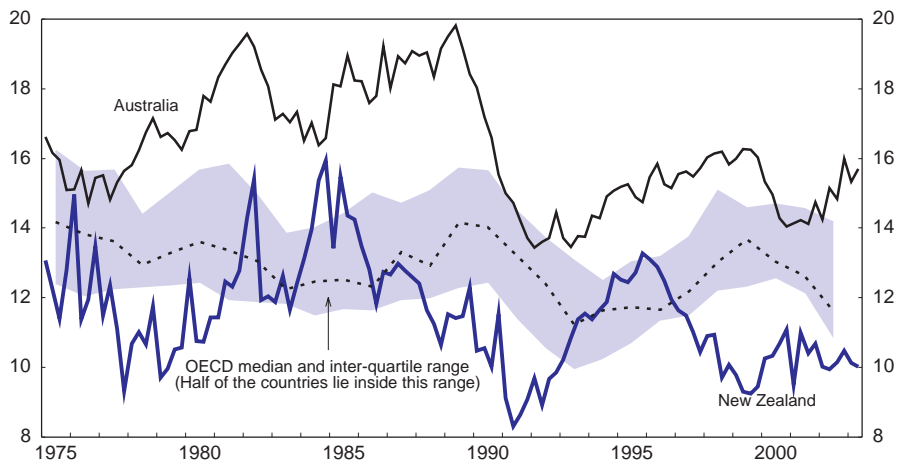
requirements have probably been too stringent (a university degree was *de facto* required to get enough points to enter under the General Skills stream), and insufficient attention was paid to language skills before the mid-1990s. Also, pre-1995, points were awarded for formal qualifications without the applicant having first to obtain recognition of those qualifications by the New Zealand registering body. Some skilled immigrants have had trouble integrating into the labour force, especially those whose expertise was not in high demand or whose English language skills were poor. As a result, skill shortages in professions and technical areas have existed alongside unemployment of university-educated migrants. The government announced further reforms in July 2003 which retain the main aspects of the existing system but give higher priority to those with a job offer. These proposals, and the impact of migration more generally, are assessed in Chapter IV.

### ***Investing in physical capital***

The importance of investment in physical capital as a way of lifting labour productivity is well established. But because technological innovations are often embodied in new equipment, investment has the potentially more significant benefit of improving global connections, innovation and knowledge diffusion. These factors may explain why countries with higher investment rates (relative to GDP) also tend to have higher rates of multifactor productivity growth (albeit with causality flowing in both directions). In any case, New Zealand's investment performance has been poor. The investment rate has been in the bottom quartile of OECD countries for some time and, as noted earlier, has been well short of the high rates seen in Australia (Figure 6). Comparing across sectors, investment in manufacturing has been especially weak, with no capital deepening since 1993. In contrast, the capital-to-labour ratio in Australia's manufacturing sector has increased by a quarter, and it has shown significantly more capital deepening than New Zealand in wholesale and retail trade and in other service sectors. ICT investment has been relatively low in New Zealand, mainly because of modest expenditure on software (Figure 7). This is a concern given the accumulating international and local<sup>13</sup> evidence that ICT investment is an important source of firm-level productivity growth. A higher cost of capital compared with other OECD countries may provide some of the explanation for the investment performance but it cannot be the whole story, as Australia's capital cost is similar.

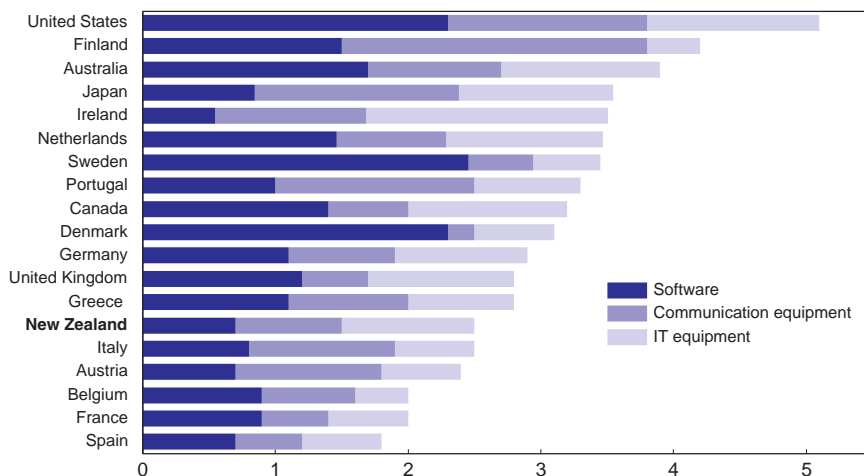
A second area where more investment is needed is in basic infrastructure. Problems have arisen to differing degrees in several areas, including road transport, electricity generation and transmission, the rail network, water supply, wastewater disposal and broadband telecommunications. The most pressing needs are in land transport and electricity supply. Road congestion in Auckland has increased significantly in recent years because road investment

Figure 6. **Business investment rate**  
Per cent of GDP



Source: Statistics New Zealand and OECD.

Figure 7. **ICT investment rate**  
Per cent of GDP, 2000



Source: Statistics New Zealand and OECD.

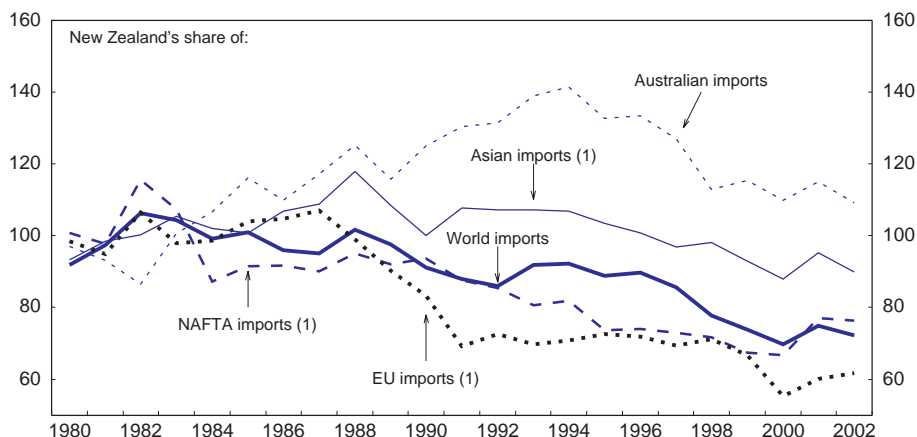
has not kept pace with economic and population growth (and on current policies is unlikely to do so in the future<sup>14</sup>). While congestion is not dire by the standards of large and fast-growing cities elsewhere, it is often cited by businesses as a constraint on growth. Regarding the electricity industry, three power shortages in the past decade point to problems in generation, transmission and the role of prices in managing household demand. Beyond these two areas, there is probably no common factor that explains why bottlenecks are appearing in various spots, although difficulties in getting environmental consents for major projects may be a factor for some of them. The policy response in recent years has been consistently towards greater intervention, either through expanded state ownership (airlines, rail, electricity generation) or tighter regulatory controls (electricity, telecommunications). As a result, policy has in some cases been addressing the symptoms rather than the causes, a point that will be amplified later in this *Survey*.

### **Foreign trade**

In the export arena, New Zealand continues to rely on its resource sector. Primary products still account for around two-thirds of merchandise exports, although the fraction that has left the shores unprocessed has halved since 1987 (Black *et al.*, 2003b). Because it has a comparative advantage in food and fibre products, for which world demand, at least in commodified forms, is growing relatively slowly, and which are restricted by trade barriers, New Zealand's share of world trade has been falling over time. It has lost market share in all major markets except Australia, even after adjusting for the explosion of intra-regional trade (Figure 8), while the number of companies involved in exporting has fallen since the mid-1990s. However, moderate growth in the volume of primary exports need not be a drag on the economy so long as productivity growth is adequate and producers extract more value-added from their exports. This does seem to have been the case in the agriculture sector in recent years. For example, in 1992 the typical lamb-slaughter chain employed 56 workers and processed 3 000 lambs a day; now, half that number of people processes 5 500 carcasses a day – a roughly four-fold increase in productivity. The statistical evidence described earlier also points to strong productivity growth in the primary sector.

By contrast, there has been a lack of in-roads in the manufacturing sector. New Zealand's share of OECD manufacturing exports has been falling since the economic shakeout in the 1980s and, while most OECD economies have also been losing out to the newly industrialising economies, New Zealand's relative decline has been steeper. Moving out of some of those manufacturing industries was necessary as they were wealth-destroying enterprises erected behind tariff walls, but since then there has been a relative lack of success in shifting towards more

Figure 8. **Export market shares**  
Exports of goods relative to regional imports of goods, Index 1980-85 = 100



1. Excludes intra-regional trade.

Source: International Monetary Fund and OECD.

productive manufacturing niches, although with individual success stories. Export market share has also fallen because the country has to some extent missed out on the global trend towards the internationalisation of production chains and vertical specialisation, which may be a function of its distance from major markets. Intra-industry trade in manufacturing is small (OECD, 2002a), while the import content of exports is considerably lower than in other OECD countries of comparable size and, unlike most other countries, has not been increasing. While the value-added component of exports linked to globalised production processes is typically low, the concern is that the country may be missing out on the potential spin-offs in the form of higher productivity growth that may come from greater international connections, exposure to more vigorous competition and the diffusion of new technology through imports of capital and intermediate goods that are used in manufacturing exporting industries.

The key obstacle to boosting export performance in manufacturing seems related to the size of the domestic market: local firms must go global when they are relatively small and young. The one-off fixed costs of breaking into export markets can be an insurmountable barrier for such firms. These costs could take several forms, but anecdotal and survey evidence suggests that establishing a distribution channel is the major stumbling block (Simmons, 2002; Infometrics, 2002).



## **Foreign investment**

In addition to trade, foreign investment is an important mechanism for improving global linkages. Local firms may be able to increase their own productivity as a result of knowledge spillovers from FDI, such as through forward and backward linkages with multinational firms, imitation of foreign technologies, or the learning by doing that takes place when local workers are hired and trained by multinationals. Indeed, being wholly or partially bought out by a foreign partner has often been a key route to successful growth and is a common way of overcoming the fixed costs of exporting and R&D. The policy of being “open for business” without actively using financial incentives to entice foreign investors has been relatively successful. The stock of inward FDI in relation to GDP is second only to Belgium and Ireland. Moreover, the pattern of investment flows does not suggest that New Zealand is one of the marginal countries in global investors’ portfolios – it is a “low beta” country in the sense that FDI inflows are less volatile than the world FDI cycle (a country at the mercy of “hot money” would expect to have a high beta).<sup>15</sup> Most of the flow consists of mergers and acquisitions rather than “greenfield” investments, but that can still enhance global linkages and bring knowledge spillovers. Moreover, most has been directed toward non-exporting sectors, partly because single-desk marketing boards in the dairy, pipfruit and kiwifruit sectors, and their co-operative structures, have until recently left limited room for independents to enter the market. As explained in Chapter II, the FDI tax and regulatory regime is about average within the OECD. The key policy question is whether average is good enough given the potential handicaps of being small and remote. The question is more pressing now that Australia looks likely to secure a free-trade deal with the United States, potentially making New Zealand significantly less attractive for FDI compared with its neighbour.

## **Innovation**

Research and development spending by the business sector is low but has been growing fast. This is especially true of manufacturing, where few businesses spend more than 5 per cent of sales on R&D. The primary reason, as in Australia, is the small size of firms, but a relatively unfavourable tax treatment of R&D may also be a factor. To compensate for the inability of most companies to support a commercially viable research team, firms are able to contract out their research to universities and government labs (Crown Research Institutes, or CRIs). By OECD standards, links between industry and CRIs are strong, but links with higher education are not. However, technology transfer mechanisms may not be working as well as they could. There is also a tension between the needs of primary industries to be at the forefront of biotechnology research and the country’s environmental and bio-security goals (see Box 4). Research in this area has been held back by the recently expired three-year ban on releases of GMOs.

### ***Regulations and the business environment***

The quality and administration of regulations is generally good. By the mid-1990s, international competitiveness surveys typically put New Zealand among the best places to do business. However, a slowdown in the momentum of reform has led to a decline in its relative position, even though in absolute terms the regulatory environment is still strong (Nicoletti *et al.*, 1999). The major exception is environmental legislation. The administration of the Resource Management Act (RMA) is patchy, with some local authorities (and applicants) not devoting sufficient resources to timely and rigorous decision making. The consent process can involve long and costly delays, especially when cases are finally referred to the Environment Court, and it is too easy for competing firms to use the RMA process as a way of blocking competition.

It is difficult to quantify the impact the RMA may be having on growth or whether problems balancing environmental and development objectives are any worse than elsewhere. However, it is certainly creating a lot of debate, and surveys of smaller firms point to regulation – and the RMA in particular – as the single biggest problem they face. There is also anecdotal evidence that difficulties getting resource consents may be deterring foreign investment.<sup>16</sup>

### ***Ensuring that economic growth is sustainable***

While boosting growth is the central objective, this needs to be balanced against other environmental and social objectives if policies are to be sustainable. New Zealand is already one of the worst greenhouse gas emitters (measured relative to the size of its population or economy), largely due to methane emissions from the livestock sector. However, it is also a significant absorber of carbon *via* its large forest plantations. Recognising this, the government has signed up to its global responsibilities under the Kyoto agreement on climate change. Its challenge is to reduce greenhouse gas emissions without unduly harming farming, which under existing technology cannot reduce emissions except by shrinking the industry. But the agricultural sector, especially dairy farming, is also polluting freshwater in some locations. Steps need to be taken to ensure that high water quality is maintained in the face of economic growth. In addition, all OECD nations have a responsibility to help in the development of the world's poorest countries. This involves reducing or eliminating price-distorting subsidies, especially in agriculture (which New Zealand did long ago), and improving market access by eliminating tariffs and quotas on developing country exports such as textiles and clothing (New Zealand completed the removal of import licensing protection in 1992 and removed tariffs on least developed country imports in 2001, but still has some scope to reduce remaining tariff barriers). These three issues of sustainable development (climate change, water quality and assistance to developing countries) are discussed in Chapter VI.

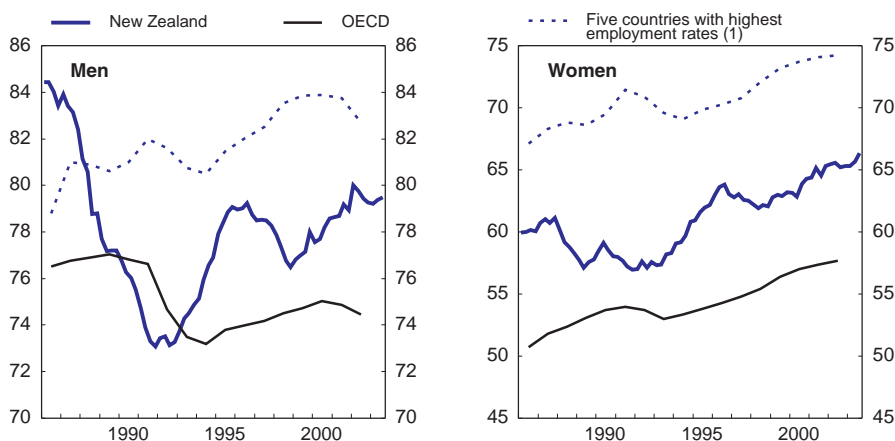
## Raising employment rates of marginal groups

While raising productivity growth is the main way of sustainably closing the gap in per-capita incomes, policy reforms aimed at boosting employment still have a role to play. Male and female employment rates are currently both several percentage points above the OECD average (Figure 9) and those who work clock up a relatively large number of hours each year. Employment rates of all age groups have climbed progressively since their trough a decade ago, reflecting a combination of cyclical bounce-back and the effects of labour-market and welfare reforms. However, the employment rate for men is still below the level it reached in the mid-1980s when the protected manufacturing industry was employing many of the less skilled. But employment rates of older workers (aged 60 and over) are particularly high.

Although average performance is good, New Zealand does have aspects of a dual labour market. There is close to full employment for some groups, but others face various labour market problems. For example:

- There are hefty differences in employment rates between ethnic groups, largely reflecting their different educational outcomes. For example, in the first half of 2003 employment rates for Maori and Pacific Islanders were 16 percentage points below those of European descent.

Figure 9. **Employment rates**  
Percentage of the working-age population that is employed



1. Japan, Iceland, Netherlands, Norway and Switzerland for men; Denmark, Iceland, Norway, Sweden, and Switzerland for women. Working-age population refers to those aged 15-64.

Source: OECD.

- The above-average labour market performance is mainly restricted to people with upper-secondary qualifications. Compared with other OECD economies, employment rates are only average for people without school qualifications or with tertiary qualifications.
- Sole parents have one of the highest rates of joblessness in the OECD. The disparity in employment rates between sole parents and other mothers is higher than in any other Member country.
- The number of very long-term jobless has continued to rise despite an improving labour market. While the number of people receiving the unemployment benefit for 1-3 years has fallen recently, the number that has been jobless for at least five years has increased by 40 per cent in the two years to June 2003, to 6½ per cent of total jobless. Most long-term recipients of the unemployment benefit are young and unskilled.
- As in most countries, immigrants have employment rates a few percentage points below locals but with enormous variation between groups. Skilled immigrants with good English skills seem to integrate quickly, while others can take a very long time.

In sum, the labour market performs well for the easily employable majority, but outcomes for marginal or disadvantaged groups are average at best. This reflects more than just a lack of job opportunities, since business surveys currently report a high level of difficulty in finding both skilled and unskilled workers. As discussed in more depth in Chapter IV, the main labour market challenge is to improve the ability and incentives for the jobless to move from welfare to work. The improvement in labour market outcomes that should follow from these types of policies would have significant social spin-offs that go well beyond and are surely more important than the narrow economic benefits.

### **Maintaining fiscal prudence**

A third challenge is to maintain expenditure discipline in the face of some surprisingly large fiscal surpluses. The “underlying”<sup>17</sup> operating surplus in the 2002-03 fiscal year doubled to 4.4 per cent of GDP, more than 2½ percentage points higher than had been forecast when the budget for that year was set. The discrepancy reflects higher-than-expected receipts from taxes and SOE and Crown entity profits, while core expenditure slightly overran budgeted levels. The government, along with most forecasters, had been expecting the strongly growing economy to slow to more sustainable rates of growth. There are few signs so far that it is doing so. As described in more detail in Chapter IV, the economy has shown remarkable resilience to the global economic slowdown over the past couple of years. This reflects in part the long-awaited pick-up in the trend rate of productivity growth, but some temporary factors have also played a role. Key factors since 2001 have been high export earnings and an immigration surge. Export

incomes were extraordinarily high in 2001 and early 2002 due to high world prices for its main commodity exports combined with strong volume growth and a significantly undervalued exchange rate. Since then, prices have eased back and the currency has appreciated by nearly 40 per cent in effective terms. However, export earnings of goods and services are still high, and will probably remain so until the majority of foreign currency hedges expire later this year. Farm incomes have fallen by a third, but this follows a 100 per cent increase over the previous three years. The second factor, the immigration surge, has added 1½-2 per cent per annum to the growth rate over the past two years (according to central bank estimates). The migrant influx continues and should stay high for a while yet. On balance, the economy has until recently been growing at an unsustainable pace and much of the observed slowdown in the middle of this year has been due to one-off factors such as the impact of SARS on tourism and a temporary electricity shortage. Labour and capital resources are stretched, and output is most likely above its potential level.

The implication of this economic strength is that it is difficult to assess how much of the fiscal windfall is cyclical, and may therefore evaporate when activity slows. To demonstrate the range of uncertainty, Table 3 presents some illustrative model simulations that show the impact of different economic scenarios on the fiscal accounts. They show, for example, that the surplus might currently have been up to NZ\$ 2-3 billion lower were it not for migration and for the terms of trade spike and the weak exchange rate a couple of years ago. So at least half the surplus is structural. However, the government is also facing spending pressures over the medium term, especially for capital. There is high demand to upgrade infrastructure, especially roads, rail and electricity generation. In addition, around 1½ to 2 per cent of GDP is to be set aside each year to partially pre-fund old-age pensions, expenditure on health care continues to rise inexorably, and the government wants to spend more on income support for low-income and middle-income families as part of a package to improve work incentives. Prudently, however, this latter policy is conditional on the fiscal room being available. Over the longer term, population ageing will put considerable pressure on public finances, although the rise in the old-age dependency rate is projected to occur later than in most OECD countries and should be smaller. Even so, there still appears to be a non-negligible "fiscal gap" over a 50-year horizon if debt levels are not to exceed their currently low level (general government net debt is around 20 per cent of GDP). The gap will be even higher if health care spending cannot be reined in more securely than New Zealand – or indeed any other OECD country – has managed to achieve over the past decade.

## Summary

To sum up, raising productivity growth is by far the most important economic challenge. That involves boosting skills, raising business investment rates,

Table 3. **Alternative fiscal scenarios**Impact on fiscal accounts of different economic scenarios,<sup>1</sup> deviations from baseline, NZ\$ billions

	2000	2001	2002	2003	2004
Unchanged terms of trade <sup>2</sup>					
Current receipts	-0.03	-0.28	-0.54	-0.42	-0.83
Current payments	-0.04	0.11	0.03	0.17	-0.11
Net lending	-0.03	-0.46	-0.94	-0.56	-0.64
Net debt (percentage points of GDP)	0.19	0.65	1.09	1.73	2.33
Unchanged terms of trade and exchange rate <sup>3</sup>					
Current receipts	-0.47	-2.49	-4.49	-3.63	-1.54
Current payments	-0.01	-0.66	-1.64	-2.42	-2.02
Net lending	-0.34	-1.56	-2.64	-1.15	0.46
Net debt (percentage points of GDP)	1.21	3.93	5.44	5.12	4.26
Unchanged terms of trade, exchange rate and migration <sup>4</sup>					
Current receipts	-0.68	-2.81	-4.91	-4.12	-2.06
Current payments	-0.01	-0.70	-1.69	-2.47	-2.03
Net lending	-0.58	-1.84	-3.01	-1.60	-0.05
Net debt (percentage points of GDP)	1.50	4.52	6.35	6.29	5.73
<b>Baseline values</b>					
Net lending (general government)	1.50	2.01	2.65	2.65	2.23
Central government operating surplus (OBERAC) <sup>5</sup>	1.50	2.43	4.17	4.67	4.12
Net debt (percentage points of GDP, general government)	20.9	20.6	18.1	14.8	11.8

1. The table is based on simulations with the OECD's Interlink model. All simulations assume that monetary policy responds to the changed economic conditions.

2. World export and import prices held fixed at their 1999 levels (except for the oil price).

3. As above, but assuming the exchange rate remained at its 1999 level (52.9 US cents to the NZ\$).

4. As for the second scenario, but with no net migration and with household consumption being approximately 1 per cent lower throughout the simulation period.

5. Figures for 2003 and 2004 are government forecasts.

Source: OECD.

attracting foreign direct investment, improving the innovation framework and removing unnecessary regulatory barriers. Becoming a more globally connected economy is an important way of moving forward in each of these areas, and of reducing the possible handicaps of being a small and remote country. The next Chapter takes a selective look at ways to increase productivity growth, concentrating on policies that will help to enhance global linkages. It does not, for example, discuss solutions to the problem of failure in schools, which deserves a chapter in its own right. That is followed by an examination of the role of migration in boosting international linkages, human capital and economic performance. The second

key challenge is to extend to marginal groups the good labour market performance that the majority of New Zealanders enjoy. This is taken up in Chapter IV. Following that are Chapters dealing with the challenges of maintaining fiscal discipline over the medium and long term and ensuring that economic development remains sustainable in the broadest sense. Finally, Table A1 provides an overview of progress on policy recommendations from this and previous *Surveys*.

## Notes

1. Unless otherwise noted, “average” in this *Survey* refers to unweighted averages of the relevant countries.
2. In 1991, output is estimated to have been 6 per cent below potential. Hence, at least 6 percentage points of the growth since then can be attributed to a cyclical bounce-back. However, if potential output fell more sharply than current estimates suggest, perhaps because a significant portion of the capital stock became obsolete, then more of the growth since 1991 could be attributable to a recovery in the sustainable growth rate rather than being cyclical.
3. Several studies using a variety of approaches also confirm that a pickup in the trend rate of productivity growth occurred around the middle of the 1990s. See Razzak (2002), Black *et al.* (2003a) and Buckle *et al.* (2002). Downing *et al.* (2002) provide a range of estimates of potential output growth that are broadly consistent with the Secretariat’s estimates.
4. This projection assumes that the participation rate of each age group remains unchanged at its 2002 level, and implicitly also assumes either zero migration or that migrants have the same participation rates and age composition as the New Zealand-born.
5. In the OECD there are 18 agglomerations in 11 countries that are bigger than Sydney (population 4 million), and 30 that are larger than Melbourne (3.2 million) ([www.xist.org/charts/city\\_million.php](http://www.xist.org/charts/city_million.php)).
6. For example, see McCallum (1995).
7. For most of the 1990s, around one-third of school leavers left with no qualifications or with School Certificate only (Ministry of Education Briefing to the OECD, December 2001).
8. For example, the reading performance of 10 year-olds in the PIRLS (2001) study was equal to the average of the 17 OECD countries that took part, but had the largest variance.
9. For every ten new entrants to high-decile (most advantaged) schools who are competent or expert in maths, seven new entrants to low-decile schools meet the same standards. By senior secondary school, for every ten students from high-decile schools who qualify to enter university, only three from low-decile schools have comparable grades (Ministry of Education, 1999).
10. The inter-quartile range of PISA’s school mean index of economic, social and cultural status is below the mean and median of the OECD. See Table 8.4 of OECD (2001a).
11. Children from the top 5 per cent of Maori and Pacific families as measured by the PISA *International Socio-economic Index of Occupational Status* scored around 500 on the PISA combined literacy scale. That is approximately the same score as children from the bottom 5 per cent of Pakeha families. See Figure 6.1B of Sturrock and May (2002).
12. In terms of gross flows, 1.35 million New Zealanders have left since 1970 with the intention of staying away for at least a year, while 0.7 million have returned (although a



small number of these would have been people who left before 1970). Around 1.1 million foreigners arrived over that period, and 0.5 million left. Note that these figures refer to NZ citizens rather than the New Zealand-born population. Therefore, some of the NZ citizens who emigrated over that period were people born overseas but who later gained NZ citizenship while they were there.

13. Fabling and Grimes (2003) use NZ firm-level questionnaire-based data and find that business performance is strongly correlated with the purchase of external technology and having fully up-to-date core equipment. IT-related factors were found to be considerably more important for small and medium-sized firms than for their larger counterparts.
14. As a rough approximation, road use expands at the same rate as income, so investment levels need to keep pace with GDP (Ingram and Zhi, 1997). In New Zealand, annual investment levels are currently insufficient to cover depreciation and growth in demand. Over the next ten years, expenditure on road building is budgeted to grow by an average 3.3 per cent per annum, well short of the forecast 5 per cent nominal GDP growth (NBNZ, 2003). That projected level of investment could be sufficient to reduce congestion only if those funds get channelled primarily to bottleneck areas by not fully maintaining the under-utilised parts of the road network.
15. The FDI  $\beta$  can be measured by regressing the (log) change of New Zealand's FDI on the (log) change of world FDI. The resulting  $\beta$  coefficient is 0.51 (with a t-value of 1.1) over the period 1980-2001.
16. See, for example, "Red tape worry as firms cut investment", INL Newspapers, 5 May 2003, and "New Zealand rules forcing investors overseas, say fish farmers", INL Newspapers, 30 June 2003.
17. This refers to the OBERAC, or operating balance of the Core Crown (central government) excluding revaluation effects and accounting changes.
18. By contrast, New Zealand has the highest proportion of graduates in life sciences among OECD countries.
19. A Design Industry Taskforce was also set up and has produced its report (2003), which however makes it clear that rather than an industry *per se*, design represents a capability, and design-led firms are present in a variety of different sectors.
20. The tax break resulted from a tax loophole that the government closed in 1998, but which could still be exploited by films which began production before that date. The film producers were allowed to claim an up-front tax deduction for the entire cost of the film trilogy.
21. The average bound tariff (simple average across all lines) is 13.8 per cent, compared with an average of 4.2 per cent in the Quad countries (United States, the European Union and Canada). However, the average applied MFN tariff is much lower, 4.1 per cent (WTO, 2003).
22. Thus, indicators of FDI restrictions that disregard screening requirements put New Zealand's FDI regime among the least restrictive in the OECD. On the other hand, given the difficulty of taking into account the way a screening system is actually implemented, if the very presence of a screening requirement is considered as a restrictive element, New Zealand's regime would be regarded as more restrictive than the OECD average (Golub, 2003).
23. For example, even though Ireland had a corporate tax rate of 10 per cent (12.5 per cent since 2003) against New Zealand's 33 per cent, in 2001 the average effective tax rate on an investment from the United States to Ireland was only 1 percentage point lower

than that of a comparable investment to New Zealand (Yoo, 2003).

24. It has even been suggested (Simmons, 2002) that New Zealand may be functioning as a “nursery economy”, nurturing innovative ideas and small businesses that, however, can only be fully exploited by offshore firms.
25. For residential consumers, one additional factor is that the price of access to low-speed Internet access is maintained artificially low, because under its “kiwi share” agreement with the government, Telecom is obliged to provide a free (unmetered) local calling option, which includes both voice traffic and normal (low-speed) Internet access. Moreover, given that Telecom was offering only metered broadband access, many consumers were probably reluctant to move from unmetered to metered access.
26. There is no general capital gains taxation in New Zealand. Capital gains from equity participations arising in the context of certain arrangements are taxed, while others are not. The key factor is whether holding and trading securities are normal part of an entity’s business: for example, a mutual fund is considered to hold its security portfolio on revenue account and is taxed on any resulting capital gains, while a small investor is not. However, this criterion leaves significant room for interpretation, particularly when new financial arrangements emerge.
27. A survey by the Auckland Chamber of Commerce found that the smallest firms (those with 1-5 employees) devote up to 30 times as much of their resources per employee to compliance as those with 100 employees or more.
28. The Environment Court already has the power to award costs against frivolous objectors.
29. In addition to financing for research projects on a contestable basis, each CRI receives from the FRST a “non-specific” funding top-up equal to 10 per cent of the previous year’s total allocation, whose purpose is to support longer-term capability enhancement. In some cases, CRIs can also bid for government funding for large capital expenditures that they cannot finance out of their own budget.
30. The CRI Act states that each CRI “shall, in fulfilling its purpose, operate in a financially responsible manner so that it maintains financial viability”. This is interpreted to mean that it should recover the full cost of the research performed, including the cost of capital employed (see CCMAU, 2002).
31. Comparable data on tertiary education expenditure exist only for 2001, and for New Zealand they refer only to the public sector component, which is 0.9 per cent of GDP, against an OECD average of 1 per cent of GDP (OECD, 2003d). However, public spending on tertiary education has risen by over 30 per cent between 2001 and 2003, and is probably now above the OECD average.
32. In order to have access to public funding a tertiary education organisation must submit a charter and an annual profile indicating strategic plans, proposed activities and performance targets, which are then assessed by the TEC and have to be found consistent with the objectives of the TES.
33. A review of the course classification system used to set funding categories has been recently undertaken to address some distortions in funding rates that may affect the behaviour of providers and students. However, the government has not taken up the suggestion made by the Tertiary Education Advisory Commission in its fourth report (TEAC, 2001) to differentiate the proportion of public funding across courses and disciplines according to national strategic goals.

34. In addition to this financing managed by the TEC universities, as already mentioned earlier in this chapter, are also eligible for funding allocated by the FRST for specific research projects on a contestable basis.
35. In 2001, foreign students represented 6.2 per cent of all tertiary students enrolled in New Zealand, a proportion above the OECD average, with students from Asia and Oceania representing 80 per cent of the total. The number of NZ tertiary students enrolled abroad was equivalent to 3.5 per cent of domestic enrolment, below the OECD average of 4 per cent; three-fourths of them were studying in Australia and most of the remainder in the United States and the United Kingdom (OECD, 2003d).
36. Another dry weather episode occurred in 1992.
37. In a recent study (Energy Link, 2002), the elasticity of demand for electricity was found to be virtually nil at relatively low prices, and to start rising (in absolute terms) gradually only above a price of 10 cents/kWh (which is about twice the historical average price). Even then, demand would fall by only 2 per cent at 20 cents/kWh and by 6 per cent at 40 cents/kWh.
38. The net cost of contracting for and operating the reserve has been estimated at about NZ\$ 60 million a year, which represents a little over 2 per cent of what New Zealanders spend annually on electricity (at retail prices). Thus, the amount of the levy would not need to be very large.
39. According to the government's recently released *Energy Outlook to 2025* (Ministry of Economic Development, 2003b), new generating capacity for a total of 3 350 MW (relative to a present capacity of 8 700 MW) will be needed by 2025, partly to replace old plants (especially in the years 2006-10) and partly to meet increasing demand. The latter is projected to grow at an annual rate of 1.2 per cent, assuming GDP growth of 2.5 per cent (rather modest relative to both recent experience and official objectives) and gains in energy efficiency exceeding those realised in the recent past. Thus, investment needs could be significantly larger if economic growth is higher and/or the government's National Energy and Conservation Strategy is less successful than projected.
40. Passenger transport was discontinued in the 1990s, except for commuter train services in Wellington and Auckland.
41. Some of this fall is likely to be explained by the change in Australia's welfare policies for NZ citizens in early 2001. Another factor may have been the increased insecurity worldwide following the terrorist attacks of September 2001.
42. The main data on net migration flows concern so-called "Permanent and long-term" migrants. These are people who, on arrival in or departure from New Zealand, declare their intention to remain in their country of destination for more than one year. Such inflows thus include many people with temporary work permits and returning New Zealanders, in addition to those who have obtained a settlement visa, while it is only the latter who are included in the planning totals. Outflows include people emigrating definitively or for "overseas experience" as well as people who have been in New Zealand temporarily.
43. Resident spouses of NZ citizens can apply for citizenship after two years of residence.
44. About 30 000 intended to stay longer than one year, but not permanently (this distinction – that between "permanent" and "long-term temporary" – can be made in the Australian statistics, but not in New Zealand's) and around 17 per cent of these were not NZ-born. In this three-year period, China, Hong Kong, Taiwan and South Korea together provided one in four of the non-NZ-born settlers, one in six of the long-term

- temporary; Pacific Islanders constituted about 20 per cent of the non-NZ-born total flow, and the United Kingdom some 13 per cent.
45. Furthermore, since the changes in Australian welfare arrangements for NZ citizens, arrivals in Australia of NZ citizens born in Asia have fallen much more than those of NZ-born. But no obvious fall in applications to enter New Zealand from Asia has occurred, as would be expected if this were a significant factor.
  46. See L.E.K. Consulting (2001). Although the sample was quite large (1 500 people), it may not be representative of New Zealanders abroad. Little other concrete information is available, however.
  47. International English Language Testing System. This rates English language ability on a scale of 1 to 9 with 1 being a non-user and 9 being an expert user. Principal applicants under the General Skills or business categories are required to take the test if they cannot demonstrate that they have an English-speaking background (*e.g.* by coming from an English-speaking country or having an academic or professional qualification from an English-speaking country); since November 2002 General Skills applicants are required to score a minimum of 6.5 (between “competent” and “good” user), whereas 5 (“modest” user) is required of Business skills applicants, increased from 5 and 4, respectively. Average scores in 2001-02 for successful applicants from various countries were: South Africa 7.0; Philippines 6.6; India 6.4; Romania 6.2; Russia 5.8; China 5.7; Japan 5.6; South Korea 5.5.
  48. Parents, children and adult siblings are admitted subject to various additional conditions. These include requiring the “centre of gravity” of the family to be in New Zealand or, for adult children and siblings, a suitable job offer. NZ residents can also “sponsor” family members not otherwise eligible for entry, guaranteeing them accommodation and financial support for the first two years; this is subject to an annual quota, currently set at 250.
  49. The Pacific Access Category (PAC) includes a quota of 1 100 Samoans a year, allowed entry if they have a job offer and are aged 18-45. Smaller quotas exist for Tonga (250 people), Tuvalu (75) and Kiribati (50, increased to 75 in July 2003); in July 2003, a quota of 250 was introduced for Fiji nationals, not previously eligible under the PAC. Apart from asylum seekers decided on a case-by-case basis, there is a quota of up to 750 people per year for refugees nominated by the United Nations High Commission for Refugees.
  50. This total is the sum of the three streams, but the government intends to treat each stream independently and not compensate for over- or under-runs in one stream by varying admittances under other streams.
  51. The NZ government fears that moves to restrict entry to well-qualified applicants will have an adverse effect on the quality of future applicants, though it is not clear whether empirical evidence supports this. Some research shows that rapid processing times for applications can have an impact on choice of destination country for some migrants. Oliver (2000) finds that Chinese emigrants tend to be indifferent *ex ante* between Canada, Australia and New Zealand, looking basically for physically and politically congenial destinations. New Zealand’s rapidity in processing applications was taken by many as meaning that the country was keen to admit people because it needed them; hence, potential migrants assumed, jobs would be easy to get.
  52. Onshore applicants already working in New Zealand may be exempted from this requirement if they pre-pay for English language tuition, on a scale that varies inversely with their IELTS test score. The partners and adult children of skilled and

- business migrants must also meet English language requirement, a little less strict than for the principal applicant, or else pre-purchase English language tuition.
53. According to Stuart (2000), (Asian) business migrants found that the business plan they submit to the New Zealand Immigration Service is irrelevant and is ignored in New Zealand.
  54. A thorough investigation of applicants' qualifications and work experience will be undertaken only when they apply from the pool.
  55. Larsen and Vincent-Laurin (2002) estimate that revenues due to foreign students were around US\$ 200 million in the year 2000, 4.7 per cent of total NZ services exports. Australia earned ten times as much, almost 12 per cent of services exports, and the United Kingdom and the United States were even bigger earners in absolute terms, but in terms of the importance of such revenue in exports of services, New Zealand was thought to be second only to Australia.
  56. One of the growing areas in education exports is distance learning, the modern version of correspondence courses, where students do not actually leave their home country; direct familiarity with the exporting country is obviously not a by-product in this case.
  57. Seven per cent of all foreign tertiary students in OECD countries in 1999 were from China, and 5 per cent were from Korea. Concerning China, the latest "wave" of student movement from there, and inflows of business oriented migration, contrast with a previous significant movement in the late 19th century, when inflows of unskilled Chinese labour were important in a number of countries – this was the origin of a long-established community of Chinese in New Zealand whose ancestors were involved in New Zealand's gold rush.
  58. In the past, students would often have had to return to their home country and apply from there; this restriction now applies only to students benefiting from scholarships offered under New Zealand's development aid programme.
  59. This instruction may not have been sufficiently clear. There are suggestions that in some cases schools took account only of current operating costs in calculating fees to be charged overseas students and may therefore have overburdened their investment budgets. This practice does not seem to be widespread, however.
  60. One might also compare immigrant arrivals with turnover in the labour force, but it is hard to know what measure is appropriate. For example, in 2001, an average of about 85 000 people obtained jobs in each quarter who had not been working in the previous quarter, compared with an average of 10 to 15 000 immigrants arriving each quarter. This still takes no account of those who change jobs or of higher frequency movements into and out of employment.
  61. A pilot project has been undertaken to set up a longitudinal survey of immigrants ("LisNZ") similar to that which already exists in Australia. Useful results will not be available for several years, although some preliminary results are discussed below. For research purposes it would be helpful to have a parallel longitudinal survey of the NZ-born – one of the limitations of the otherwise extremely valuable Longitudinal Survey of Immigrants in Australia is the lack of directly comparable information on the Australian-born.
  62. As indicators of how well New Zealand integrates its immigrants, these figures do not take into account variations in the characteristics of successive cohorts of immigrants and natives, nor of how each cohort changes through time (notably, it gets older and gains experience on the job relative to the population average), however.

63. Note that these data concern employed people. Since the Pacific Islanders also have relatively high unemployment early on, as discussed in later sections, the relative income of the average recent Pacific Island immigrant will be even lower.
64. In 1991, only 28 per cent of Pacific Island origin people had an upper secondary qualification (62 per cent overall), and the Household Labour Force Survey was not able to report a figure for tertiary education since it was too small compared with the sampling error (see Ministry of Social Policy, 2001).
65. This is consistent with the finding (discussed in Chapter I) that differences in proficiency at school are related to a large extent to ethnic background. Pacific Island immigrants and their NZ-born descendents, who with Maori are the most disadvantaged groups, probably represent a larger percentage of the non-English speaking children than of total immigrant children of NZ-born children of immigrant parents.
66. This survey interviewed a sample of immigrants who arrived or whose application was approved in late 2000 or early 2001; they were interviewed 6 and 18 months after arrival (or after approval in the case of on-shore applications).
67. Information from the Australian longitudinal survey shows that while 63 per cent of immigrants arriving in 1993-95 (principal applicants only) were unemployed or out of the labour force 4-5 months after arrival, this figure falls to 48 and 42 per cent after 1½ and 3½ years, respectively. These figures for Australia varied enormously according to the immigrant category. For skilled migrants the figures were 33, 15 and 11 per cent, respectively, for preferential family migrants (which would include many spouses) they were 69, 56 and 51 per cent.
68. These data have been produced from a LisNZ pilot test and are restricted to a small sample of migrants settling in specific areas, speaking a given set of languages and arriving in New Zealand over a particular two month period (December 2000 and January 2001). Wave 1 of the pilot consisted of 690 migrants and Wave 2 of 540 migrants. Data from this test are indicative only, as they are derived from a sample designed to evaluate the LisNZ methodology, not to produce reliable statistics. The data should therefore be treated with caution.
69. Again, as these are not longitudinal data, the improvements with length of stay are a function of time but also of other possible differences in the characteristics of the different cohorts of immigrants.
70. BERL (2003) uses data from the 2001 census to look at fiscal receipts and public expenditures accounted for by immigrants, distinguishing them principally by length of residence and region of origin, and compares their contribution with that of the NZ-born. Being based on census data, it is not able to look at immigrants according to the programme under which they were admitted, unlike recent work for Australia (Access Economics, 2002). It cannot take direct account of how the contribution varies through time, notably as immigrants age and become likely recipients of greater amounts of pension and health expenditure, and some expenditure estimates for migrants are based on the assumption that they have similar behaviour to NZ-born with similar age and incomes. The authors further note that the results cannot necessarily be seen as the fiscal *impact* of immigrants, since some of these impacts would show up through the effects on revenues and expenditures accounted for by enterprises and by NZ-born people whose position had been affected by migration. Other aspects of the methodology include the assumption that expenditure items not mentioned in Table 14 are invariant with respect to population size. Many items are calculated by applying, for example, statutory tax rates applicable to people as a function of their incomes, in the absence of census data on actual tax payments. For each kind of tax and expenditure item, the

amounts calculated in this way for each population group identified are grossed up in equal proportions so that the overall totals match actual budgetary expenditures and revenues.

71. This view is shared in other traditional “settlement” countries – Australia and Canada, for example – and is based partly on the fact that these populations and societies would not exist in anything like their current form without the substantial and consistent (albeit fluctuating) immigration flows that have continued for more than a century. It is also partly based on the observation that certain “agglomerations” tend to have higher productivity growth rates, with this growth appearing to be associated with high research and development activity. If successful research and development activity itself depends on geographical concentrations – or “critical masses” – of researchers in particular fields, then larger populations are likely to generate higher per capita income growth.
72. For example, a recent empirical study on economies of scale at the whole economy level (Ades and Glaeser, 1999) restricted itself “to the poorer economies where increasing returns seem to operate”.
73. Eaton and Eckstein (1997) suggest little relation between city size and growth in a study of France and Japan. Wheeler (2002) showed a similar result for city data in the United States, but found a U-shaped relationship between population and growth using data on counties.
74. Many immigrants – recent policy measures are likely to make this an increasing proportion – arrive with jobs already set up for them, and thus add to supply almost immediately; the share with jobs of course increases with time since arrival. Once people have jobs, however, they become more creditworthy. If they were credit-constrained before finding employment, they could potentially do even more dis-saving than before, and add more to demand than to supply, even as output rises as immigrants move into employment.
75. The study does not specify precisely what is meant by the short term, though it is less than one year.
76. Some of these inflows were probably accounted for by business immigrants who subsequently placed their “investment” funds on deposit, rather than adding directly to demand. These inflows may also contribute to a rise in the exchange rate, which occurred in the mid-1990s and signs of which have recurred of late. The close link between the fluctuations in these inflows and in migration flows is partly artificial, since the data are estimated on the basis of a link between migration flows and transfers; the transfers are not observed directly. Estimates of current account transfers due to migrants (“workers’ remittances”) are not separately available in the balance of payments data, as the methodology is thought insufficiently reliable to allow their separation from other current flows. They seem to be much less important than the capital flows, however.
77. The differences in share between the two populations are negligible except for construction and agriculture. A survey by NZIS of migrants who arrived in 2000-01 shows larger, but still small, differences for nearly all industries, with the same exceptions of construction and agriculture.
78. See, for example, the 2003 OECD Economic Surveys of Spain and Luxembourg. NZ agriculture employs a number of working holiday makers for seasonal jobs, however. These would not show up in the labour force survey data quoted in the text.



79. New Zealanders abroad are well-known for their use of networks for information; it is unlikely that many of them who move abroad and remain there did not have fairly good information about what to expect when they left. They can therefore be expected to have made a “rational” decision.
80. Or at least their welfare is increased. Many abroad may choose low-skilled or part-time work to benefit from greater leisure but perhaps lower incomes, for part of their stay.
81. This was a non-representative sample of some 1 600 expatriates, contacted, for example, through university alumni associations, employers organisations or New Zealand consulates.
82. The research covered a group of people who graduated from Irish universities in 1992 and were resident in Ireland in 1998. Males who had worked abroad between the two dates had incomes some 10 per cent higher than those who had not. No difference was found for females.
83. The study by Winkelmann and Winkelmann (1998) was commissioned by the government in 1997 to investigate this issue.
84. This includes the planned longitudinal survey of immigrants mentioned earlier.
85. See *e.g.* Chiswick *et al.* (2002), and, for similar results for the United Kingdom, Shields and Wheatley Price (2001).
86. Since this survey did not cover employers who had the ability to take on immigrants but did not, it will be biased towards favourable outcomes if employers select successfully. It was based on a study of 387 employers in 2000-01.
87. See [www.newkiwis.co.nz](http://www.newkiwis.co.nz) and [www.hi-q.org.nz/main/index.html](http://www.hi-q.org.nz/main/index.html)
88. The Auckland Chamber of Commerce believes that as many of 70 per cent of vacancies are not normally advertised but filled through word of mouth, an obvious disadvantage for newly arrived immigrants.
89. Of those who received the unemployment benefit continuously for the two years from October 1997 to September 1999, half stayed on the benefit for the following 12 months, while a little over a quarter left and remained independent. Gobbi and Rea (2002) looked at a cohort of both short-term and long-term unemployed who left the unemployment register in 1993. Half were back on the benefit within a year and 70 per cent were back within four years.
90. In 2003, 83 per cent of long-term (more than one year) unemployment benefit recipients had no dependent children. The proportion is roughly the same for the sickness benefit.
91. See Tables 3.2 and 3.5 of OECD (2002f). The paragraph refers to net (after tax) replacement rates relative to a job paying two-thirds of the average wage (as the majority of beneficiaries who are able to find work are likely to be in a low-paying job).
92. See OECD (2003f) and Blundell (2002) for a more thorough discussion.
93. See OECD (2001d) and Fredriksson and Holmlund (2003) for reviews of the theory and evidence.
94. In June 2003, 4.1 per cent of the population aged 15-64 receiving either a Sickness or an Invalids benefit. This is similar to levels in Germany and Canada, but is well below the OECD average of 5.8 per cent (in 1999). Some countries, such as Poland, Norway, the Netherlands and Sweden have disability rates above 8 per cent of the working-age population. See OECD (2003h).
95. This is based on a University of Auckland Business School survey released in June 2003.



96. In a sample of around 1000 collective agreements struck under the ERA, the Department of Labour (2003) reports that three-quarters of agreements covering two-thirds of employees contained clauses dealing with the sale or transfer of all or part of the business (by law it should be 100 per cent, but there are no penalties for non-compliance). The vast majority of these say that workers that remain employed with the new owner on the same terms and conditions will have no entitlement to redundancy compensation.
97. Germany is the only OECD country where a worker who voluntarily quits in such circumstances would be entitled to redundancy compensation. An EU Directive specifies that staff will continue to be employed on the same terms and conditions, but leaves it up to member states to decide what should happen when someone voluntarily decides not to work for the new owner. In Denmark, severance payments can be received if a worker quits because the change in ownership results in a serious deterioration of his position. See Blanpain and Engels (1998), IPD (1995) and Watson Wyatt (1997) for details on labour law at the EU level and in its member states. The EU Directive referred to is number 77/187 as amended by Directive 98/50. Practice in Australia varies across states, with some providing neither continuity of employment nor the automatic transfer of accrued benefits.
98. Unless otherwise noted, GDP refers to the production-based measure which is regarded as more reliable than the expenditure-based measure.
99. In raw form the surplus was only NZ\$ 2.0 billion (1.5 per cent of GDP), which was slightly below both the previous year's outcome and the Budget forecast, despite much higher revenue growth than expected: a reduction in the assumed discount rate led to a large reduction in the balance because of its effect on the valuation of the government's unfunded pension liability for its employees (NZ\$ 10.7 billion) and of outstanding accident insurance claims (NZ\$ 9.2 billion in gross terms and NZ\$ 4.3 billion in net terms). Higher estimates of long-term labour-cost increases also contributed to the rise in estimated accident insurance claims, as did investment losses and asset devaluations in defence and electricity. Full funding of the accident claims liability is targeted for 2014.
100. Statistics New Zealand has not published any accounts for general government since those for 1997. All such statistics in the text below are OECD estimates.
101. The full government contribution is nearly NZ\$ 1½ billion per year. The Fund is expected to start investing in the final quarter of this calendar year. At mid-year it had assets of NZ\$ 1.9 billion.
102. This figure differs from the government's published net debt estimate as it subtracts off the financial assets of the NZ Superannuation fund.
103. Indeed, if the analysis went further out into the 21st century, the estimated gap would get much larger as the operating balance would deteriorate at an accelerating rate and net debt would rise explosively. Some other countries (such as Denmark) are trying to ensure that their public finances are balanced over a much longer horizon than 50 years.
104. This would go so far as including demographically driven changes, settlements of legal claims and estimated student loan losses. Some pre-specified volatile items will be excluded and covered only in end-of-year assessments. While capital spending will of course be included, it is to be hoped that the revised approach will allow a clearer trade-off between current and capital initiatives.
105. The impact of the latter will need to be limited and largely net out over time, or else the credibility of the process will be at risk.

106. The priority areas for change identified by that review were: "i) Achieving better integrated, people focused, service delivery;... ii) Addressing fragmentation and improving alignment;... [and] iii) Enhancing the people and culture of the state sector..." (Briefing for Parliament, Public Finance (State Sector Management, Bill, p. 4).
107. Crown entities number around 2 780 of which some 2 600 are School Boards of Trustees. The remainder have various forms: some are statutory bodies (the ACC, for example), others are companies (such as the nine Crown Research Institutes) and a few are single-member entities, like the Commissioner for Children.
108. Such a proposal was also made by the State Services Commission (2003).
109. On current prices, without the emission charge, coal-fired plants have a slight economic advantage and would make up 31 per cent of the new 2 200MW to be installed, against 14 per cent for combined cycle gas turbines (Ministry of Commerce, 2000). Even at low levels, the emissions charge could substantially change that balance, as a tax of NZ\$ 13 per tonne (about US\$ 8) of CO<sub>2</sub> would lift the price of coal relative to gas by 9 per cent. This could encourage further exploration efforts as gas fields run out.
110. Leaving the farm sector aside indeed means less emission reductions than what a first-best tax would bring. New Zealand will hence have fewer permits to sell on the international market, which generates negative effects on the terms of trade and on national income. The estimated economic loss is very small, however, at 0.1 per cent of household consumption, because the forecast for the price of permits (NZ\$ 13 per tonne of CO<sub>2</sub>) is very low, in line with the current consensus (see IEA, 2002 and NZIER, 2001a).
111. OECD calculation based on data reported in NZIER (2001b). The NZ\$ 40 figure is drawn from the equalisation of net present values at a discount rate of 10 per cent as indicated in NZIER (2001b). Though NZIER (2001b) mentions a 10 per cent discount rate, it finds a different figure for the threshold because it equalises the respective internal rates of return, a methodology which is not appropriate.
112. Recent national data are not comparable with the previous report on the subject (Ministry of the Environment, 1997). A national update on water quality, which should identify trends over time, is due for public release in early 2004. Such a long interval since 1997 hinders the public from being able to follow the evolution of water quality nationwide. Regional councils, however, issue public reports with comparable data more regularly, which allow some trends to be identified.
113. Having increased by 51 per cent to 3.9 million cows between 1990 and 2002, the dairy herd generates effluent equivalent to that from 52 million people (Poore, 2003).
114. An average of 7 839 such bacteria per litre was found in surface water samples taken at 465 stations in the period 1995-2001, a level suitable for livestock watering but well above the swimmability threshold of 2 000 per litre.
115. *Campylobacter* was found in 60 per cent of water samples taken at 25 sites in a study carried out for the Ministry of Health (2002).
116. Under the RMA of 1991, all discharges of contaminants must have a resource consent from the relevant regional council or be authorised by a rule in a regional plan.
117. This remark is based on conclusions in Statistics New Zealand (2002b), but no data have been reported to the OECD to substantiate it.
118. This estimate includes capital expenditure on sewage collection and treatment but also on drinking water supply and stormwater collection.
119. At the 6-digit Harmonised System level.

120. The Quad countries comprise the United States, the European Union, Japan and Canada.
121. Tariff rates now in the range 17-19 per cent, such as those on textile, footwear and clothing, will decrease to 10 per cent by July 2009. Other rates will fall to 5 per cent by July 2008.
122. New Zealand imports no fresh eggs or poultry and bans all non-pasteurised cheese apart from a closed list of specific cheeses made in Switzerland. Some WTO members have officially expressed their criticism of the requirements that New Zealand imposes on the import of dairy products (WTO, 2003).

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## BASIC STATISTICS OF NEW ZEALAND

### THE LAND

Area (1 000 sq. km)	268.0	Urban population, <sup>1</sup> percentage of total (June 2003)	78.6
Percentage of total pasture and arable land, 1996	49.5	Population of major urban areas (June 2003, 1 000 persons):	
		Auckland	1 199.3
		Wellington	363.4
		Christchurch	358.0

### THE PEOPLE

Resident population, June 2003 (1 000)	4 009.5	Civilian employment, 2002 (1 000)	1 876.8
Inhabitant per sq. km	15.0	<i>of which:</i>	
		Agriculture, forestry and fishing	159.8
		Manufacturing	289.9
		Trade (wholesale and retail)	420.5
		Education, health and community services	310.5

### PARLIAMENT AND GOVERNMENT

Present composition of Parliament:			
Labour Party	52	Present Government : Labour Party	
National Party	27	Next general election: July 2005	
New Zealand First	13		
ACT New Zealand	9		
Green Party	9		
United Future	8		
Progressive Coalition	2		

### PRODUCTION (2002)

Gross Domestic Product (NZ\$ millions)	125 428	GDP per capita (NZ\$)	31 842
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### FOREIGN TRADE (2002)

Main exports (percentage of total):		Main imports (percentage of total):	
Fish and seafood	22.1	Machinery and transport equipment	40.6
Manufactures	20.0	Manufactures	18.7
Dairy produce	16.7	Mineral, chemicals, plastic materials	25.6
Meat	13.8	<i>of which:</i>	
Wood and wood products	11.5	Mineral fuels, lubricants, etc.	9.3

### THE CURRENCY

Monetary unit: New Zealand dollar		Currency unit per US dollar, average of daily figures:	
		Year 2002	2.1633
		November 2003	1.5915

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

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•

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