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New Zealand's Economic Reforms: an assessment

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New Zealand's economic policy between 1984 and 1996 is often hailed as an example of comprehensive supply-side reform that successfully improved the performance of a weak economy. In contrast, this paper presents statistical evidence to show that: (1) New Zealand sacrificed a large volume of real per capita gross domestic product after 1987; (2) its average unemployment rate increased substantially after 1988; (3) labour productivity growth declined after 1992; and (4) the per capita real income of low-income households in 1996 was more than 3% lower in absolute terms than it had been in 1984. The paper concludes that the economic reform programme did not achieve the objectives expected at its launch.

1. Introduction

During the final two decades of the 20th century, nearly all industrial countries engaged in supply-side economic reforms. New Zealand is often hailed as an outstanding example of this trend, and indeed the Reserve Bank of New Zealand recently observed that the reform programme initiated in the mid-1980s 'eventually transformed the New Zealand economy from one of the most interventionist in the OECD to one of the most open and market-based' (Conway & Orr, 2000, p. 8). The extent of the reforms is impressive. Within a year of a change of government in July 1984, interest rates were deregulated, international capital restrictions had been removed, the currency was floating freely in foreign exchange markets and most agricultural subsidies and tax incentives were being phased out. Over the next decade and a half, domestic market regulations were comprehensively reformed in favour of contestability and competition, all import quotas were eliminated and a timetable was set for reducing tariffs to zero by 2006. In 1989, price stability was designated the sole statutory objective of monetary policy (New Zealand was the first country to adopt this reform). In

1991, labour legislation was radically transformed from a corporatist, union-based framework to a decentralised, individual-based contracts system. Since 1994, the Fiscal Responsibility Act has prohibited budget deficits 'on average, over a reasonable period of time'. Approximately US$10 billion worth of state assets were privatised between 1988 and 1999, and all remaining central government trading departments have been restructured along the lines of private sector corporations. Social welfare income support entitlements were significantly cut back in 1991, while income tax rates were reduced in 1996 and again in 1998.

New Zealand economists have for the most part been optimistic about the success of these reforms. It is generally agreed, for example, that there have been substantial improvements in the productivity of many sectors (particularly in the government trading departments that were corporatised or privatised), in the range of goods and services available to consumers (permitted, for example, by reduced import protection), in the flexibility of markets to respond efficiently to economic shocks (including the labour market under the Employment Contracts Act of 1991) and in macroeconomic stability (particularly price stability and fiscal balance, although there remain some concerns about New Zealand's persistent balance of payments deficit). More controversial, however, is the claim by many proponents that the reforms also led to higher growth in economic activity and aggregate productivity, and to lower rates of unemployment and poverty.

Two authoritative studies have been particularly important in promoting this claim for economists outside New Zealand.[1] Listing 'growth, productivity, income distribution and unemployment' as the 'final outcomes' by which the reforms could be evaluated, Silverstone *et al.* (1996, p. 20) acknowledge that the evidence on these four objectives is mixed. Nevertheless, their assessment is 'cautiously optimistic that the reforms have contributed to sustainable economic growth'; they report 'distinctive gains [in productivity] after 1984 across all 21 sectors'; they consider that 'the outcome with respect to unemployment is also surprising, and to some extent, welcome'; and they express a qualified opinion that 'the impact of the reforms on income distribution has been less significant than might have been anticipated'. While acknowledging that New Zealanders have not always been as enthusiastic as overseas commentators about the experience, these authors conclude that 'New Zealand's economic reform process may still rank as one of the more successful by world standards, with the potential to improve economic wellbeing compared to the outcomes from an unreformed economy' (Silverstone *et al.*, 1996, p. 23).

The second study is also positive about these ultimate objectives. Evans *et al.* (1996, p. 1982) report that economic growth between June 1991 and June 1995 'was almost treble the per capita growth rate of the previous 17 years leaving the level of per capita GDP 6.8 percent higher in June 1995 than

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[1] Within New Zealand, Easton (1997) and Hazledine (1998) have provided extensive criticisms of aspects of the reforms; otherwise, the most extensive published critique of the reform programme as a whole has been by an academic lawyer, Kelsey (1997).

it would have been had the pre-1984 growth rate continued'.[2] They also suggest, rather more cautiously, that 'labour productivity growth rose for a period following the ECA [Employment Contracts Act]' while noting that 'employment grew strongly in the post-1991 period indicating that the post-ECA productivity boost was not achieved as a result of a labor shake-out, as occurred prior to 1991' (Evans *et al.*, 1996, p. 1881). Their article recognises 'some evidence of a widening dispersion of household incomes during the period of the benefit cuts and the early response to the ECA' but argues that 'the strong employment growth since 1991 now appears to be favoring lower socioeconomic groups' (Evans *et al.*, 1996, p. 1882). The article concludes: 'After decades of policy errors and investment blunders, New Zealand appears to have finally diagnosed its predicament appropriately and is on a trajectory to maintain its economy as a consistent high performer among the OECD' (Evans *et al.*, 1996, p. 1895).

The purpose of this paper is to present statistical evidence which challenges these optimistic reports of the New Zealand experiment. The first sort of statistical evidence presented draws comparisons with Australia, whose economy has strong structural and other similarities with the New Zealand economy, but whose policy makers adopted a more moderate approach to economic reform in the 1980s and 1990s. This paper shows that New Zealand sacrificed a large volume of real per capita GDP between 1987 and 1998 compared with Australia; that New Zealand's unemployment rate moved from well below that of Australia before 1988 to comparable values thereafter; and that labour productivity growth in New Zealand has been considerably below that of Australia since 1992, after similar rates for the previous 14 years. The second sort of statistical evidence utilised draws on a recent New Zealand study to demonstrate that the per capita real income of low-income households in New Zealand fell in absolute terms between 1984 and 1996.

Section 2 of the paper provides an examination of longer-run annual per capita real GDP data for Australia and New Zealand to justify the use of the former country's experience as a benchmark for New Zealand's reforms. Section 3 then presents quarterly data from 1978 to 1998 to describe how New Zealand's per capita real GDP path fell well below that of Australia after 1987. Section 4 partitions the data of section 3 into its supply-side components, showing that in the first period of the reforms the divergence was due to changes in employment ratios, while in the second period the cause was changes in labour productivity. Section 5 uses results on New Zealand's income distribution reported by Podder & Chatterjee (1998) to demonstrate the loss of real spending power experienced by low-income households after 1984. Section 6 is a brief conclusion.

2. Comparing Australia and New Zealand

Discussions about the impact of the reform programme on ultimate goals such as real economic growth are frequently hindered by disagreements about what is a sensible counterfactual (see, for example, the exchange between Dalziel

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[2] Although note the subsequent exchange between Dalziel (1998) and Evans *et al.* (1998) on the validity of this and some of the other claims made in Evans *et al.* (1996).

(1998) and Evans *et al.* (1998)). A simple comparison of pre-reform and post-reform outcomes is not reasonable, for example, since there is no suggestion that New Zealand would have engaged in *no* reforms had it not embraced the comprehensive programme adopted after 1984. As the head of the OECD Economics and Statistics Department at the time has observed, 'at different stages from the late 1970s onwards, and to an extent that few people anticipated before the event, governments in all [OECD] countries chose to follow broadly a path of market-oriented economic reform' (Henderson, 1996, pp. 7–8). The decision to initiate reforms is not what marked New Zealand's reform programme as unique, but rather its *extent*, as Henderson (1996, p. 13) goes on to explain:

> In no other OECD country has there been so systematic an attempt at the same time (1) to redefine and limit the role of government, and (2) to make public agencies and their operations more effective, more transparent, and more accountable. It is this important extra dimension, as well as the range and scope of reforms that have more obvious counterparts elsewhere, that gives the New Zealand programme its special character.

The question to ask, therefore, is what might have happened if New Zealand had implemented reforms on a scale more commonly accepted in other developed countries. The approach taken in this paper is to take New Zealand's closest OECD neighbour, Australia, as providing a reasonable counterfactual. Not only do Australia and New Zealand share many similarities in economic institutions as former colonies of the UK, but the two countries are united by a free trade agreement and by unrestricted flows of labour and capital across the Tasman. The two economies are not structurally identical, of course, but this section argues that the divergence in per capita real output from the mid-1980s is so large compared with the pattern before 1984 that the qualitative conclusions described in the introduction are easily justified.

Figure 1 presents the relevant data, expressed in natural logs to allow distances on the vertical axis to be interpreted as approximate percentage changes from the base year 1949/50.[3] The top series is Australian data, while the bottom series is New Zealand raw data (the middle series adjusts the New Zealand data in a way that will be explained shortly). These data show a small gap of about 5.5 percentage points emerging between 1949/50 and 1966/67, which had jumped to 15 percentage points by 1968/69. The difference then stabilised and showed some tendency to close, until 1977/78, when there was another large increase, to 21 percentage points. The gap had closed back to 17 percentage points by 1984/85, but then nearly doubled over the next 8 years, to 31.5 percentage points in 1992/93. There was strong growth in New Zealand in

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[3]   All data used in this study are based on official data provided by the Australian Bureau of Statistics or Statistics New Zealand, with three exceptions. Real GDP data for New Zealand from 1949/50 to 1953/54 are taken from Table A.5.1 of Easton (1997, p. 299), where they are described as 'semi-official' and are linked to the official INFOS series SNBA.S2AZAT. The labour force data for New Zealand prior to March 1986 are taken from Chapple (1994). Two Excel spreadsheets containing the annual and quarterly data, and a Word document describing the details of the data sources, are available from the author at his e-mail address (dalzielp@lincoln.ac.nz).
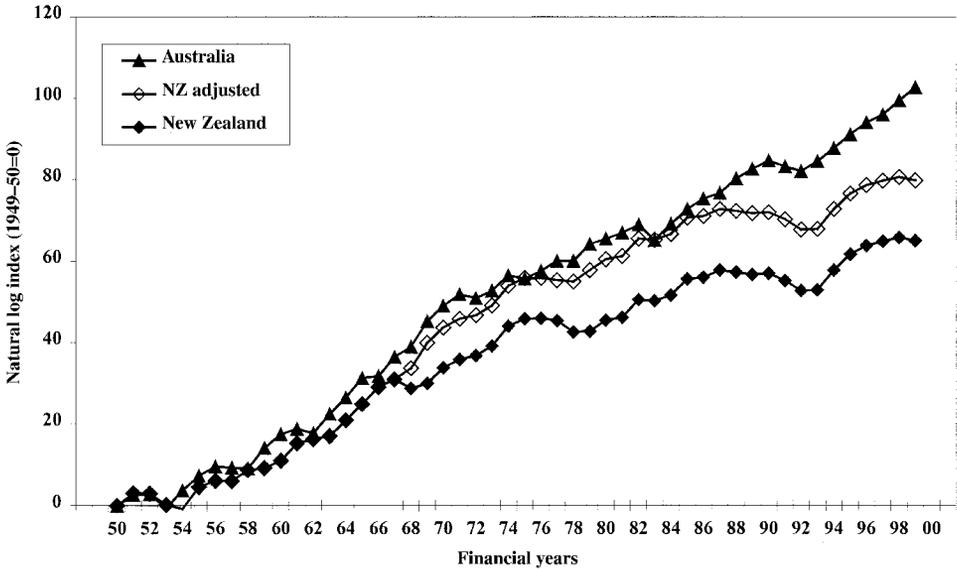
Fig. 1. Per capita real GDP (natural logs), Australia and New Zealand, 1949/50–1998/99.

1993/94, but since then the gap has continued to widen, reaching 38 percentage points in 1998/99.

Thus, in the period between 1949/50 and 1984/85, the two economies grew at similar rates, punctuated by two large, adverse shocks to New Zealand's per capita real GDP in 1967/68 and 1977/78.[4] The causes of the shocks are well understood (see, for example, Dalziel & Lattimore, 1999, chapter 1). First, the international price of wool fell in real terms by over 20% in 1967, and by a further 20% in 1968. Since wool accounted for 30% of New Zealand exports at the time, these events had a profound impact on its terms of trade, and the economy experienced a sharp recession. The early 1970s also saw large fluctuations in the terms of trade. Between 1970/71 and 1973/74, large rises in world commodity prices meant that the terms of trade index rose nearly 50% in just 3 years. A year later, after the first oil shock, the index had fallen back to its 1970/71 value, and it fell a further 15% in 1975/76. Initially, the government sought to offset this impact through expansionary fiscal and monetary policies, but these could not prevent the New Zealand economy from moving into recession in 1976/77 and then contracting sharply in 1977/78.

These observations can be summarised with a simple econometric estimation of the correlation between the Australian and New Zealand series in Fig. 1. Let AUS be the natural log of per capita real GDP in Australia (1949/50 = 0), NZ be the natural log of per capita real GDP in New Zealand (1949/50 = 0), D1 be a dummy variable taking the value of 0 between 1949/50 and 1966/67, 0.5 in 1967/68 and 1.0 thereafter, and D2 be a dummy variable taking the value of 0 between 1949/50 and 1976/77, 0.5 in 1977/78 and 1.0 thereafter. Then an

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[4] Easton (1997, p. 84) makes a similar point with respect to a comparison between New Zealand and OECD average real GDP growth rates.

ordinary least-squares estimation on the data between 1949/50 and 1983/84, allowing for autocorrelation in the residuals ($\rho = 0.458$), produces the following relationship (standard errors in parentheses):[5]

$$AUS = 2.6827 + 9.9390D1 + 5.0069D2 + 1.0257NZ \qquad R^2 = 0.994$$
$$(1.155) \quad (2.207) \qquad (1.785) \qquad (0.065)$$

This estimation suggests a small unexplained gap between the per capita real GDP performance in Australia and New Zealand between 1949/50 and 1983/84 (the value of the constant, 2.68), but approximately 10 percentage points are explained by the wool price shock in the 1960s, and a further 5 percentage points are explained by the shocks of the mid-1970s. More importantly, the estimated coefficient on the NZ variable is not significantly different from 1.0, which supports the view taken here that the Australian performance is a reasonable counterfactual for New Zealand's experience after 1984.

This conclusion gives rise to the adjusted New Zealand data in the middle series of Fig. 1. The adjustment involves incorporating the two shocks in 1967 and 1977 using the dummy variable parameter estimates in the above equation. The raw New Zealand figure for 1967/68 is increased by 4.9695 (half the value for the D1 parameter) and the raw data between 1968/69 and 1976/77 are increased by 9.939 each year. In 1977/78, half the value for the parameter of D2 is incorporated into the adjustment, and for the rest of the series the raw data are increased by 14.9459. Comparing this adjusted series with the Australian series, a steady deterioration in New Zealand's per capita real GDP compared with that of Australia after 1986/87 is clearly visible. The following two sections use quarterly data to examine this deterioration more closely, paying particular attention to its division between labour force factors and changes in labour productivity growth.
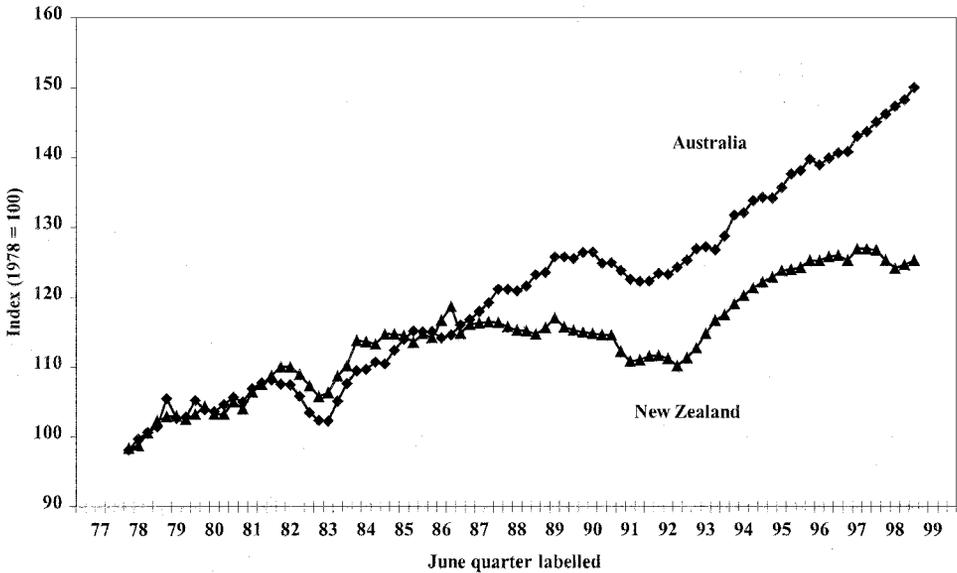
3. Australia and New Zealand, 1978–98

Figure 2 presents quarterly index data for Australia's and New Zealand's per capita real GDP (seasonally adjusted) from March 1978 to December 1998, with both series scaled to equal 100 for the calendar year 1978. The graphs show the two economies following a very similar growth path until the end of 1981. The world recession of 1982 then had a larger impact on Australia than New Zealand, but Australia had made up the lost ground by September 1985. New Zealand experienced a temporary two-quarter surge in GDP in 1986 (associated with the introduction of its indirect tax, the Goods & Services Tax, on 1 October); otherwise, the two series are again similar until June 1987, which marks the beginning of a widening divergence between the Australian and the New Zealand data.

The divergence proceeded in three stages (see Table 1 for a summary). In the first stage, New Zealand's per capita real GDP remained remarkably flat

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[5] Note that this exercise is intended to measure correlation (spurious or otherwise), and not to suggest causation between the dependent and independent variables, which is why no attempt is made here to undertake a cointegration analysis.

Fig. 2. Per capita real gross GDP (seasonally adjusted), Australia and New Zealand, 1978(1)–1998(4).

(apart from another temporary increase associated with the increase in the Goods & Services Tax from 10% to 12.5% in August 1989) while the Australian economy continued to grow. Taking the Australian peak, this stage ended in June 1990. In the second stage, both economies moved into deep and lengthy recessions, with neither country back at its June 1990 level until the March (Australia) or June (New Zealand) quarter of 1993. In the third stage, Australian growth rates were remarkably stable at about 3% per annum, while the New Zealand growth rate steadily slowed and then turned negative with the onset of a short recession in the first 6 months of 1998 (in part because New Zealand demonstrated considerably less resilience than Australia after its first major

Table 1. Per capita real GDP (seasonally adjusted), Australia and New Zealand, June quarters

	Australia		New Zealand	
	Level	Growth (p.a.)	Level	Growth (p.a.)
June 1978	99.7	—	98.8	—
June 1987	118.0	1.9	116.3	1.8
June 1990	126.5	2.3	114.8	− 0.4
June 1993	127.3	0.2	114.8	0.0
June 1998	147.4	3.1	124.2	1.6

p.a., Per annum.

international shock in the post-reform period—the Asia currency crisis beginning in July 1997).[6]

The cumulative effect of this divergence is very large. By 1998, the value of the real output index for Australia in Fig. 2 was 18.5% higher than that of New Zealand. Since per capita nominal GDP in New Zealand that year was NZ$25,980, this suggests that every New Zealander could have received an extra $4806 in 1998 if their country had continued to grow at the same rate as Australia after June 1987. This is a very large figure, amounting to just over $18 billion in the aggregate. Over the entire 1987–88 period, the sum of the Australia–New Zealand differential equals 1.16 times New Zealand's total per capita GDP in 1998; that is, $30,000 per person or $114 billion in the aggregate. These statistics demonstrate that, compared with Australia, New Zealand sacrificed a large volume of real per capita GDP after 1987.

4. Employment Ratios and Labour Productivity, 1978–98

The previous section demonstrated the weak performance of the New Zealand economy compared with that of Australia after 1987. In this section, the per capita real GDP data are partitioned into their supply-side components to address the question of what caused this divergence. In particular, the analysis demonstrates that there were two factors involved, with labour force characteristics being more important between 1987 and 1991, and labour productivity being more important between 1991 and 1998.

As a simple matter of definitions, it is possible to categorise per capita real GDP (denoted Y/P) as follows:

$$\frac{Y}{P} = \frac{Y}{F} \times \frac{F}{E} \times \frac{E}{L} \times \frac{L}{W} \times \frac{W}{P} \tag{1}$$

where Y is real GDP, P is population, F is full-time equivalent employment, E is employment, L is labour force and W is working age population. Thus per capita real GDP is made up of labour force productivity (Y/F), the ratio of full-time equivalent employment to total employment (F/E, which might be called one minus the casualisation rate), the ratio of total employment to the labour force (E/L, which is one minus the unemployment rate), the participation rate (L/W) and the ratio of working age people to the total population (W/P).[7] Figures 3–7 present comparative data for each of these components of per capita output, taken in reverse order.

Figure 3 reveals that New Zealand has a younger population than Australia, in the sense that the proportion of the population aged 15 years and over is

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[6] This last observation has been the subject of critical comment in the *Economist* (6 March 1999, p. 78), which puts the blame on inappropriate monetary policy in New Zealand. Reform of the Reserve Bank of New Zealand in 1989 to give it a single statutory objective of maintaining price stability (in contrast to the Charter of the Reserve Bank of Australia, which also allows an output stabilisation role) was, of course, one of the core components of New Zealand's reform programme.

[7] The last four of these ratios are sometimes grouped together as the employment ratio, E/P; see, especially, Gregory (2000) for a comparison between New Zealand and three other countries (including Australia) using this ratio.
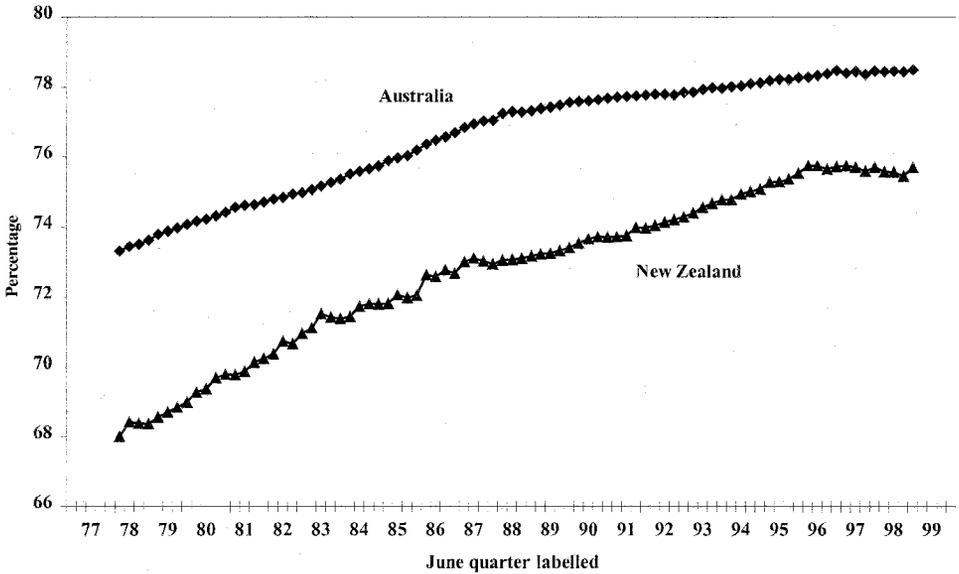
Fig. 3. Ratio of working age population to total population, Australia and New Zealand, 1978(1)–1998(4).

lower. This difference, however, has fallen from 5 percentage points in 1978 to 3 percentage points in 1998, which should have allowed New Zealand to increase its per capita output relative to Australia, everything else staying the same.

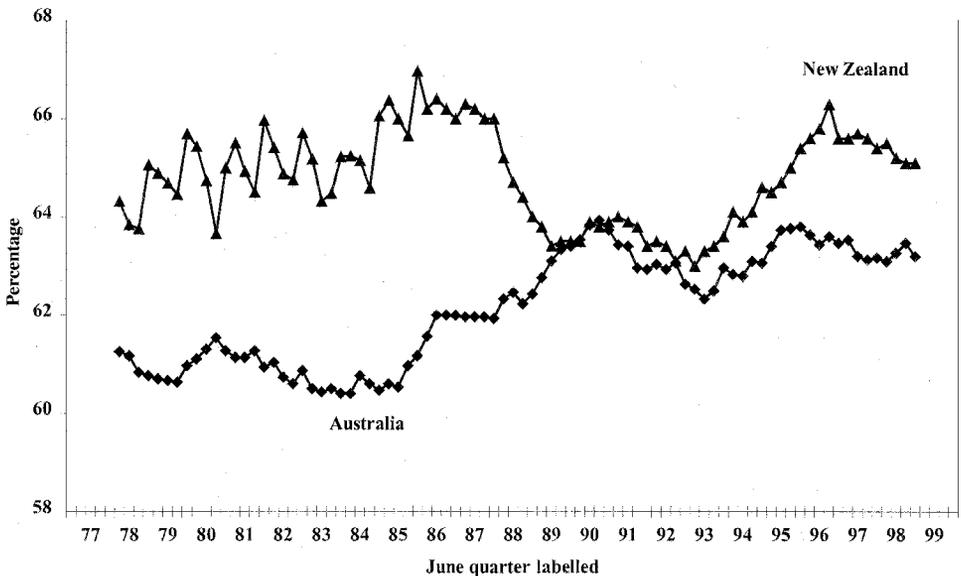Figure 4 shows that in the late 1970s and early 1980s, the participation rate

Fig. 4. Participation rates, Australia and New Zealand, 1978(1)–1998(4).
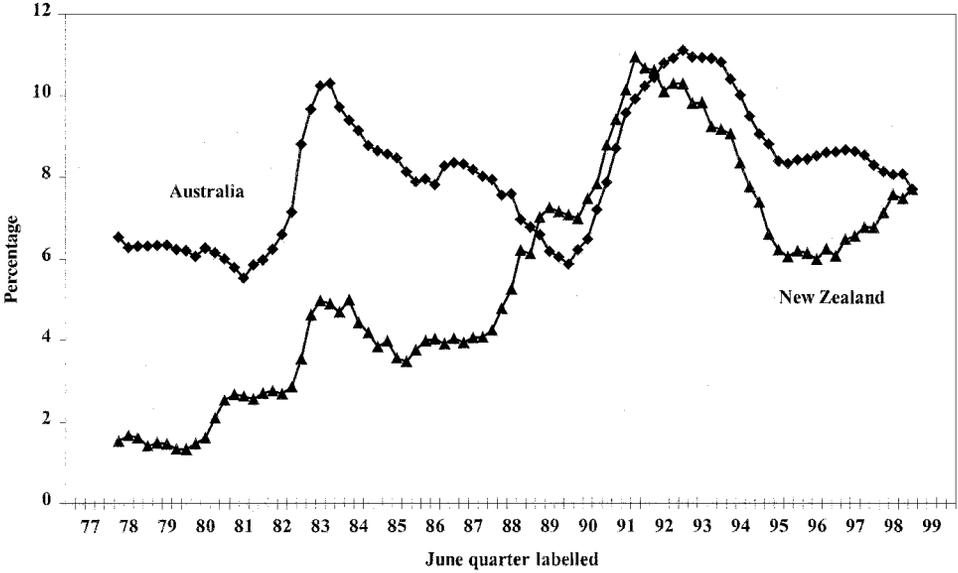
Fig. 5. Unemployment rates, Australia and New Zealand, 1978(1)–1998(4).

in Australia was below that of New Zealand. From 1985, participation rates increased in Australia, while after 1988 they fell in New Zealand, so that this statistic had very similar values in the two countries between June 1989 and September 1992. Since then, a rising participation rate in New Zealand has led to the re-emergence of a positive gap, which again should have allowed New
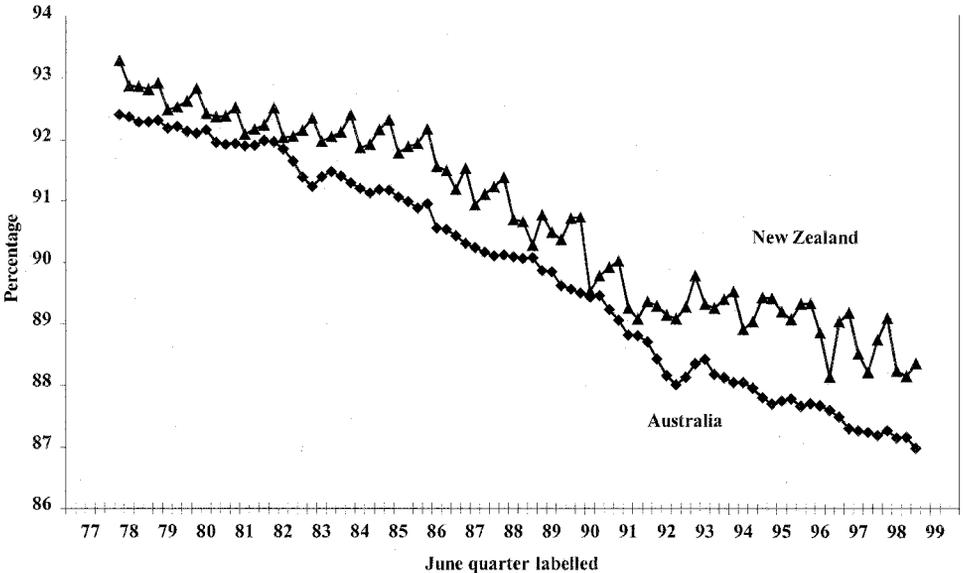

Fig. 6. Ratio of full-time equivalent to total employment, Australia and New Zealand, 1978(1)–1998(4).
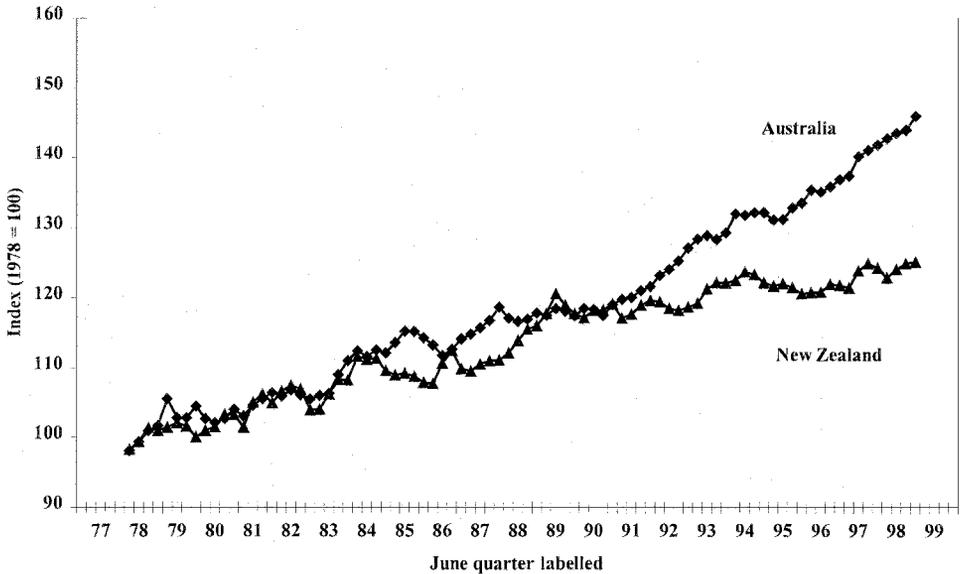
Fig. 7. Labour Productivity, Australia and New Zealand, 1978(1)–1998(4).

Zealand to increase its per capita output relative to Australia, everything else staying the same.

At the beginning of the series in Fig. 5, the unemployment rate in New Zealand was about 1.5%, compared with about 6.3% in Australia. Over the next decade, rising unemployment in New Zealand saw the two series converge at the end of 1988, and follow a similar pattern from 1989 to 1991. Unemployment was generally below Australian unemployment after 1991 until the very end of the sample, but not by as much as in the period before 1988. Thus, New Zealand's average unemployment rate moved from being well below that of Australia before 1988 to comparable values thereafter.

Figure 6 shows that both countries have experienced an increase in the proportion of part-time work (implying a falling ratio of full-time equivalent to total employment). The New Zealand data, which are not seasonally adjusted, are a little higher than the Australian data, and if anything this gap has increased slightly over the sample period.[8] Once more, this should have allowed New Zealand to increase its relative per capita output, everything else staying the same.

The most surprising data are in Fig. 7, which shows real GDP divided by the number of full-time equivalent workers employed, rescaled so that the 1978 calendar year values equal 100. From March 1978 to September 1984, the two series are almost indistinguishable. For the next 4 years, New Zealand's labour productivity index lies below that of Australia (except for the quarters affected by the introduction of the Goods & Services Tax in the middle of 1986), but

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[8] Note that the Australian definition of part-time employment refers to between 1 and 34 hours per week, whereas in New Zealand the definition is between 1 and 29 hours per week.

Table 2. Share of aggregate income, New Zealand, 1983/84–1995/96

Decile	1983/84 (%)	1991/92 (%)	1995/96 (%)
Lowest 10%	2.05	1.63	1.71
Second	4.25	3.87	3.73
Third	5.45	5.15	4.82
Fourth	6.56	6.27	5.79
Fifth	7.57	7.37	6.88
Sixth	8.85	8.55	8.26
Seventh	10.55	10.29	10.09
Eighth	12.94	12.85	12.61
Ninth	16.16	16.62	16.47
Top 10%	25.62	27.39	29.61
Gini coefficient	0.353	0.382	0.404

Source: Podder & Chatterjee (1998, table 1).

catches up by the beginning of 1989. The series are then indistinguishable again until December 1990, after which labour productivity growth falls away in New Zealand compared with Australia (especially after December 1991). Over the last 8 years of the sample, the gap increased substantially, so that between 1990 and 1998 workers in Australia increased their productivity by 21.9 percentage points whereas the increase in New Zealand over the same period was only 5.2 percentage points. Figure 7 shows that since 1992 labour productivity growth in New Zealand has been considerably below that of Australia, after similar rates for the previous 14 years.

This observation raises profound questions for New Zealand policy makers about the effectiveness of labour market reforms intended to raise labour productivity.[9] The Employment Contracts Act of 1991 radically decentralised employer–employee negotiations, and led to significantly lower unionisation rates among the New Zealand workforce. Nevertheless, the introduction of the Act appears to have marked the end of a long period of strong comparability between New Zealand and Australian labour productivity growth, to New Zealand's great disadvantage. Recognition of this fact was one of the consider-ations leading a new Labour-led coalition government (elected in late 1999) to replace the Act with the more corporatist Employment Relations Act of 2000.

5. Income Distribution, 1984–96

There is general acceptance that income inequalities in New Zealand widened after the introduction of the reforms.[10] Podder & Chatterjee (1998), for example,

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[9] See, for example, Maloney (1998) and Lawrence & Diewert (1999) for recent examinations of this question.
[10] See for example, Mowbray (1993), Saunders (1994), Krishnan (1995), Stephens *et al.* (1995), Easton (1995, 1996), Dixon (1998), Statistics New Zealand (1999) and Stephens (1999). Some economists have argued that this might not be true for lifetime incomes; see especially Barker (1996) and Creedy (1997).

Table 3. Per capita real GNP, New Zealand, 1983/84–1995/96

	1983/84	1991/92	1995/96
GNP (NZ\$ million)	33,564	67,853	85,734
GDP deflator (1991/92 = 100)	51.55	100.00	108.05
Real GNP (1995/96 NZ\$ million)	70,356	73,314	85,734
Mean population (thousands)	3231	3416	3597
Per capita real GNP (1995/96 NZ\$)	21,778	21,462	23,833

Source: Row 1 comes from Statistics New Zealand's data series SNBA.SA9. Row 2 comes from Dalziel & Lattimore (1999). Row 3 is calculated from rows 1 and 2. Row 4 comes from series DPEA.SBIC. The final row is calculated from rows 3 and 4.

have used unit record data from Statistics New Zealand's Household Economic Survey to show that the Gini coefficient of income inequality increased in New Zealand from 0.353 in 1983/84 to 0.404 in 1995/96. Their study sought to document changes in income *shares*, but to see how the lowest-income households fared it is necessary to calculate also the changes in the absolute average income received by each decile. This can be done using Podder & Chatterjee's (1998) decile income share data reproduced here in Table 2.

Podder & Chatterjee's (1998, pp. 11–12) method involved assigning each individual of the population with the per capita income of their household, and then ranking all individuals from lowest to highest income. If s_i denotes the income share of decile i, if y_i is the per capita income of all individuals in decile i and if y is the aggregate per capita income of all deciles, then it is easily shown that:

$$y_i = s_i y/0.1 \qquad (2)$$

The next step is to calculate aggregate per capita income, y, for each of the three years in Podder & Chatterjee's (1998) study. Because income rather than output is being analysed, gross national product (GNP) is the more appropriate macroeconomic variable to use, rather than GDP. Table 3 presents the calculation of per capita real GNP used in this paper. This statistic actually fell in value between the 8 years of 1983/84 and 1991/92, confirming the substantial sacrifice entailed by the reforms. By 1995/96, it had recovered to a level 9.4% above its 1983/84 level.

Table 4 presents the changes in average real incomes calculated using Equation (2) and the data in Tables 2 and 3. There was a substantial shift in New Zealand's income distribution during the reform period. First, the lowest income deciles suffered a large loss of income during the depths of the recession in the early 1990s. The average income of the lowest decile in 1991/92 was 21.6% lower than in 1983/84, and that of the second decile was 10.3% lower. These two groups shared in the post-1991/92 recovery, but by 1995/96 their average incomes were still 8.7% and 4% lower than in 1983/84. Secondly, half of the New Zealand distribution had lower real incomes in 1995/96 than before the start of the reforms, and for 40% of the distribution the loss of income was greater than 3%. These data support reports by a wide variety of community

Table 4. Average per capita real income, New Zealand, 1983/84–1995/96

Decile	1983/84, measured in 1995/96 $	1991/92, measured in 1995/96 $	Percentage change from 1983/84	1995/96, measured in 1995/96 $	Percentage change from 1983/84
Lowest	4464	3498	− 21.64	4075	− 8.71
Second	9256	8306	− 10.26	8890	− 3.95
Third	11,869	11,053	− 6.88	11,487	− 3.21
Fourth	14,286	13,457	− 5.81	13,799	− 3.41
Fifth	16,486	15,817	− 4.06	16,397	− 0.54
Sixth	19,273	18,350	− 4.79	19,686	2.14
Seventh	22,976	22,084	− 3.88	24,047	4.66
Eighth	28,181	27,578	− 2.14	30,053	6.65
Ninth	35,193	35,670	1.35	39,253	11.54
Top 10%	55,795	58,784	5.36	70,569	26.48

Source: Calculated from the data in Tables 2 and 3 using Equation (2).

groups in New Zealand during the 1990s that poverty and social exclusion have caused widespread problems, particularly among low-income households with children (confirmed by Stephens *et al.*, 2000, p. 31). Finally, Table 4 shows that large gains were made at the top end of the income distribution during the recovery that peaked in 1995/96. Compared with 1983/84, the average income of the top 10% had increased by more than one-quarter (26.5%).

Note carefully that this result does not simply say that the income distribution in New Zealand widened during the course of its economic reforms. As is well known, income distribution dispersion is a global phenomenon (see, for example, Dixon, 1998; Easton, 1996). In New Zealand, however, it appears to have been accompanied in the 1980s and 1990s by a significant fall in the *absolute* amount of real purchasing power by the lowest-income groups. At the beginning of the reform process in New Zealand, a government-sponsored Economic Summit Conference (ESC) agreed unanimously that the costs of economic adjustment 'should not be borne by the relatively disadvantaged', but 'policy should aim to minimise the impact of social and economic dislocations on vulnerable groups and communities' (ESC, 1984, p. 304). The data reveal that these objectives were not achieved.

6. Conclusion

Evans *et al.* (1996, p. 1895) concluded their review of New Zealand's reforms with the comment that 'New Zealand once again appears to be emerging as a laboratory from which results will animate economic debate and policy throughout the world'. The present paper reports from the laboratory that the New Zealand experiment did not succeed, despite achieving greater microeconomic efficiency in some industries and obtaining its intermediate objectives of price stability and fiscal balance. Examining the ultimate objectives of the reforms,

this paper has shown that: (1) New Zealand sacrificed a large volume of real per capita GDP after 1987; (2) its average unemployment rate increased substantially after 1988; (3) labour productivity growth declined after 1992; and (4) the per capita real income of low-income households in 1996 was more than 3% lower in absolute terms than it had been in 1984.

Stoic defenders of the reforms can always argue that New Zealand's economic performance might have been even worse if it had not embarked on the comprehensive programme of reforms in 1984, or if it had implemented reform at a slower pace in line with other OECD countries. Such counterfactuals can never be disproved, of course, but it should be emphasised that the reforms were launched with very different objectives in mind. The Economic Summit Conference convened in September 1984 to endorse the necessity for reform began its unanimously approved communiqué with the following observation (ESC, 1984, p. 302):

> Participants were aware of two seemingly contradictory facts. New Zealand has abundant resources to realise the reasonable economic and social objectives of all its people. Despite that, these aspirations have not always been fulfilled. There is an unacceptable level of poverty. There are people in our community who have major difficulties with housing, health care, and meeting essential family needs. This failure to match resources and performance has not been a short term problem but rather a feature of the New Zealand economy for the last thirty years.

The hope in 1984 was that economic reform would reverse this trend of the previous 30 years. Seventeen years later, with higher unemployment and lower real incomes at the bottom end of New Zealand's income distribution, it is clear that the comprehensive reforms of the late 1980s and early 1990s did not achieve that core objective.

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