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November 11, 1996

To: Members of the Executive Board
From: The Associate Secretary
Subject: **New Zealand - Selected Issues and Statistical Appendix**

This paper provides background information to the staff report on the 1996 Article IV consultation discussions with New Zealand, which was circulated as SM/96/269 on October 29, 1996.

Mr. Op de Beke (ext. 38576) or Mr. M. Stone (ext. 36532) is available to answer technical or factual questions relating to this paper prior to the Board discussion.

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INTERNATIONAL MONETARY FUND

NEW ZEALAND

Selected Issues and Statistical Appendix

Prepared by Mark Stone, Michael Sarel, and Anton Op de Beke (SEA)

Approved by the Southeast Asia and Pacific Department

November 7, 1996

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New Zealand: Basic Data, 1992/93-1996/97

(Annual average percent change, years ending March, unless otherwise indicated)

Land area: 270,500 square kilometers
Population (1995): 3.6 million
GDP per capita (1995): US\$15,000

	1992/93	1993/94	1994/95	1995/96	Proj. 1996/97
Output and prices					
Real GDP (production basis)	1.2	6.2	5.2	2.8	2.5
Consumer price index	1.1	1.4	2.4	3.3	2.3
Underlying inflation (end of period)	1.8	1.1	1.9	2.1	2.0
Unemployment rate (end of period)	10.2	9.5	6.9	6.5	6.9
Investment and savings (in percent of GDP)					
Total investment	17.6	20.2	21.8	22.6	22.4
National savings	15.9	18.9	17.9	18.4	17.9
Foreign savings	1.7	1.3	3.9	4.1	4.5
Public finance (in percent of GDP; June year)					
Operating balance	-1.0	0.9	1.9	4.2	2.9
Revenue	38.7	36.0	36.4	39.4	38.3
Expenditure	39.8	35.1	34.5	35.2	35.4
Money and credit (in percent)					
Private sector credit (year-on-year change)	8.8	12.3	7.8	14.6	15.0 1/
Broad money (year-on-year change)	6.2	6.6	6.7	12.0	15.0 1/
Interest rates on bank bills (90 days)	7.2	5.4	9.4	8.9	9.9 2/
Government bond yields (5 years)	7.2	6.0	8.5	8.2	8.1 2/
Balance of payments (\$NZ billion)					
Trade account	3.4	3.1	2.1	0.9	0.9
Exports	18.6	19.5	20.6	20.2	21.1
Imports	15.2	16.4	18.5	19.3	20.1
Current account	-1.3	-1.0	-3.3	-3.6	-4.2
(In percent of GDP)	(-1.7)	(-1.3)	(-3.9)	(-4.1)	(-4.5)
Official reserves	6.2	6.9	6.3	6.8	9.3 2/
External debt (in percent of GDP, end of period)					
Official debt	31.5	32.8	27.6	25.0	20.2
Total debt	91.5	91.5	82.7	80.9	76.1
Debt-service ratio	14.7	14.1	9.9	11.3	10.7
Exchange rate (calendar-year average)					
Exchange rate regime:	Freely floating				
U.S. dollar/New Zealand dollar	0.538	0.541	0.594	0.656	0.696 2/
Nominal trade-weighted index (June 1979=100)	53.7	54.9	57.2	61.1	66.7 2/
IFS - Nominal effective exchange rate (1990=100)	88.9	93.7	100.2	105.2	112.6 3/
IFS - Real effective exchange rate (1990=100)	85.8	89.1	94.4	99.9	106.9 3/

Quota = SDR 650.1 million

Sources: Data provided by the New Zealand authorities; IMF, International Financial Statistics; and staff estimates.

1/ July 1996.

2/ September 1996.

3/ August 1996.

I. GROWTH AND PRODUCTIVITY IN NEW ZEALAND¹

A. Introduction

The growth performance of the New Zealand economy was impressive during the last five years, both relative to its own historical experience and to other developed economies. It is widely accepted that this success can be attributed to ambitious economic policies, characterized by a decade-long pursuit of policies aimed at macroeconomic stability, in combination with comprehensive structural reform in a framework of transparency.

Accounting for the composition of economic growth in New Zealand is important for at least three reasons. First, this allows a better understanding of the growth process in recent years (and, perhaps, allows a better assessment of the effects of the policies and reforms that influenced it). Second, it allows a better comparison of the performance of New Zealand with other economies. Third, it lays the foundations for a more accurate analysis of the growth potential of New Zealand, a very important tool in the framing of successful financial policies.

This note, based on a traditional growth accounting exercise, reviews the performance of New Zealand and compares its growth rates of output, inputs, and total factor productivity (TFP) during the 1978–96 period to ten other economies (five ASEAN and five OECD).² In contrast to most other recent studies of growth and productivity, this study applies a common methodology across countries, not only for the growth accounting exercise itself, but also to derive the key variables used in the exercise. National data sources are used only for the most basic data. Because this study applies an “equal treatment” to a large set of economies, we believe that it does a better job, compared to previous studies, in generating meaningful results that can be interpreted, analyzed, and compared across countries.

The specific data used for New Zealand are based on the new national accounts (re-based to 1991/92 prices), published in June 1996. The only specific assumptions used in the context of New Zealand are with regard to its estimated real growth rate of GDP, investment, and population in the calendar year 1996: 2.5 percent for GDP growth, 4.3 percent for investment growth, and 1 percent for population growth. For the other OECD economies, we use data estimated by IMF staff for the latest World Economic Outlook.

B. Growth Accounting Exercise

The different steps of the growth accounting exercise are summarized in Figures 1–15. In most of the figures, the data and the results for New Zealand are compared to five ASEAN

¹This appendix was prepared by Michael Sarel.

²The main assumptions, terminology, and methodologies used in this exercise are discussed in the annex.

economies (in the top panel) and to five OECD economies (in the bottom panel). Figures 1–6 display the basic data used in the exercise (and their growth rates during the period 1978–96), the output per person (based on 1985 purchase power parity (PPP) dollars, calculated in Penn World Tables, and extrapolated to 1996); the capital stock per person (based on accumulated investment, calculated in 1985 PPP dollars in Penn World Tables, and extrapolated to 1996); and effective labor per person (based on estimated effects of demographic dynamics). Figure 7 describes the relative shares of eight of the major types of economic activities in New Zealand (the share of the smallest activity, mining, is equal to the residual). These shares are used in order to calculate the technological capital share (α), which is assumed to be a function of the industrial structure of the economy. The capital share, as well as the output/capital ratio and the marginal product of capital, are described in Figure 8. Figures 9–11 compare these three values for the year 1996 to the other ten economies in the sample. Figure 12, one of the key results of the growth accounting exercise, presents the composition of growth rate for New Zealand to growth in inputs and growth of TFP. Figures 13–15 compare across countries the growth rate of TFP for three periods: the full sample period (1978–96), the latest 10-year period (1986–96) and the latest 5-year period (1991–96).

C. Main Results

The main results of the growth accounting exercise are described in Table 1. Panel (a) of that table describes the results for the full period studied (1978–96), while panel (b) concentrates on the most recent 5-year period (1991–96). The growth rate of output per person is decomposed into: the growth rate of capital per person (caused by accumulated investment), the growth rate of effective labor per person (caused by demographic dynamics), and the growth rate of TFP. For the full 18-year period, the table shows that, on all counts, the performance of the New Zealand economy was not significantly different than other OECD economies, but much below the ASEAN performance (with the notable exception of the Philippines). The growth rate of output per person (1.4 percent) can be attributed more or less equally to capital accumulation, demographic dynamics, and TFP growth.

For the latest 5-year period, the growth rate of output per person of the New Zealand economy increased significantly (to 3 percent), surpassing the growth rates of all the OECD economies in the sample. This happened despite the fact that the accumulation of capital and the demographic dynamics in New Zealand did not change much from the earlier period. The New Zealand success in the later period can be fully attributed to a very impressive growth rate of TFP, which not only increased compared to the earlier period, but exceeded the growth rate in all other OECD economies, and equaled the growth rate of TFP in Indonesia, Malaysia, and Thailand.

D. Estimating Potential Growth

The growth accounting exercise and its main results do not offer a simple way to estimate the potential rate of growth of the New Zealand economy for the medium and long term. There are two main problems with such an estimation, one general, and one particular to New Zealand.

The general problem is that any such exercise is necessarily based on a mechanical extrapolation of past trends of TFP growth to the future, without fully understanding the determinants of growth in the past and of their future prospects.

The problem particular to New Zealand is that it is entirely unclear what the past trends are. In terms of the average economic performance, the latest 5 years are very different than the latest 18 years, and even more different than the latest 10 years. This can be most easily seen in Figure 12 (in a time-series fashion), and in Figures 13–15 (in a cross-country fashion). The main question, of course, is whether the period 1991–96 represents a temporary episode or a permanent shift of the New Zealand economy to a higher rate of TFP growth. The fact that during the previous 5-year period, 1986–91, TFP growth was extremely low (even by historical standards), makes this problem even more difficult.

One possible way to address this problem is to test if the rate of TFP growth increases over time. Table 2 presents the results of an OLS regression that tests the hypothesis that the growth rate of TFP had not changed in a systematic way during the 1978–96 period. The results of the regression cannot reject this hypothesis, indicating there is no evidence of a systematic increase in the growth rate of TFP.

Another approach to the “past trends” problem is to present the extrapolations of TFP growth for both 1991–96 and 1978–96 periods. This solution is far from being perfect, but the combination of these two extrapolations provides some indication of the bounds of potential growth. Table 3 summarizes the two estimates. To calculate potential growth rates, it is assumed that the rate of capital accumulation is endogenously determined, as in the standard neoclassical growth model, and that the economy is in a steady state (the output/capital ratio is constant).³ The long-run growth rate of the economy is, therefore, equal to the sum of three components: the TFP growth rate divided by the share of labor in the production function; the growth rate of effective labor per person; and the growth rate of population. The effective labor supply per person is estimated to grow at the rate of 0.339 percent (the average rate of the estimated demographic dynamics effects during the period 1995–2025), while the growth rate of population is assumed to be 0.601 percent (the World Bank’s forecast for the period 1995–2025). Adding these components, we obtain estimated rates of potential growth of 1.7 percent (in the case of an 18-year period extrapolation) and 4.1 percent (in the case of a 1991–96 extrapolation).

E. Conclusions

The growth accounting exercise reveals that the growth rate of output, inputs, and TFP in New Zealand, during the period 1978–96, was similar to those in other OECD economies, and lower than in most ASEAN economies. During the latest 5-year period, however, the New Zealand economy experienced a more impressive growth rate. The increase

³The estimated output/capital ratio was roughly constant during the 1978–96 period, fluctuating (with the business cycles) in the range 0.28–0.32. The estimated ratio for 1996 is 0.293.

in the growth rate of output per person, relative to the earlier period, can be fully attributed to a higher growth rate of TFP. Because it is not clear yet if this recent performance is a temporary or a permanent phenomenon, it is extremely difficult to assess the prospects of the New Zealand economy in the future. Some crude calculations suggest that the potential growth rate of the economy is in the range of 1.7–4.1 percent.

Table 1. Growth Accounting: Contributions to Growth
in Percent per Annum (and as Percent of Growth of Output per Person)

(a) 1978-96 Average

	Output per Person	Capital per Person	Effective Labor per Person	TFP
New Zealand	1.37 (100)	1.54 (36)	0.59 (30)	0.47 (35)
Indonesia	4.74 (100)	8.97 (62)	0.93 (13)	1.16 (25)
Malaysia	4.54 (100)	6.86 (47)	0.58 (9)	2.00 (44)
Philippines	0.19 (100)	1.80	0.62	-0.78
Singapore	5.46 (100)	6.73 (41)	1.06 (13)	2.49 (46)
Thailand	5.24 (100)	7.32 (41)	1.51 (21)	2.03 (39)
Australia	1.58 (100)	1.31 (27)	0.52 (22)	0.80 (51)
France	1.34 (100)	1.89 (43)	0.36 (19)	0.51 (38)
Japan	2.84 (100)	4.39 (44)	0.66 (17)	1.11 (39)
United Kingdom	1.78 (100)	1.71 (31)	0.21 (8)	1.09 (35)
United States	1.07 (100)	1.63 (44)	0.43 (28)	0.29 (27)

(b) 1991-96 Average

	Output per Person	Capital per Person	Effective Labor per Person	TFP
New Zealand	3.00 (100)	1.79 (20)	0.45 (10)	2.11 (70)
Indonesia	5.11 (100)	6.98 (44)	0.96 (13)	2.20 (43)
Malaysia	5.35 (100)	8.25 (50)	0.97 (12)	2.00 (37)
Philippines	1.63 (100)	1.15 (21)	0.87 (38)	0.67 (41)
Singapore	6.21 (100)	6.11 (34)	0.77 (8)	3.58 (58)
Thailand	6.51 (100)	11.13 (50)	1.37 (15)	2.25 (35)
Australia	2.50 (100)	0.91 (12)	0.47 (13)	1.88 (75)
France	0.80 (100)	1.36 (54)	0.33 (28)	0.14 (17)
Japan	0.82 (100)	4.09	0.40	-0.63
United Kingdom	1.69 (100)	1.38 (26)	0.16 (6)	1.15 (70)
United States	1.26 (100)	1.19 (27)	0.43 (25)	0.61 (49)

Table 2. Testing the Existence of Time Trend in the Growth Rate of TFP 1/

Adjusted R ²	-0.0624
Constant	0.436 (0.398)
Time Trend	-0.00443 (-0.0403)

1/ Dependent variable is the annual percentage change in TFP, the time trend is defined as t minus 1996, the number of observations is 18, and t-statistics is in parentheses.

Table 3. Estimating the Growth Potential of the New Zealand Economy

	Full-Period Extrapolation	Latest 5-Year Period Extrapolation
TFP growth	0.473	2.108
Capital share	0.336	0.336
Effects of TFP growth	0.712	3.175
Demographic effects	0.339	0.339
Population growth	0.601	0.601
Total estimate of potential growth	1.652	4.115

Figure 1 (a)
New Zealand and ASEAN economies
Output per Person, 1978-96

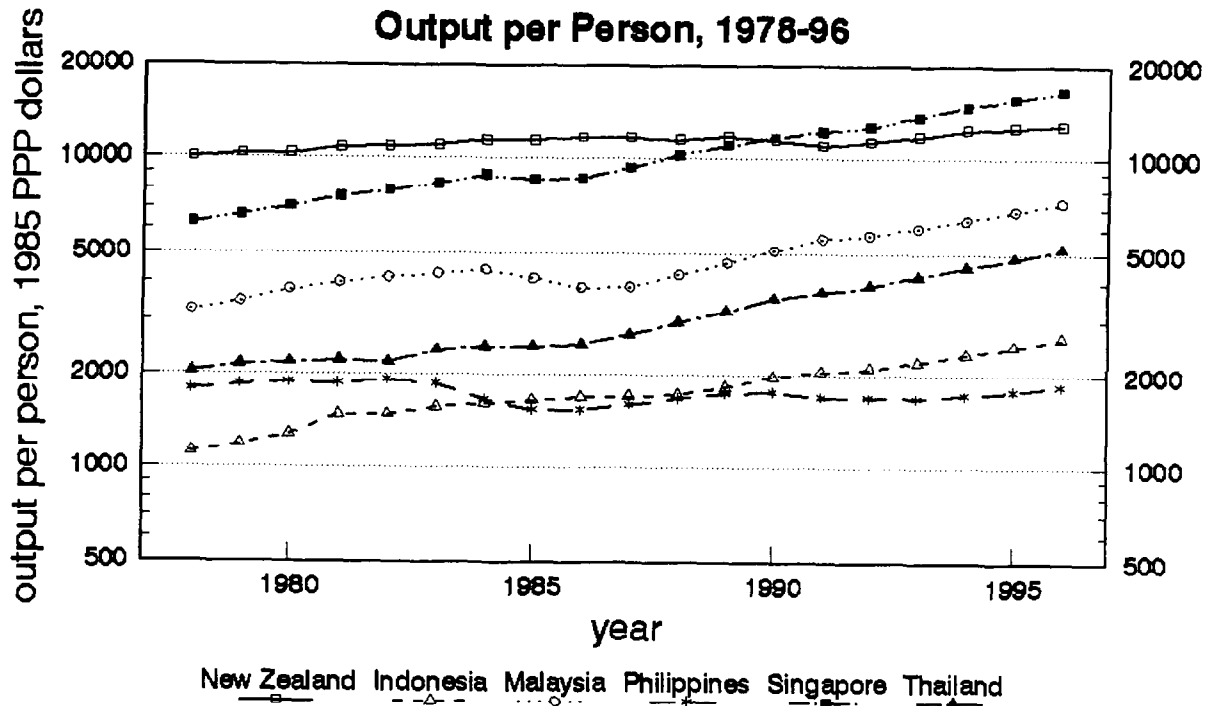


Figure 1 (b)
New Zealand and OECD economies
Output per Person, 1978-96

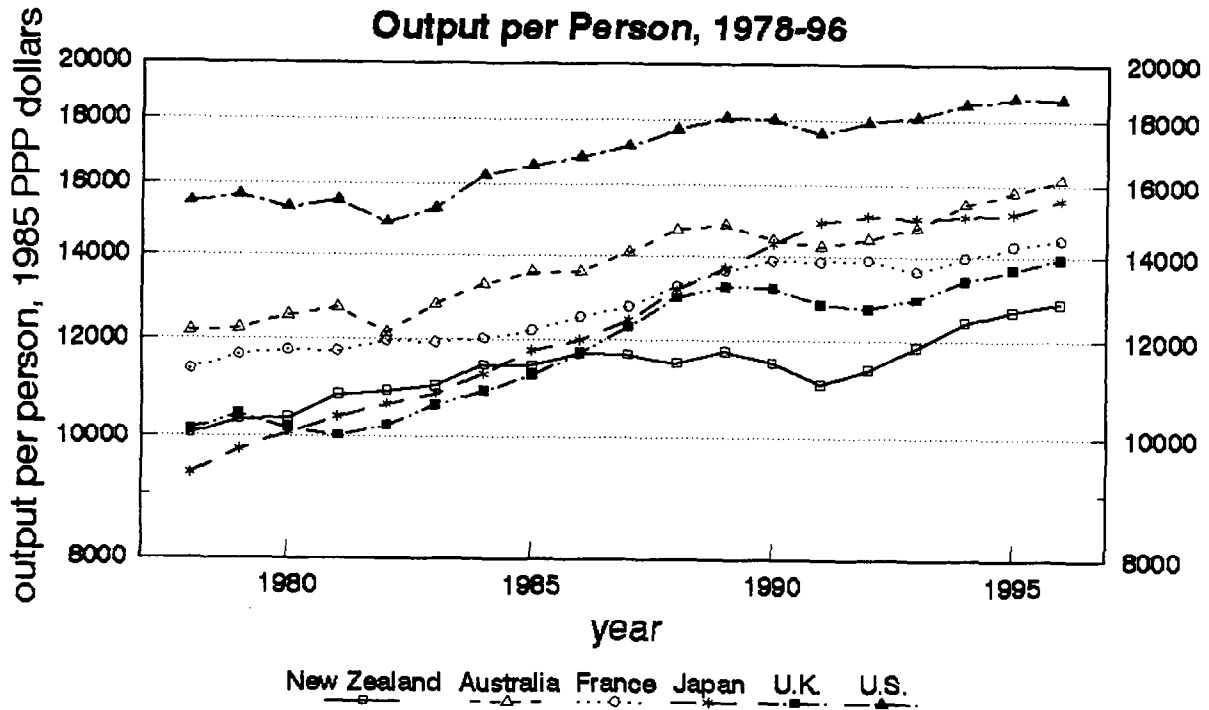


Figure 2 (a)
New Zealand and ASEAN Economies
Growth of Output per Person, 1978-96

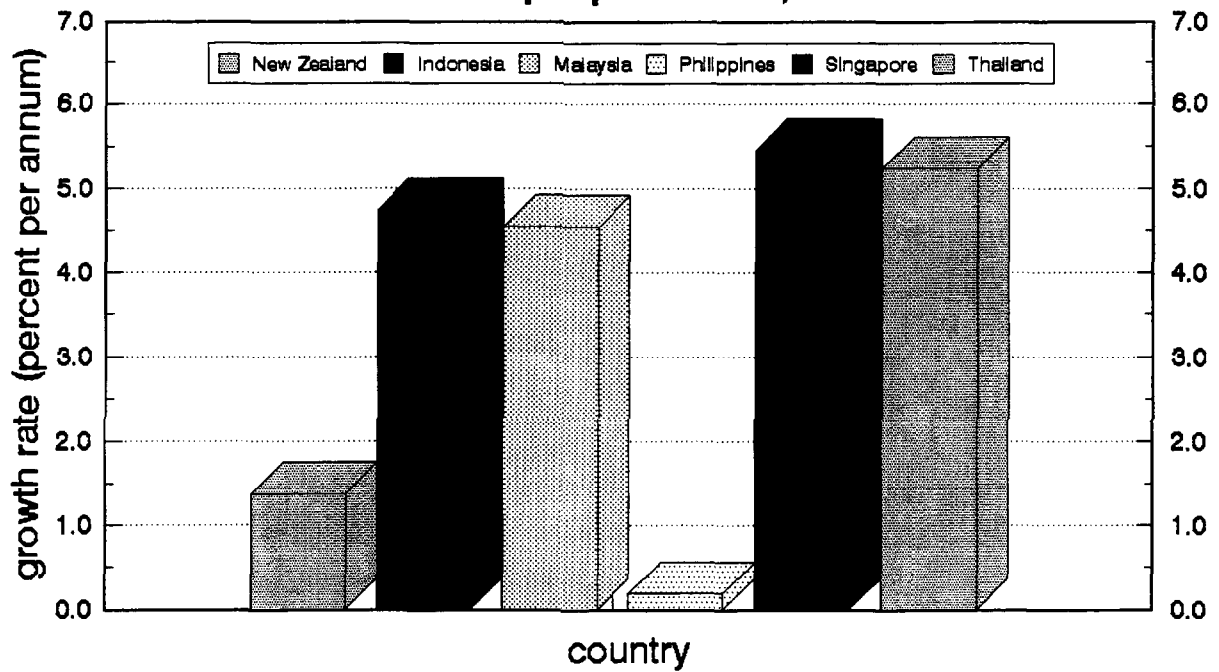


Figure 2 (b)
New Zealand and OECD Economies
Growth of Output per Person, 1978-96

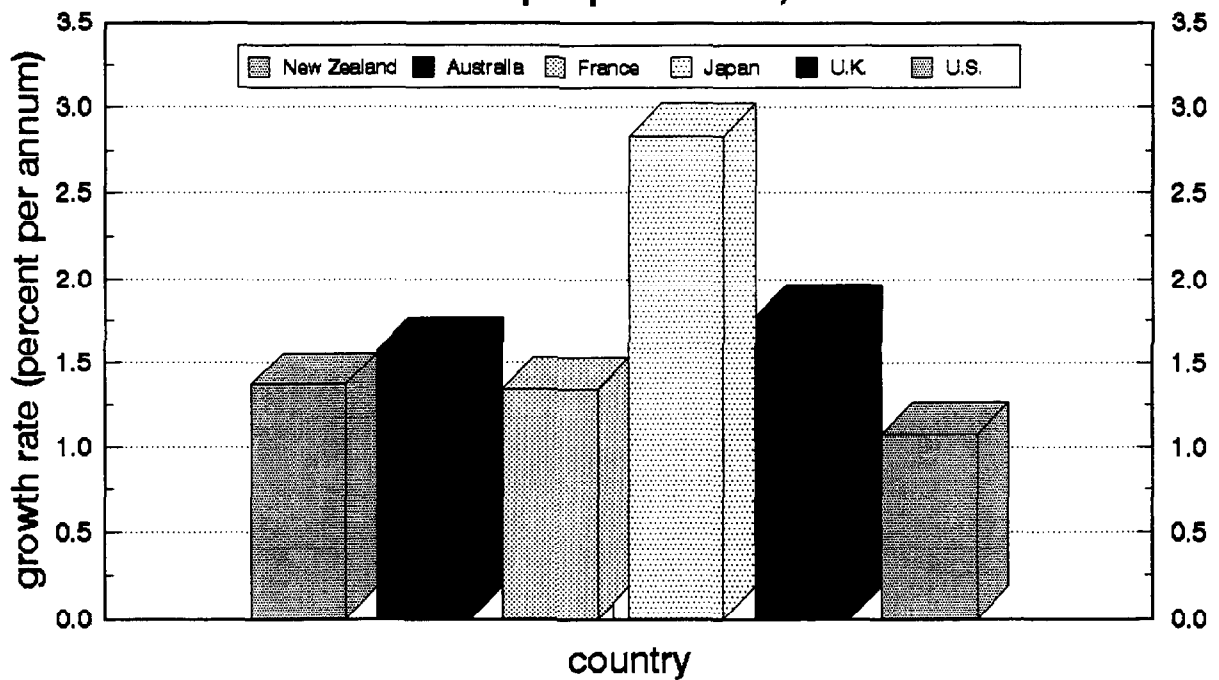


Figure 3 (a)
New Zealand and ASEAN economies
Capital per Person, 1978-96

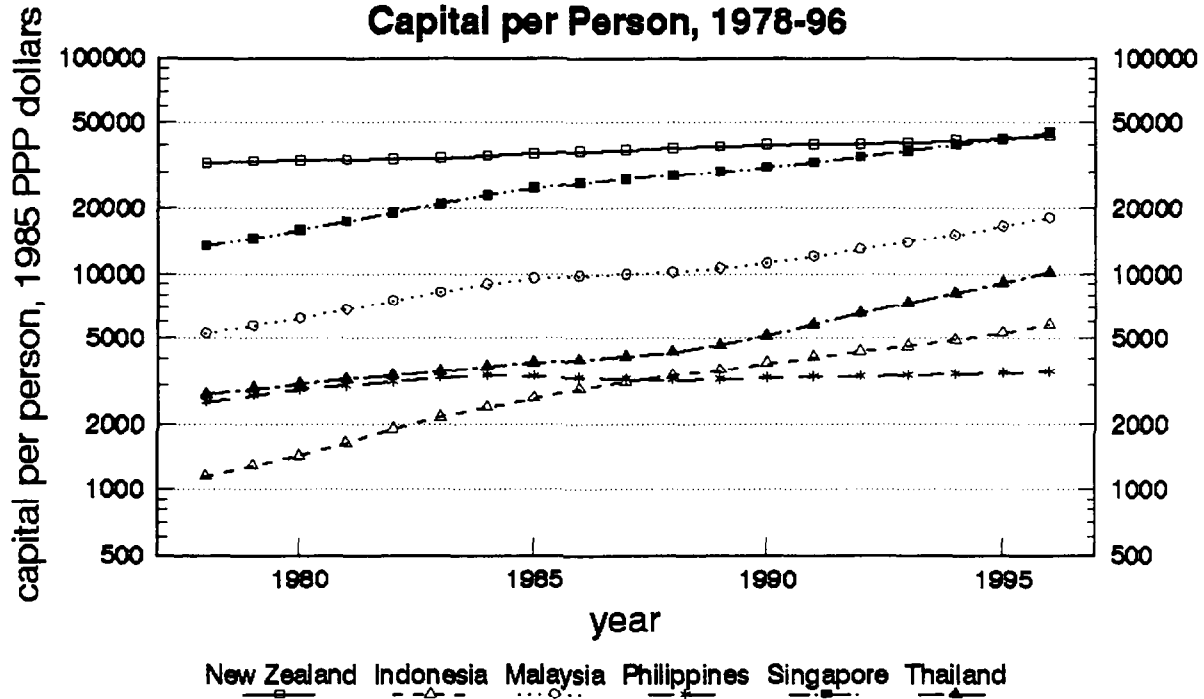


Figure 3 (b)
New Zealand and OECD economies
Capital per Person, 1978-96

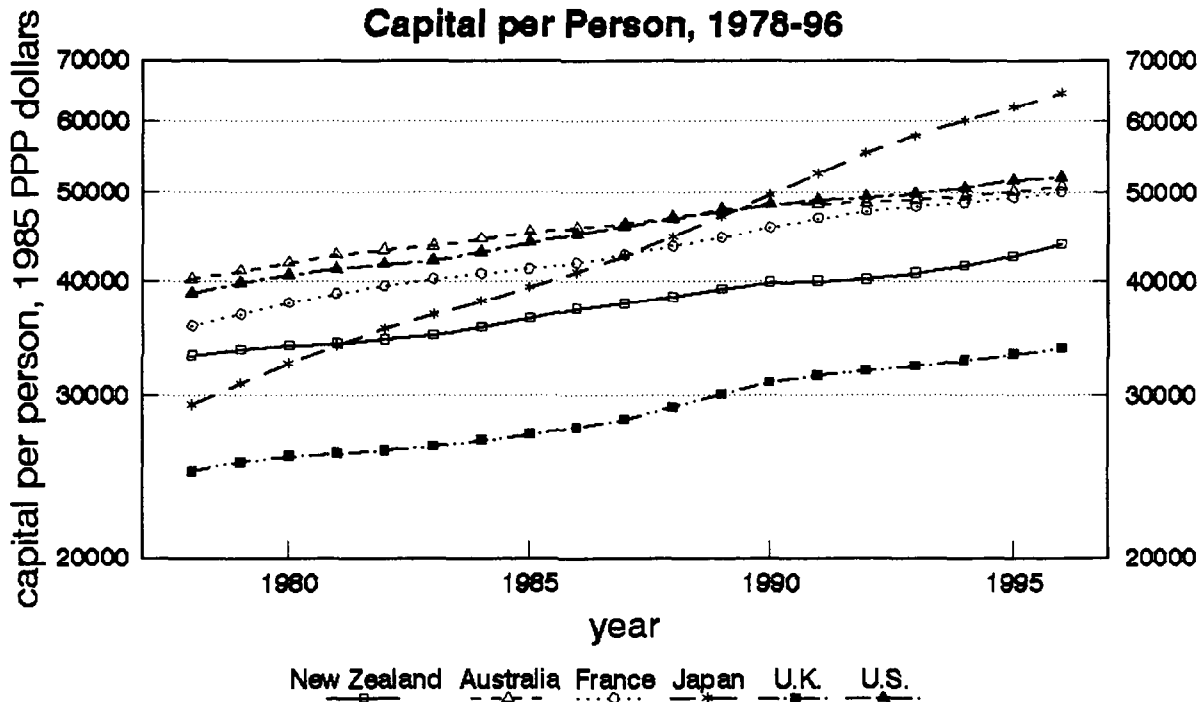


Figure 4 (a)
New Zealand and ASEAN Economies
Growth of Capital per Person, 1978-96

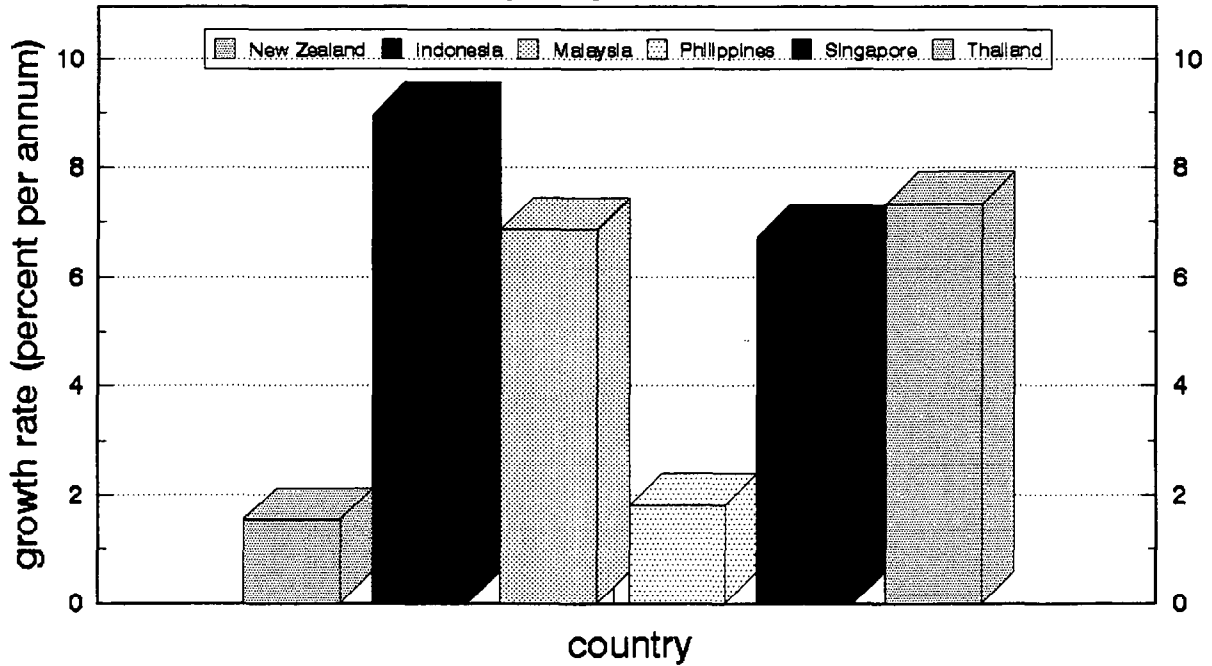


Figure 4 (b)
New Zealand and OECD Economies
Growth of Capital per Person, 1978-96

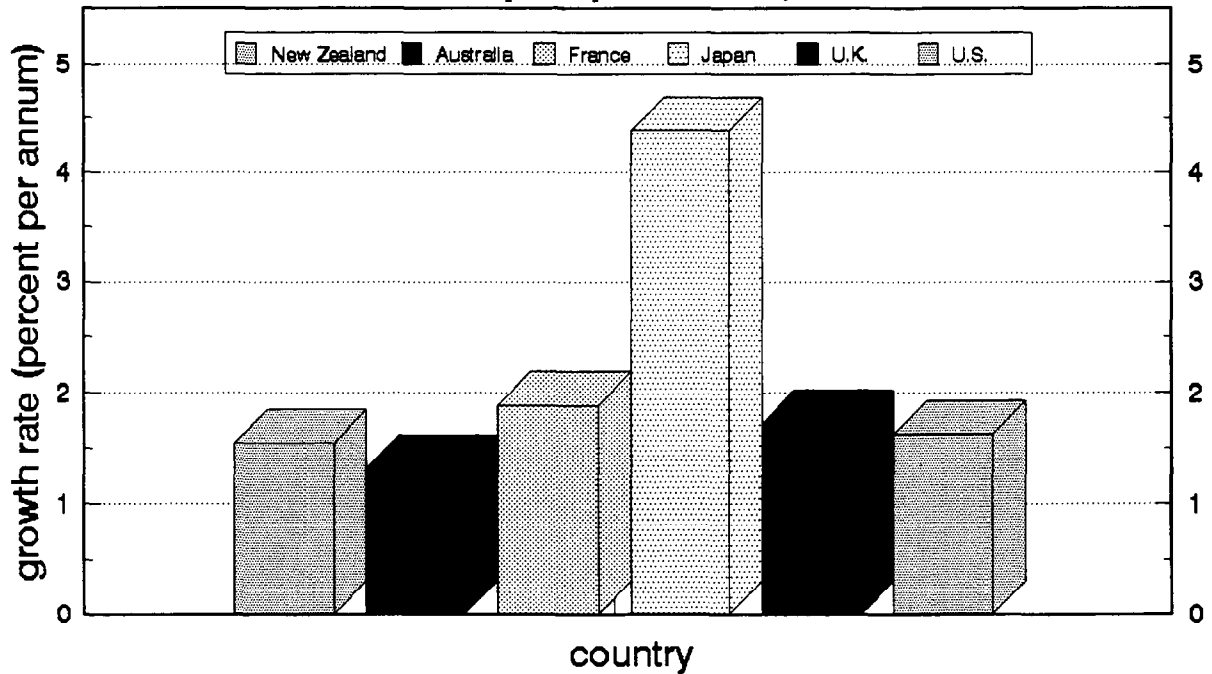


Figure 5 (a)
New Zealand and ASEAN economies
Effective Labor per Person, 1978-96

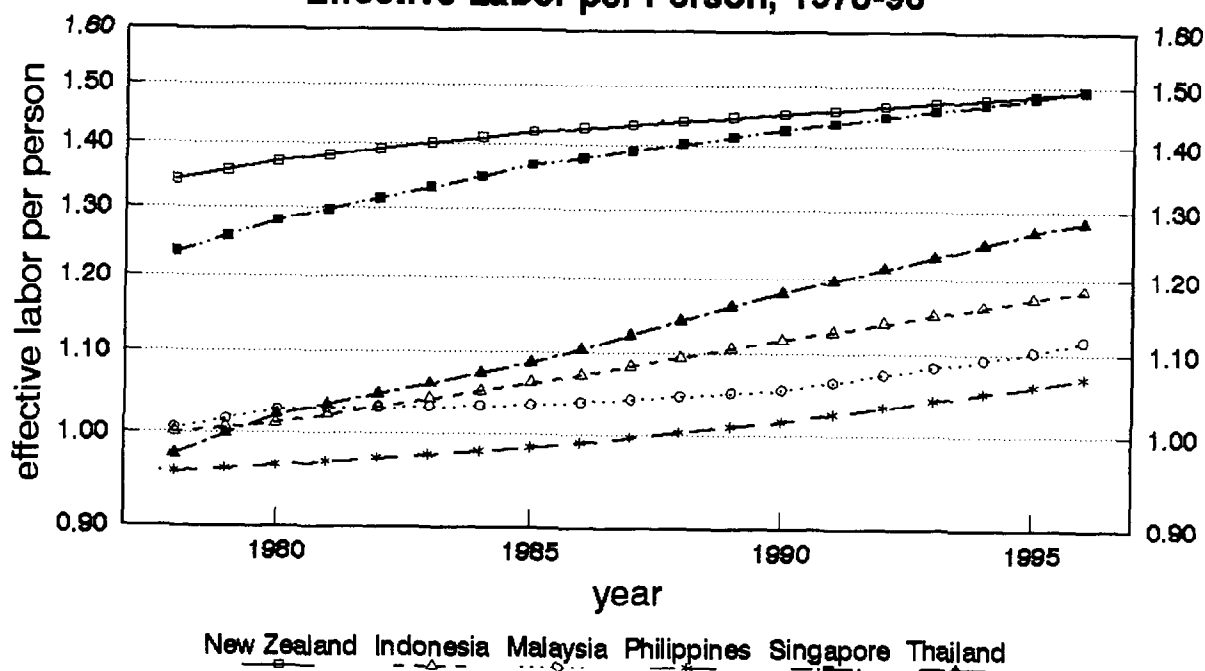


Figure 5 (b)
New Zealand and OECD economies
Effective Labor per Person, 1978-96

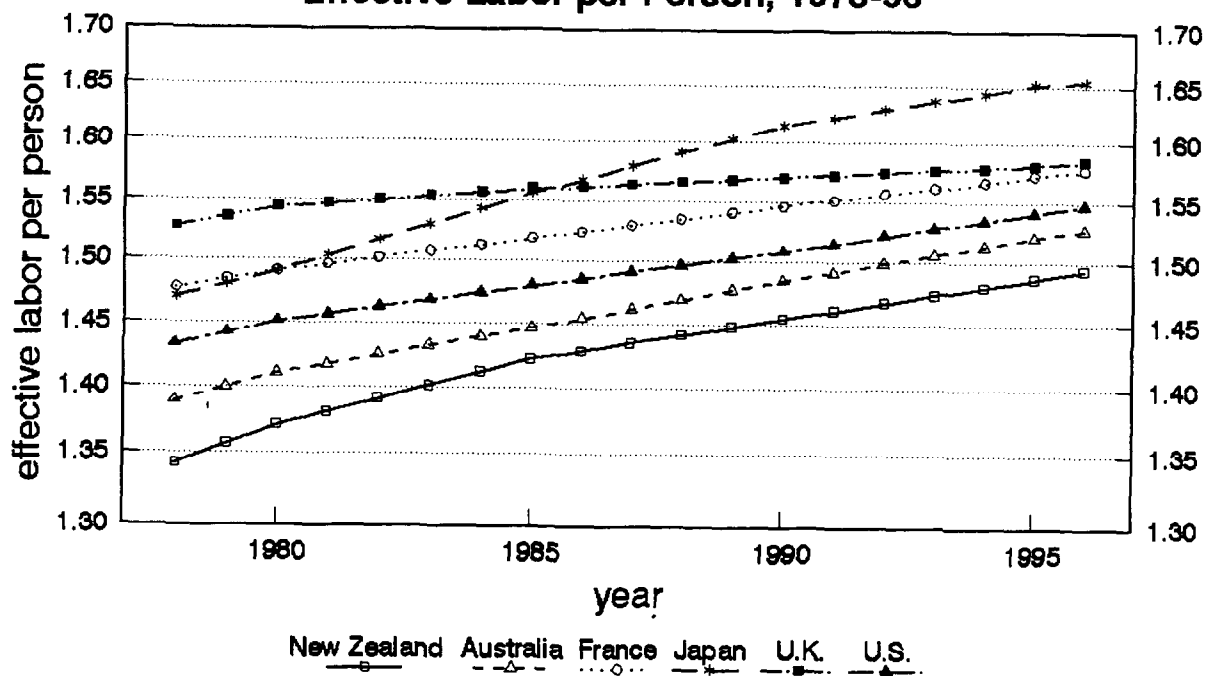


Figure 6 (a)
New Zealand and ASEAN Economies
Growth of Effective Labor per Person, 1978-96

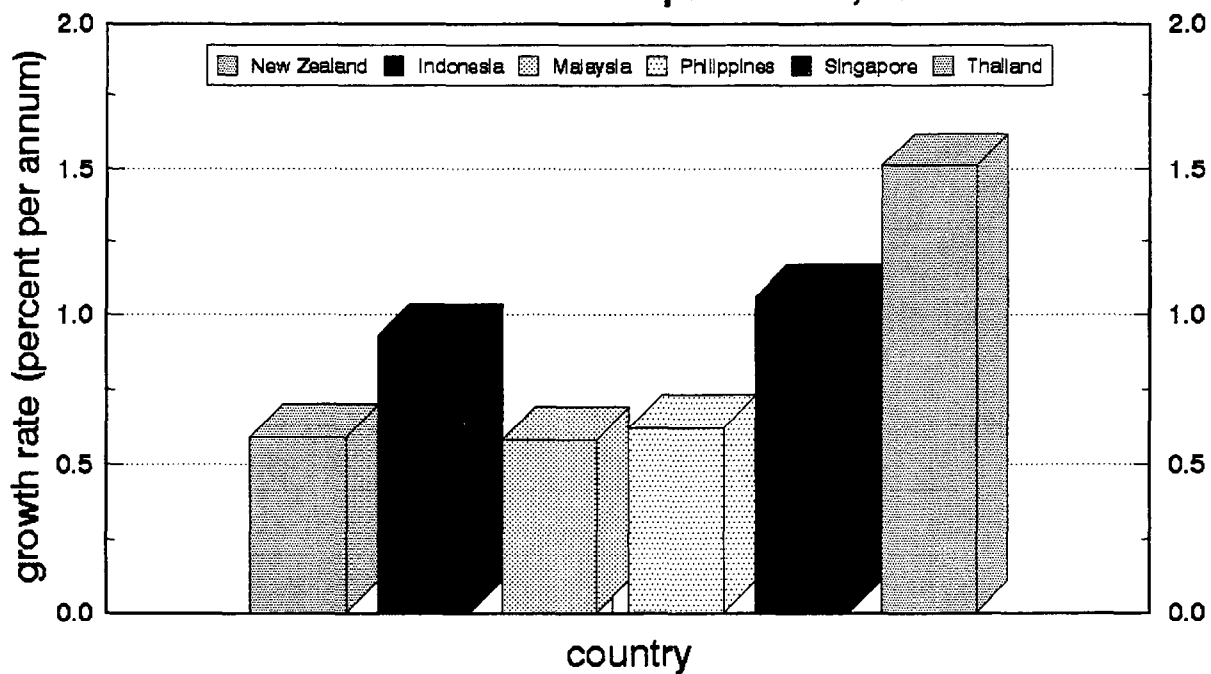


Figure 6 (b)
New Zealand and OECD Economies
Growth of Effective Labor per Person, 1978-96

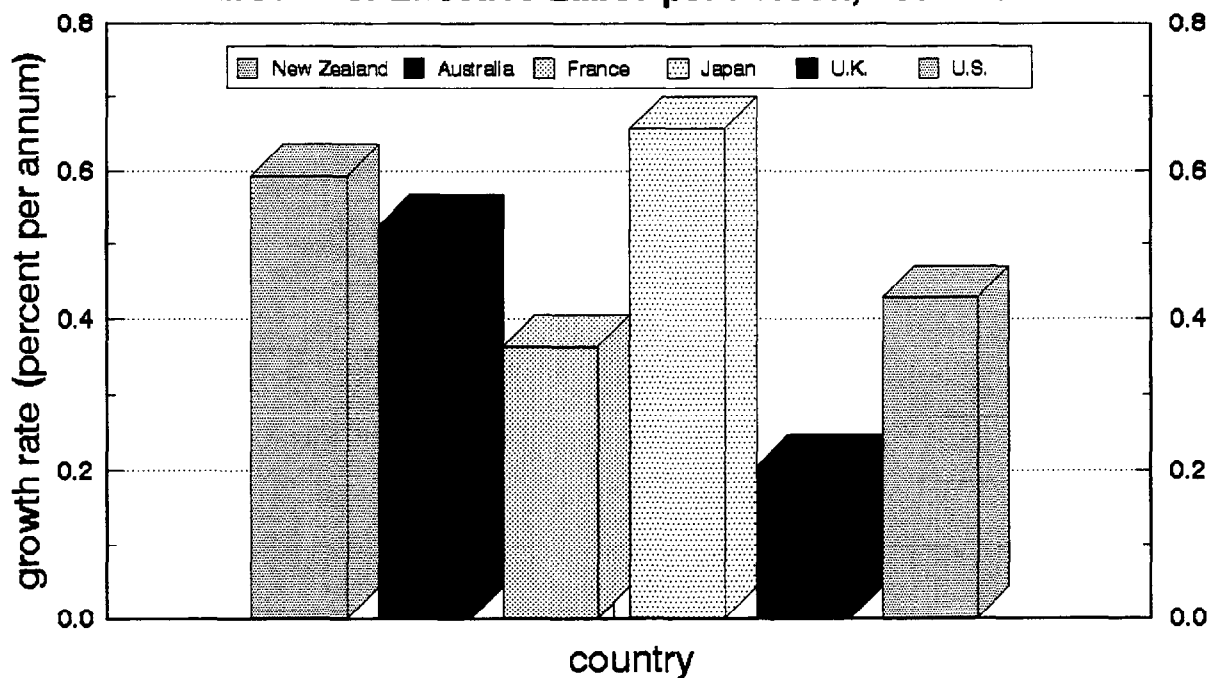
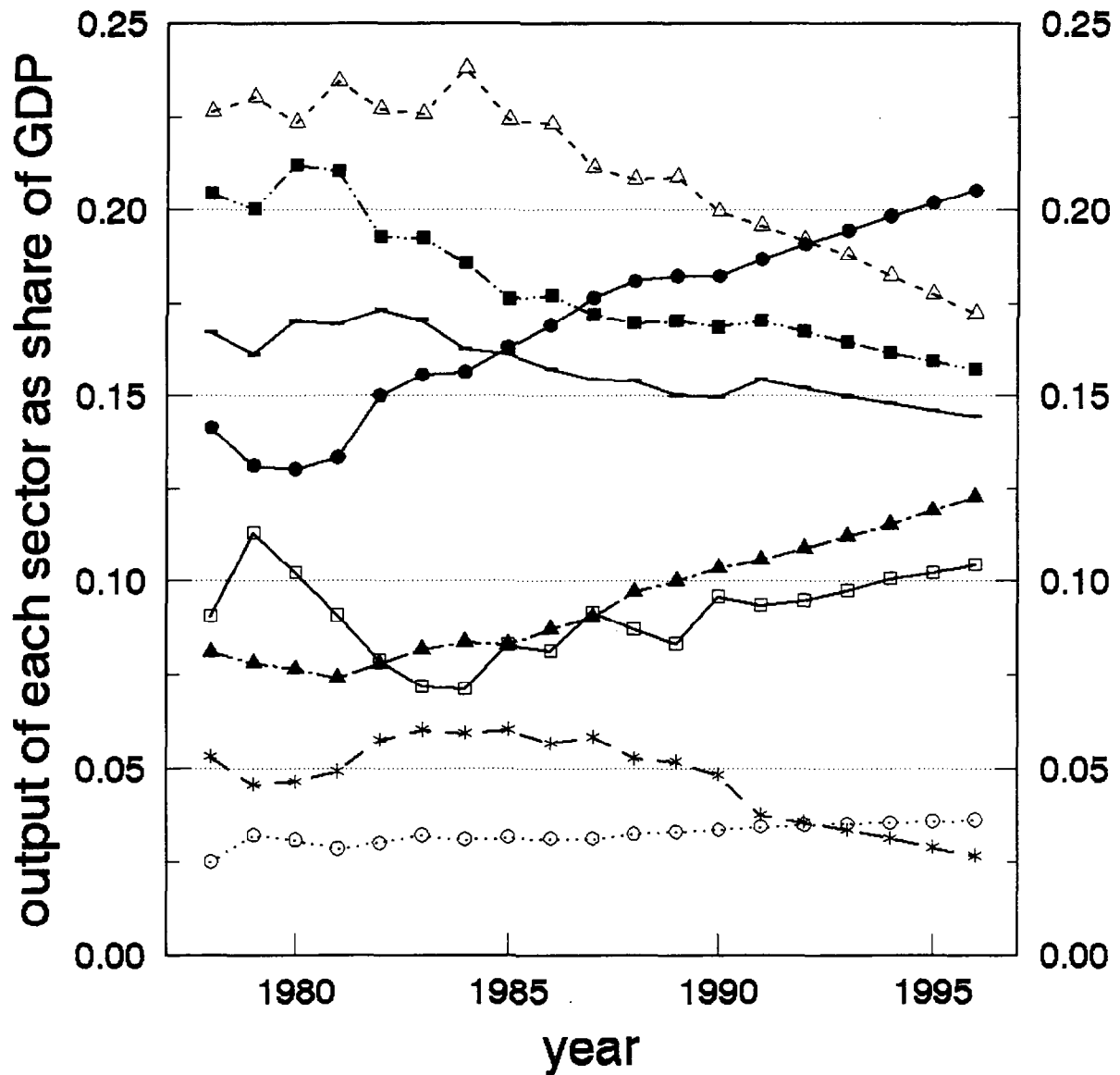


Figure 7
New Zealand
Major Types of Economic Activity, 1978-96



agriculture manufacturing utilities construction
—□— -△- ○..... -*-

commerce transport and financial and government and
-■- communications business services other services
-▲- -●- -

Figure 8
New Zealand
Alpha, Y/K Ratio, and MPK, 1978-96

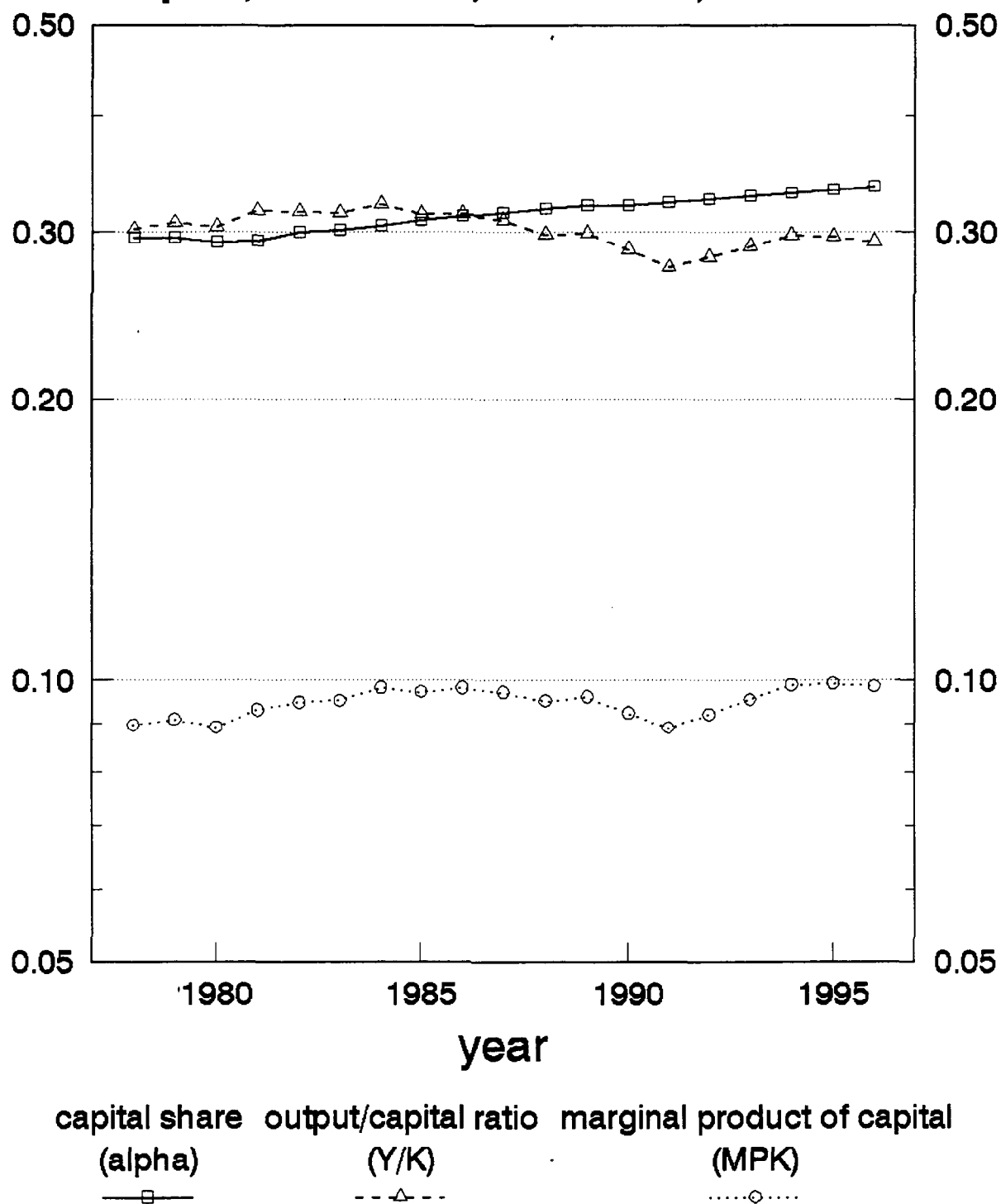


Figure 9 (a)
New Zealand and ASEAN Economies
Capital Share, 1996

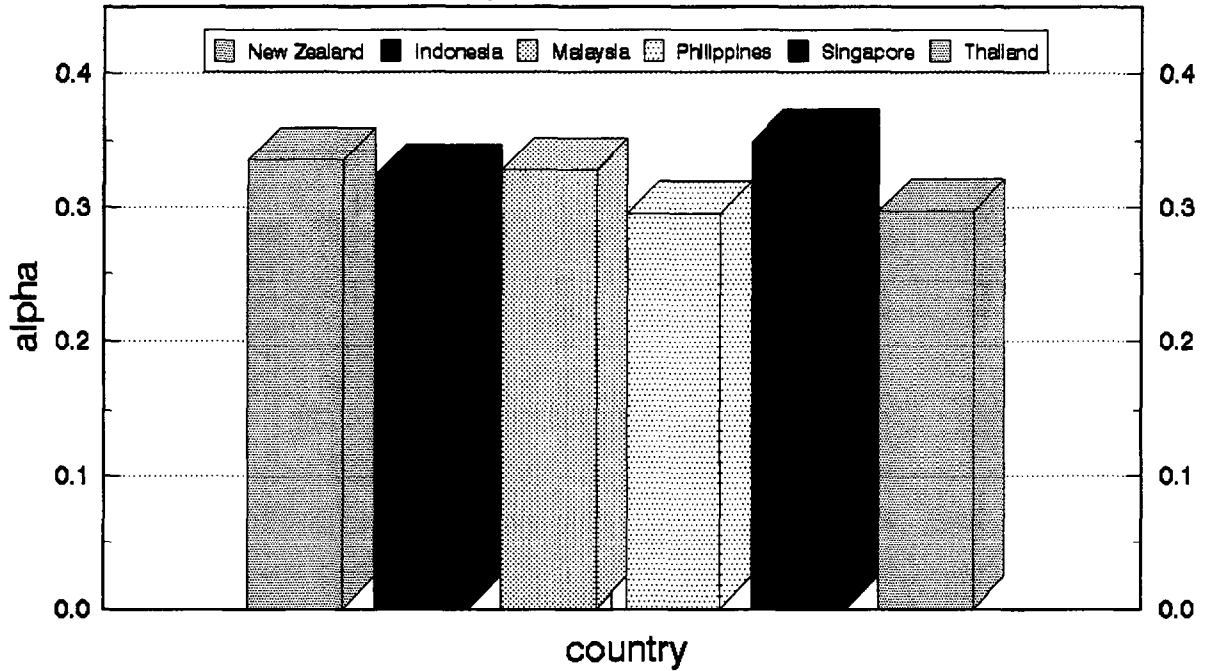


Figure 9 (b)
New Zealand and OECD Economies
Capital Share, 1996

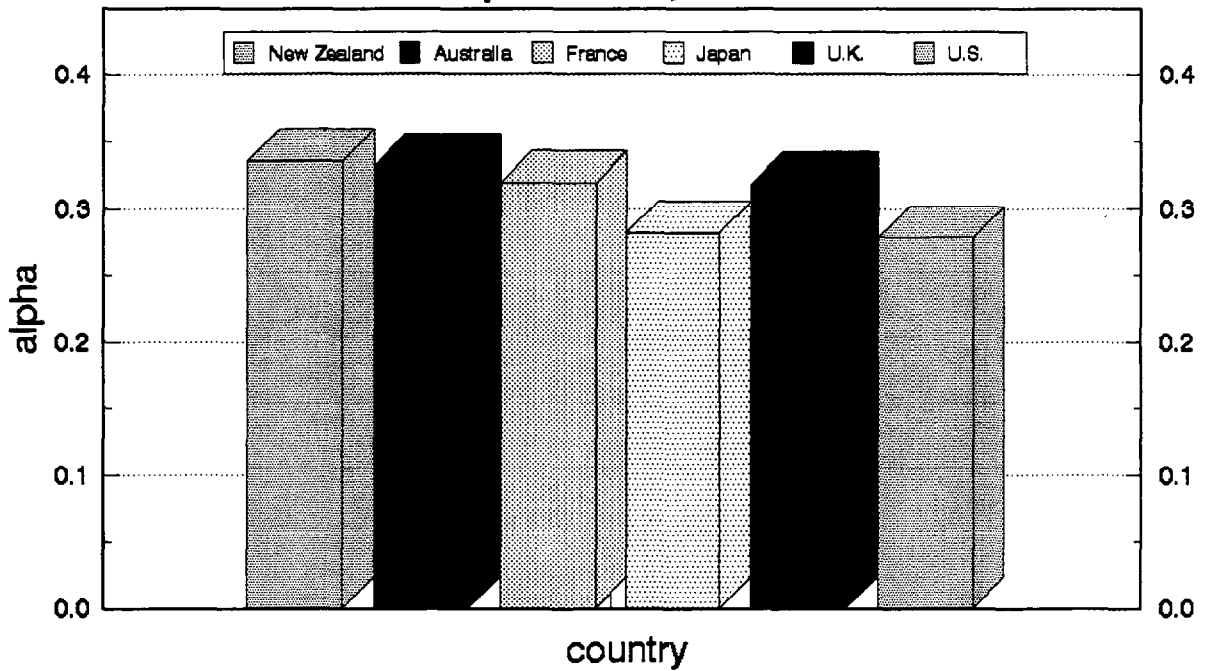


Figure 10 (a)
New Zealand and ASEAN Economies
Output/Capital Ratio, 1996

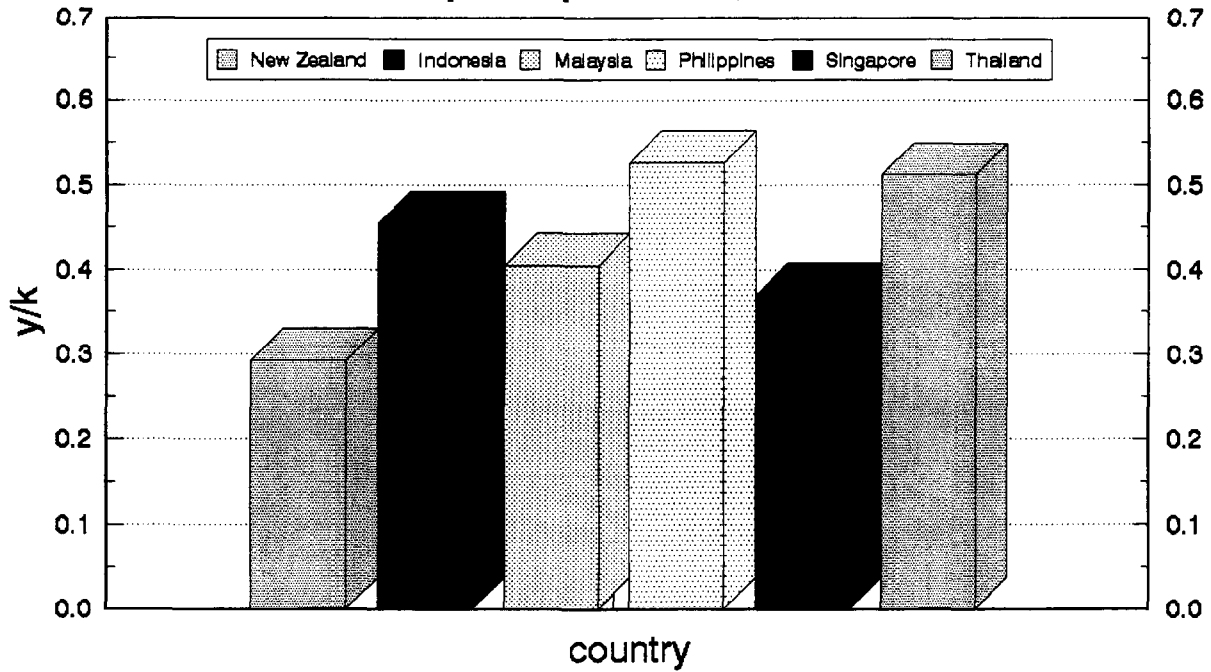


Figure 10 (b)
New Zealand and OECD Economies
Output/Capital Ratio, 1996

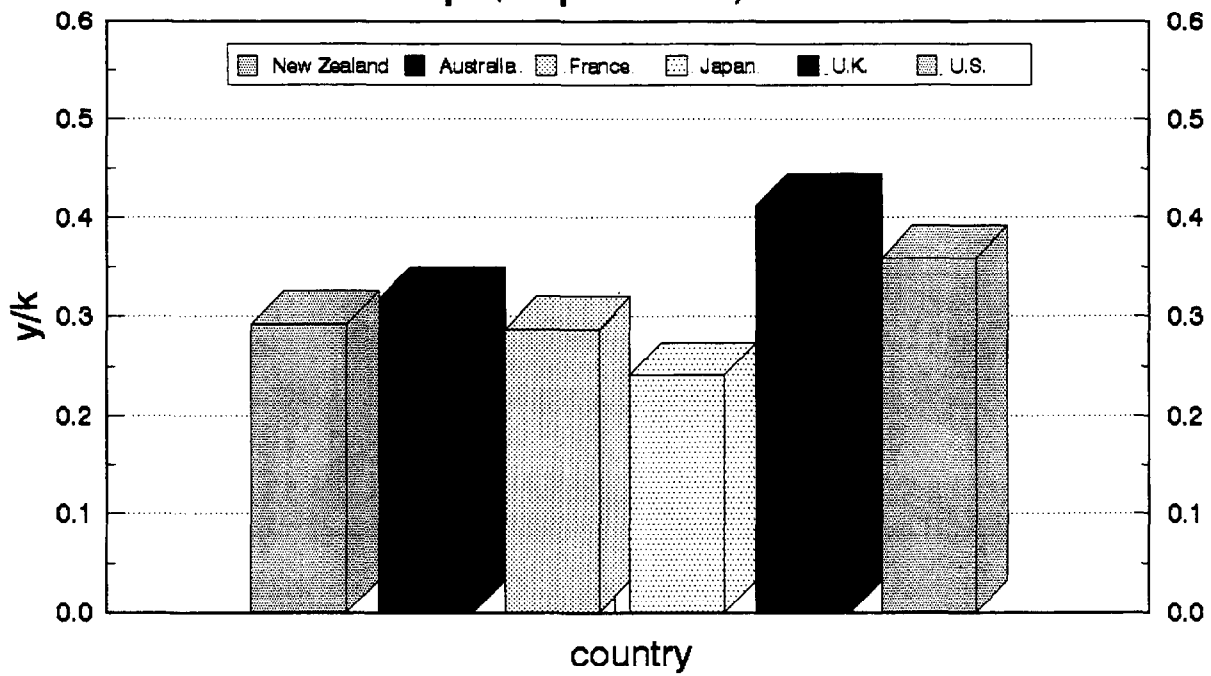


Figure 11 (a)
New Zealand and ASEAN Economies
Marginal Product of Capital, 1996

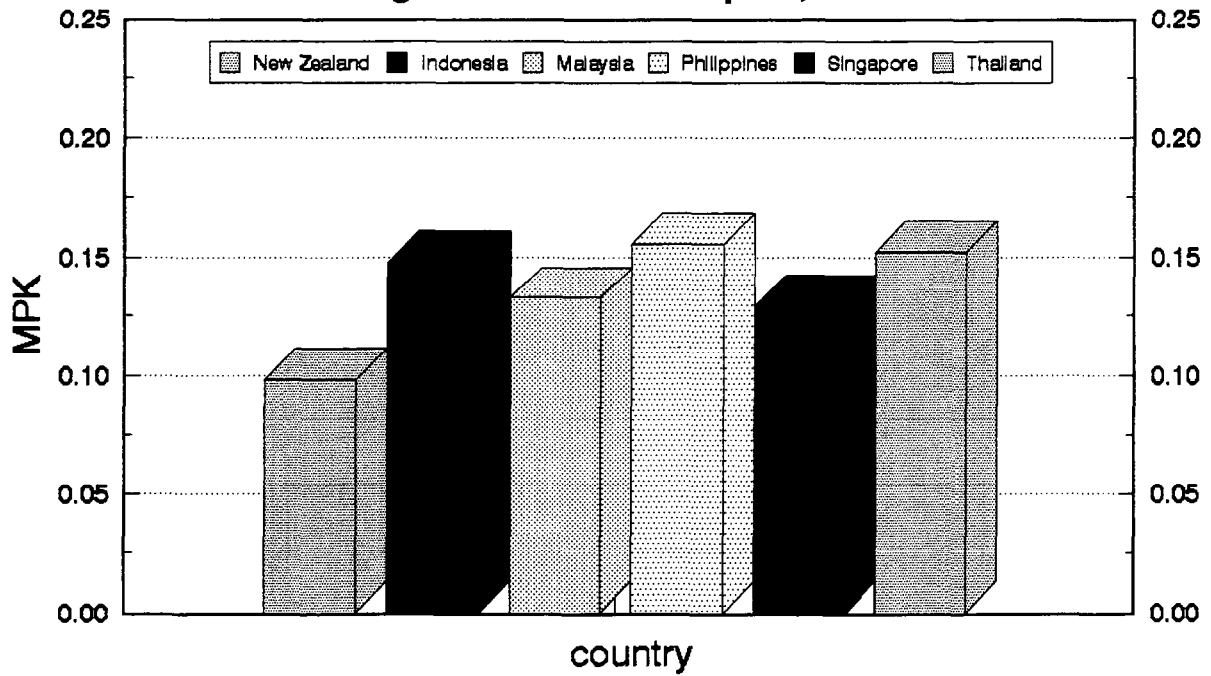


Figure 11 (b)
New Zealand and OECD Economies
Marginal Product of Capital, 1996



Figure 12
New Zealand

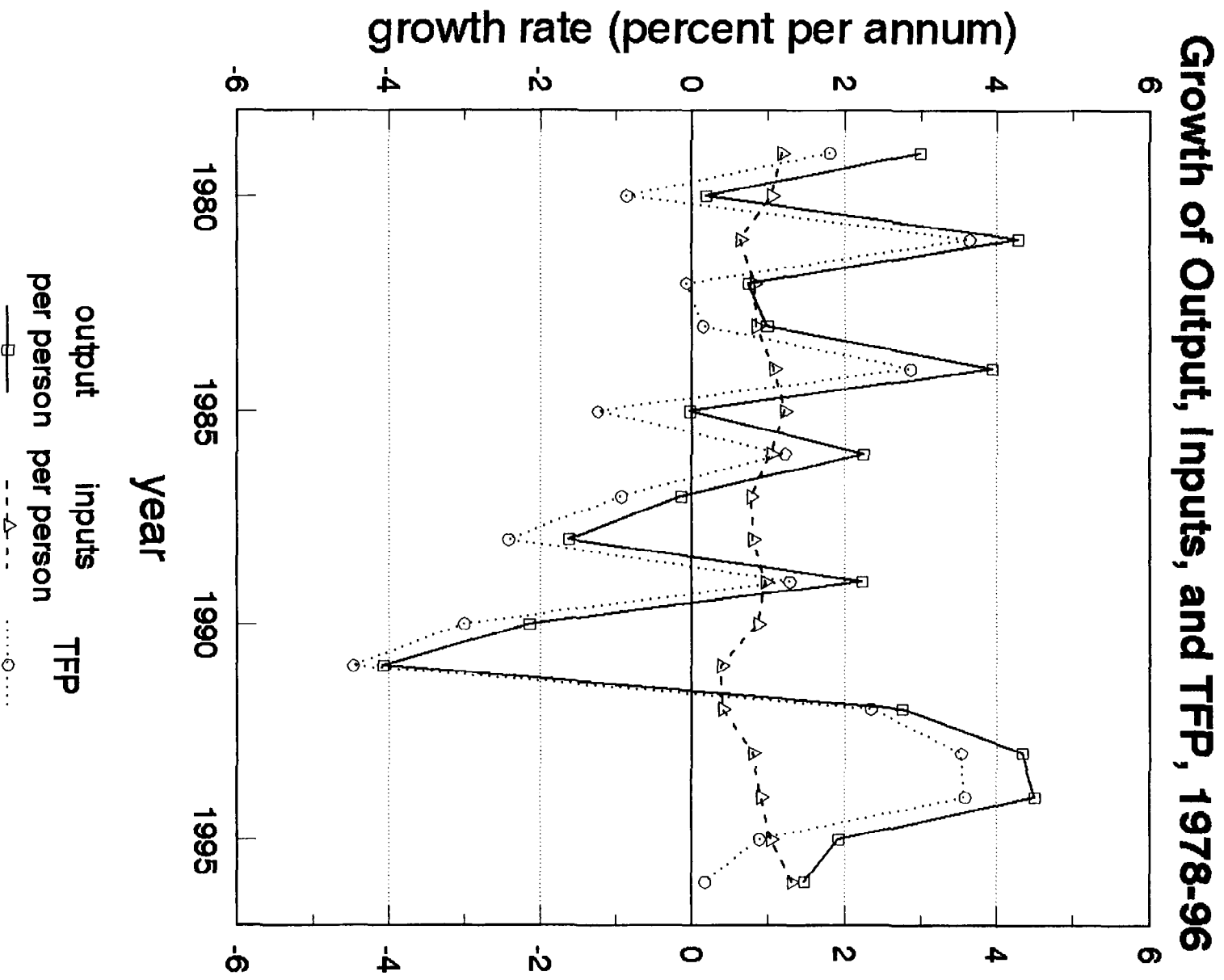


Figure 13 (a)
New Zealand and ASEAN economies
Growth of TFP, 1978-96

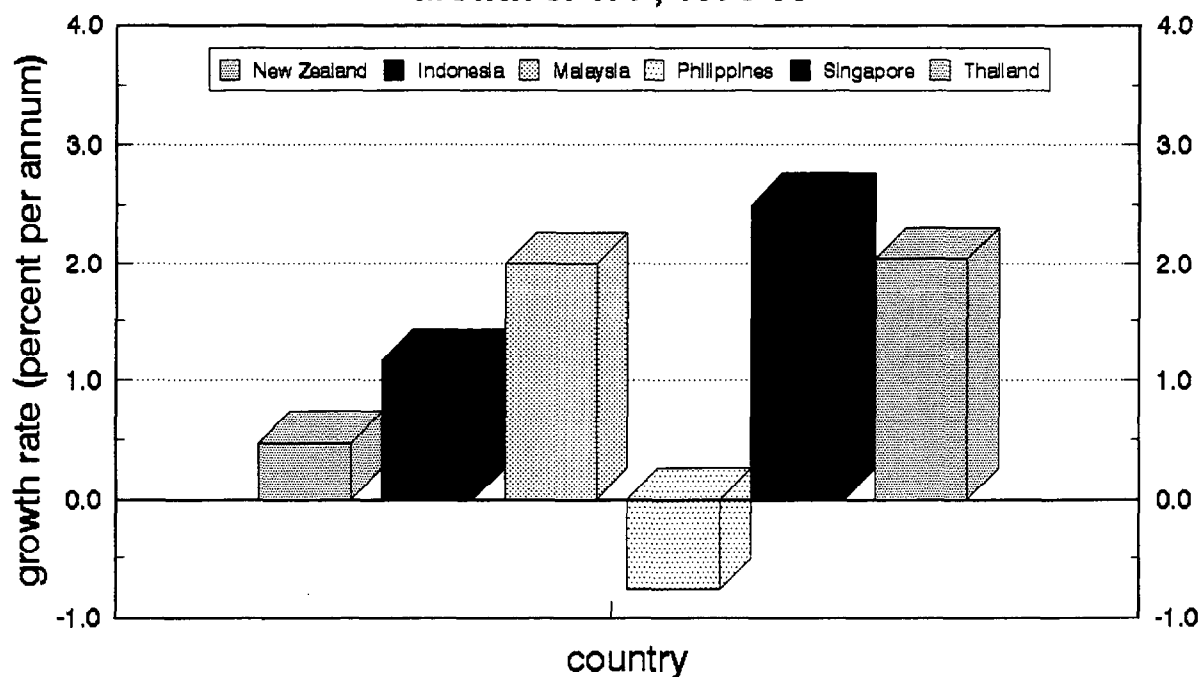


Figure 13 (b)
New Zealand and OECD economies
Growth of TFP, 1978-96

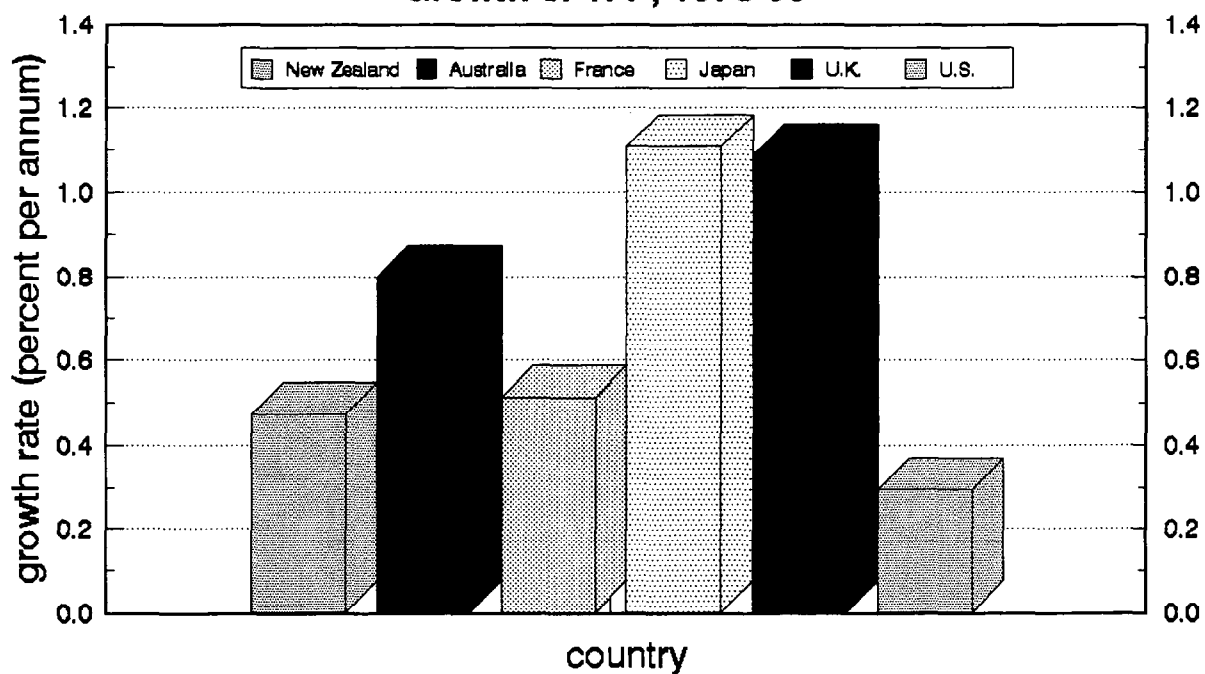


Figure 14 (a)
New Zealand and ASEAN Economies
Growth of TFP, 1986-96

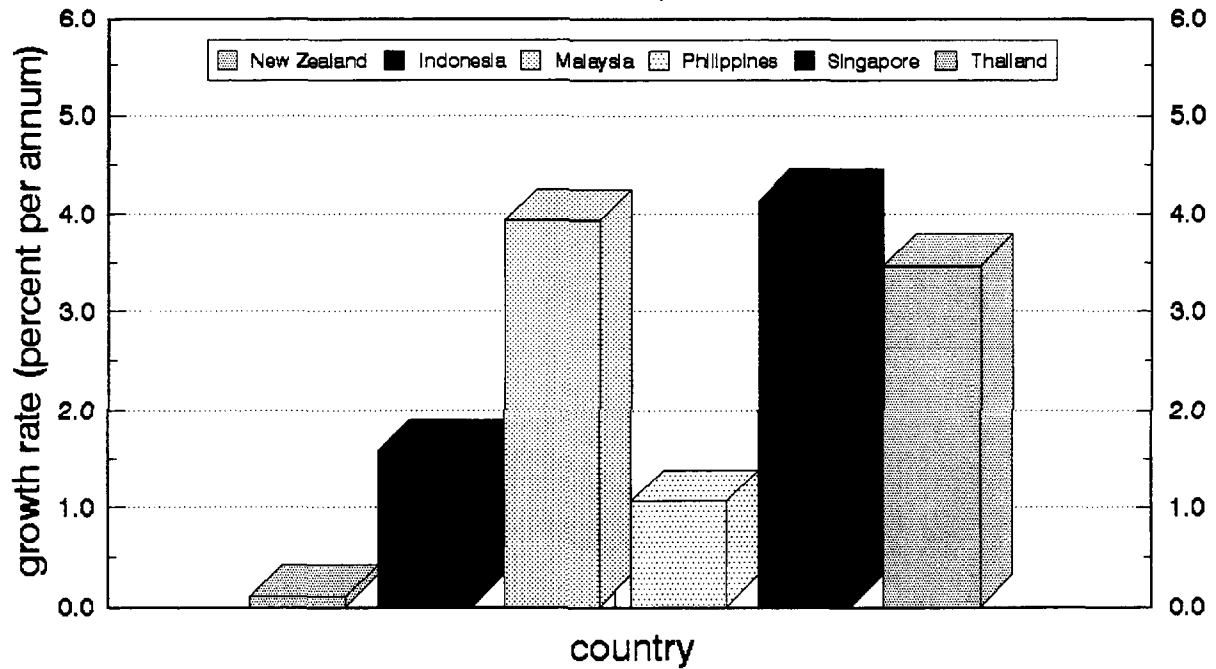


Figure 14 (b)
New Zealand and OECD Economies
Growth of TFP, 1986-96

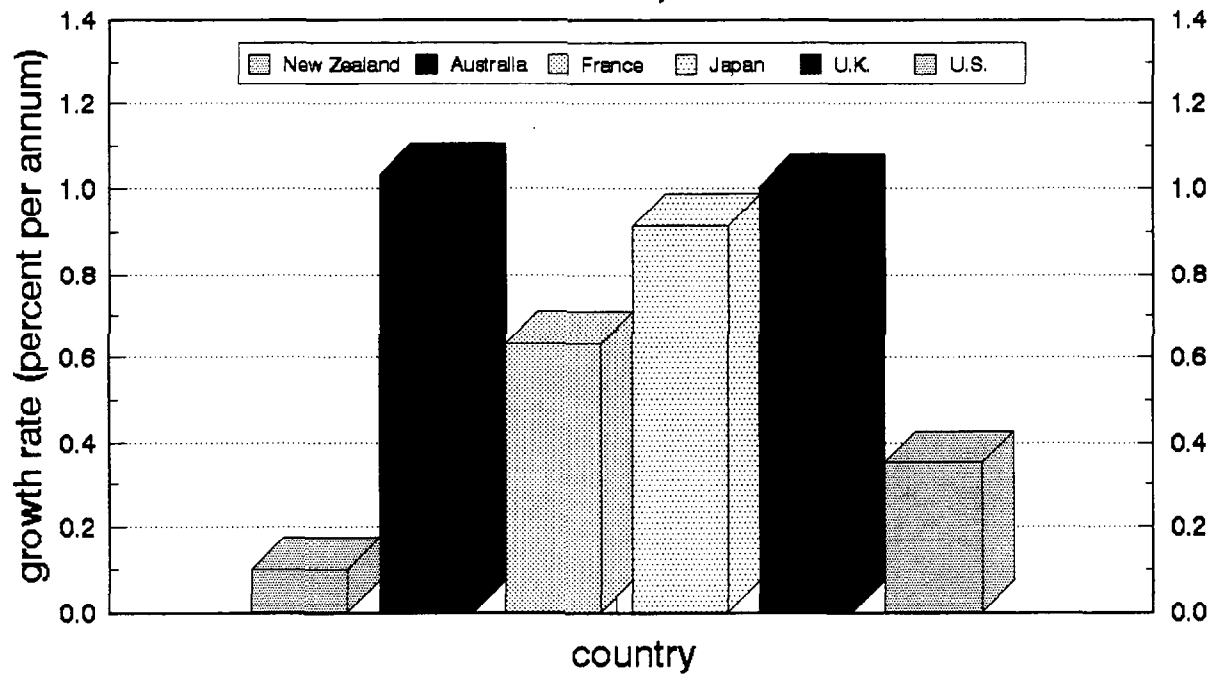


Figure 15 (a)
New Zealand and ASEAN Economies
Growth of TFP, 1991-96

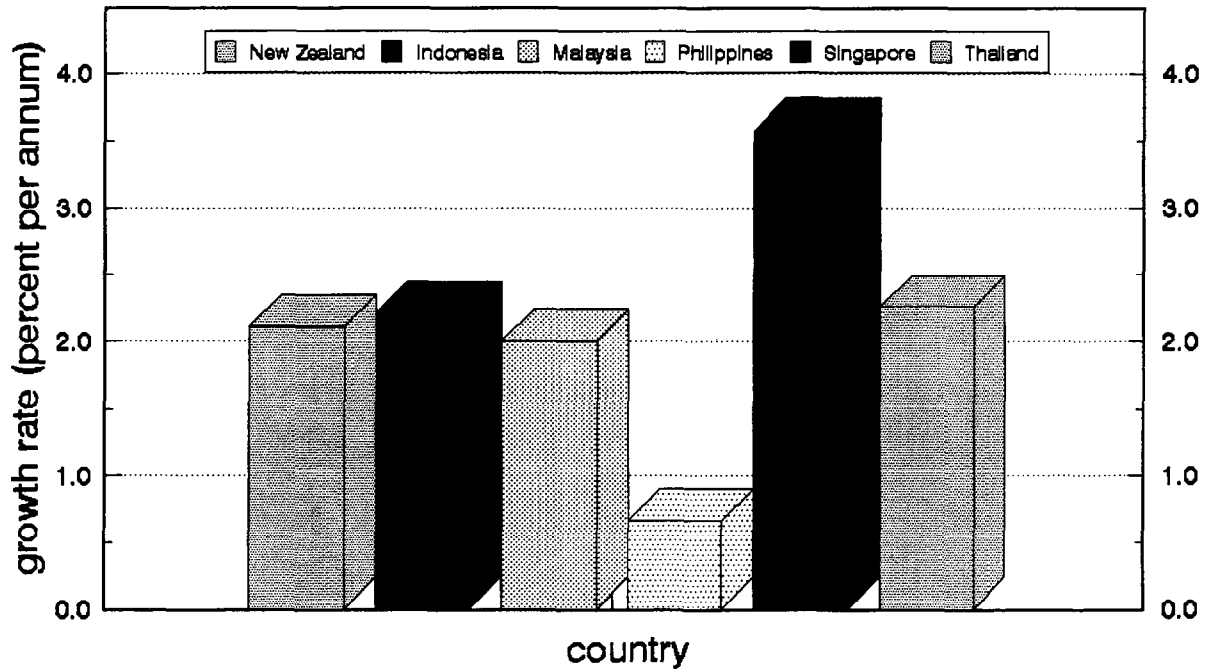
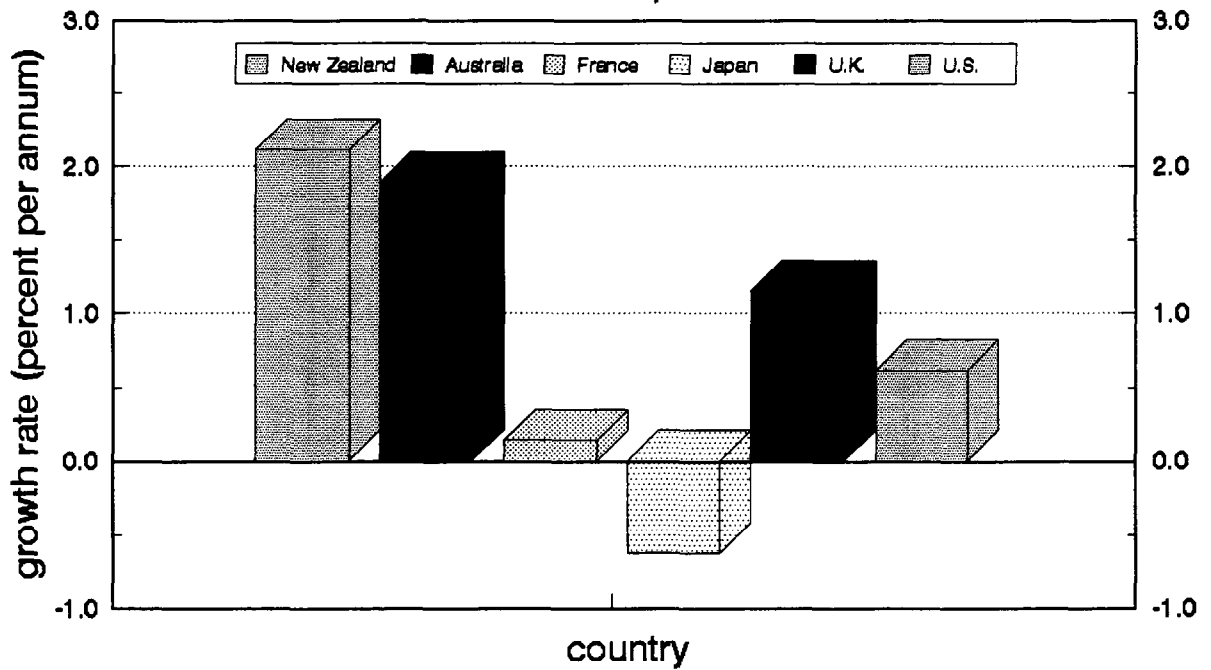


Figure 15 (b)
New Zealand and OECD Economies
Growth of TFP, 1991-96



II. INFLATION TARGETING IN NEW ZEALAND¹

The distinguishing features of inflation targeting in New Zealand are its early adoption in 1990, the extent of formal government arrangements aimed at enhancing long-run credibility, and its stringent targets. Inflation during the past five years has averaged less than 2 percent, compared to 8 percent during the prior five years. This favorable performance reflects the well-designed legislative and operating frameworks underlying monetary policy, as well as far-reaching fiscal reform and economic liberalization.

This paper reviews New Zealand's experience with inflation targeting. It includes a brief historical perspective; reviews of the legal and operating frameworks; discussion of the inflation targeting record; and, an examination of the ongoing refinement of the operating framework.

A. Background

New Zealand's long experience with high and variable inflation helps explain the authorities' strong commitment to price stability. The CPI rose rapidly during the years of generally disappointing economic performance triggered by the oil shock of 1973. A temporary lull in inflation to below 5 percent in the early 1980s was made possible only by distortionary wage and price freezes. Throughout the period, monetary policy faced multiple and varying objectives which were seldom clearly specified and not consistent with low inflation.²

The economic costs exacted by high and variable inflation broadened the potential gains from price stability.³ Uncertainty about the overall price level caused managers to spend less time on budgeting and expenditure decisions. Since taxes are not indexed to inflation, inefficiencies arose as firms and individuals sought to take advantage of deductions boosted by inflation, or avoid paying taxes altogether. Resource allocation was distorted by overinvestment in inflation-hedging assets such as land and buildings, and by the arbitrary transfer of wealth from savers to borrowers (Reserve Bank, Election Report, 1993).

¹This appendix was prepared by Mark R. Stone.

²Cukierman (1992) found that Reserve Bank independence ranked the lowest among OECD countries.

³See S. Fischer (1996) for a review of the benefits of price stability and of inflation targeting.

B. Legal Framework ^{4 5}

Recognizing its advantages, New Zealand made the establishment of a legal framework to support price stability an integral part of its strategy to recast policies to improve growth, together with comprehensive fiscal and labor market reforms.

The 1989 Reserve Bank Act (RBA) mandates price stability as the primary objective of monetary policy. The RBA (Section 8) stipulates "The primary function of the Bank is to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices."

The Minister of Finance and the Governor jointly specify a definition of price stability in the publicly announced Policy Targets Agreement (PTA), which serves as a guide to monetary policy and as a benchmark against which to judge its performance. The current PTA, signed in December 1992, defines price stability as annual changes in the CPI between 0 and 2 percent (subject to caveats listed below).

The RBA gives the Reserve Bank independence to implement monetary policy in pursuit of its statutory objective of price stability in the way it deems fit, without limitations on the technique, except that it must be consistent with a sound financial system. This helps insulate the Reserve Bank from outside pressures that could cause it to deviate from its policy objective.

The Reserve Bank decided that the objective of price stability is best attained by targeting inflation directly. Inflation targeting is deemed superior because its credibility is enhanced by the RBA and PTA, and because it is considered to be better suited for the New Zealand economy than money or exchange rate targeting. The effectiveness of a money target would be undermined, as in other industrial countries, by the unstable relationship between money and output and prices (Cecchetti, 1995 and Siklos, 1995). Under a fixed exchange rate, New Zealand would effectively be importing monetary policy from the countries against which the rate is fixed. Since New Zealand has different production and trade patterns than its potential partners, external shocks would force large adjustments in output and prices to maintain external competitiveness. On balance, the benefits of a fixed exchange rate, simplicity and transparency, are judged to fall short of the costs imposed by the relatively high output and price volatility associated with it.

Reserve Bank accountability for the implementation of monetary policy goes hand in hand with its operational independence. The Reserve Bank is required to publish a

⁴Monetary policy in New Zealand is presented in more detail in Op de Beke (1995).

⁵Leiderman and Svensson (1995) and McCallum (1996) provide detailed comparisons of inflation targeting in New Zealand with that of other countries.

comprehensive *Monetary Policy Statement (MPS)* every six months, detailed economic projections in the quarters that the *MPS* is not issued, and an in-depth policy report after each election. Accountability is enhanced by the explicit power of the Minister of Finance to sack the Governor. In the event of a breach of the target, the Minister of Finance requests the non-executive directors of the Reserve Bank for an explanation of the reasons for the breach and the actions required to bring inflation back within the range.

C. Operating Procedure

The free hand given to the Reserve Bank under the RBA is especially useful in the context of inflation targeting. Its implementation is more flexible than that of money and exchange rate targeting, under which the operating procedure is tied down by the targets themselves.

Policy adjustments under the operating procedure can be divided into four stages:

(1) Arrival of inflation news - Policy adjustments are triggered by the arrival of news that alters the inflation outlook, such as changes in unit labor costs, international inflation, profits, and commodity prices. Leading indicators of inflation have a large weight relative to the actual inflation outturn because policy adjustments today will influence inflation only with a lag, and because many economic decisions and actions are based on expectations of the future.

(2) Update of inflation forecast - The new information is analyzed to understand, to the extent possible, its implications for the inflation outlook. Short-term inflation projections are based on a component-by-component analysis of CPI items, taking into account recent trends, seasonality, leading indicators, and other information. Long-term projections are generated by structural and time-series statistical techniques that aim to explain inflation in terms of fundamentals, including unit labor costs, profit margins, and traded goods and services (Reserve Bank, 1996a). These forecasts are issued each quarter, and are occasionally updated in public statements.

(3) Determination of the appropriate policy stance based largely on the exchange rate and interest rates - The stance of monetary policy can be seen as the degree to which monetary policy is resisting either inflationary or deflationary pressures. The most reliable indicators of the links between the policy stance and inflation are judged to be the exchange rate, especially the trade weighted index (TWI), and interest rates, benchmarked by the 90-day bank bill rate. A tightening of policy influences prices directly and in the short-run through cheaper imported goods from an exchange rate appreciation, and through increased borrowing costs prompted by higher interest rates. Over the longer term, policy influences prices indirectly through aggregate demand, as long as there is little economic slack. If so, a policy tightening will exert downward pressure on inflation by causing an appreciation that switches expenditures from traded to nontraded goods, and by increasing interest rates and thus

dampening business investment and promoting savings over consumption. The Reserve Bank also pays close attention to the slope of the yield curve, inflation expectations, foreign interest rates, bilateral exchange rates, and retail interest rates.

The openness of the economy makes it difficult to predict whether a policy adjustment will influence inflation mainly through the exchange rate or interest rates. This is because discrepancies between the returns on New Zealand and U.S. dollar-denominated interest paying securities can be arbitrated away by different combinations of changes in interest rates and the expected rate of appreciation. For example, a small increase in New Zealand interest rates may lead to a marked appreciation of the New Zealand dollar if U.S. interest rates decline at the same time.

The Reserve Bank usually sets short-term "comfort zones" for the trade weighted exchange rate (TWI) and an interest rate measure, such as the yield curve (Reserve Bank, Election Report, 1993 and *MPS* 1995). A comfort zone is adjusted when the arrival of new information on the inflation outlook indicates changes in the path of the indicator is needed to maintain consistency between the stance of monetary policy and the inflation target (Orr and Rae, 1996).

(4) Adjustment of policy - Finally, the Reserve Bank will, if necessary, act to move the key indicators into comfort zones by changing money market instrument settings, usually by altering the settlement cash (nonborrowed reserves) target, or by making public announcements. More recently, as discussed below, the markets usually effect themselves the desired stance.

The PTA specifies caveats to allow deviations from the inflation target band prompted by developments that should not be offset by monetary policy. These developments include natural disasters, changes in the credit services (primarily mortgage interest costs), components of the CPI, government-controlled taxes, indirect charges, and movements in foreign trade prices. The rationale is that forcing adjustments to offset shocks, which do not signal a failure of monetary policy, would incur real costs out of proportion to the benefits of price stability. Caveats are activated by the Reserve Bank only when they have a large and readily identifiable impact on inflation (Reserve Bank, Election Report, 1993).

Since December 1994, the Reserve Bank has been reporting a measure of underlying inflation as the benchmark for monetary policy. The underlying inflation rate is the headline CPI excluding the actuated caveats (which may differ from quarter to quarter). The explicit shift to the underlying inflation benchmark was prompted by rising mortgage interest costs following the tightening of policy in late 1994.

D. Experience

The sharp reduction in inflation during the past five years was made possible by broad and deep structural reforms, the legal and operating frameworks underlying monetary policy, and the absence, until recently, of upward pressure on prices from tight capacity utilization.

Inflation performance

Price stability was achieved surprisingly fast (Figure 16). The first PTA agreed upon in early 1990 targeted a reduction in inflation from 10 percent during 1983–90 to a 0 to 2 percent target band by the end of 1991. Inflation fell to within the band more quickly than expected owing to declining import prices and the world growth slowdown. Concerns that inflation would fall below the target range prompted an easing of policy in September 1991, further reducing interest rates and weakening the exchange rate. From late 1991 to mid-1995, underlying inflation remained within the target range.

Fluctuations in inflation and the exchange rate were greatly reduced. Greater exchange rate stability reflects its role as an operating guide. The reductions in the level and variability of inflation in all likelihood contributed to the stable macroeconomic environment that helped foster the turnaround in growth.

Structural reforms and price stability

The favorable inflation performance probably would not have been possible without radical fiscal reforms. The Fiscal Responsibility Act of 1994 mandated a long-term strategy and detailed and frequent fiscal reports with forecasts based on accrual accounting practices (Cangiano, 1996). Fiscal consolidation swung the overall balance of the central government from a deficit of 6 percent of GDP in 1985/86 to a surplus of 4 percent in 1995/96. These reforms have minimized the risk that inflation financing will be needed over investor horizons.

Comprehensive economic liberalization probably advanced the attainment of price stability by boosting productivity, lowering cost structures, and preventing relative price changes from feeding into the general price level. Trade liberalization and privatization increased access to new price competitive substitute products. The 1991 Employment Contract Act made labor markets more flexible and thus limited the spillover of individual wage increases. Further, economic liberalization strengthened the links between policy and the final inflation target.

Potential conflicts between attaining price stability and maintaining growth were muted by the comprehensive reform program. Long-term potential growth seems to have been enhanced by the reforms (Sarel, 1996b). Further, the transition costs of attaining price stability were probably reduced by the surprisingly rapid decline in inflationary expectations.

Advantages of the framework

Unique features of the legal and operating frameworks seem to promote transparent and accountable monetary policy. The legal independence of the Reserve Bank frees it from day-to-day political pressures, while accountability is maintained by the PTA and by the non-executive director reviews triggered by a target breach. The institutionalization of the objective and implementation of price stability makes policy less dependent on individual policymakers. Interest rates are probably less politicized than elsewhere because those attached to the Reserve Bank's liquidity management facilities (interest on settlement cash balances and on discounted securities) are not administratively set.

Evolution of operating procedure

Both the Reserve Bank and the markets have learned and adapted to inflation targeting. At first, the Reserve Bank operating procedure was based more on a checklist approach (Grimes and Wong, 1992). The Reserve Bank monitored several leading inflation indicators and reacted when they indicated inflation would move outside the band. Over time, more weight was put on the TWI and interest rates because of their relatively strong relationship with inflation. However, markets were judged to focus excessively on what exchange rate and interest rate the Reserve Bank believed consistent with the desired policy stance, rather than on the final target of inflation itself (Nicholl and Archer, 1992). Eventually, the concurrence between the timing of inflation news and Reserve Bank policy adjustments and announcements concentrated the attention of markets on inflation developments vis-à-vis the target as the basis for predicting likely policy reactions.

Credibility and transparency are such that the Reserve Bank rarely needs to directly intervene to influence market conditions. Money market instrument settings were firmed in 1991, temporarily tightened in January 1993, in reaction to a sudden fall in the exchange rate, and tightened in August 1995. Otherwise, the market itself has altered conditions in response to price developments and Reserve Bank announcements.

The fact that the Reserve Bank can, if it wants to, change instrument settings to effect the desired monetary policy stance is usually sufficient for the market to bring about this stance themselves. Market responses appear to be triggered primarily by new information on inflation and by Reserve Bank announcements. Because new information usually causes the markets and the Reserve Bank to alter their forecasts in the same way, and because the markets understand the timing, direction and magnitude of Reserve Bank actions in response to changes in the outlook, the markets usually implement the desired consequences of such actions on their own. Of course, the Reserve Bank has shown that it stands ready to explicitly intervene, and thereby maintain the credibility needed to sustain this automaticity.

Recent policy developments and prospects

The policy framework is being tested by the first episode of upward pressure on prices from tight capacity utilization since the adoption of inflation targeting. Underlying inflation in September 1996 was 2.3 percent, the sixth consecutive quarter at or above the target ceiling, owing to increased housing costs and wages. Money market conditions firmed before the inflation pickup, braced by Reserve Bank public statements (Reserve Bank, 1994). In its June 1996 *MPS*, the Reserve Bank stated that demand proved more resilient than expected in the face of firm monetary conditions while potential growth was lower than anticipated.

The firming of monetary policy seems to have operated more through the exchange rate than interest rates. As of end-October, the 90-day Treasury bill rate was at 9 percent, down from its 1996 peak, but still higher in real terms than in most industrial countries. Nevertheless, money and credit growth has been in the double digits since May and investment growth has been strong. Meanwhile, the trade-weighted index appreciated by 8½ percent during January to October 1996, and the Reserve Bank expects the current account deficit to widen slightly to 4 percent of GDP for the year ending March 1997.

In its September 1996 economic projections, the Reserve Bank forecast underlying inflation would fall to 1 percent over the next year in response to the exchange rate appreciation, a decline in world commodity prices, and a sharp fall in construction costs (Reserve Bank, 1996b). Real growth would remain around 2 to 2½ percent. The expected fall in inflation would make room for an easing of monetary policy during 1997.

The Minister of Finance and the non-executive directors of the Reserve Bank expressed confidence in the Governor's performance during 1995 and 1996. The non-executive directors considered the breach above the inflation band marginal and a reflection of the "inevitable uncertainties in forecasting and lags in the effectiveness of monetary policy" (Reserve Bank, 1996a).

E. Refinement of the Operating Framework

As the first country to formally and explicitly adopt inflation targeting and implement it over the course of an entire business cycle, New Zealand has had little international precedent to draw on. Against this background, the accumulation of experience is being used to refine the operating framework.

The inflation target, band width, and policy horizon

Monetary policy in New Zealand aims at keeping annual underlying inflation within a 0 to 2 percent target band.

The inflation target

Consideration of the inflation target begins with the optimal rate of inflation. For New Zealand, as in other countries, the optimal rate seems to be positive, even taking into account the costs of inflation discussed previously. Most important, low inflation may “grease the wheels of the labor market,” if wages are sticky downward, by providing for real wage cuts without nominal wage declines, which seem to be uncommon (Akerlof and others, 1996). Sticky wages may underlie a long-run tradeoff between growth and low rates of inflation, although empirical evidence on this is mixed (Sarel, 1996a and Akerlof and others, 1996). Evidence for New Zealand does indicate that wage changes are sticky downward, even after labor market deregulation (Chapple, 1996). However, it is possible that wages would become more flexible if a prolonged period of price stability altered inflation expectation and wage contracting habits.

Typically, **upward price index measurement bias creates a wedge between the optimal inflation target in theory and in practice**, although this appears to be less of a problem in New Zealand (A. Fischer, 1995). Fixed price index weights generally induce an upward measurement bias owing to: (i) substitution from relatively expensive goods to relatively cheap goods; (ii) switches to new and cheaper outlets; and (iii) the introduction of new and cheaper products. Moreover, price indices may overstate the costs of goods whose quality is improving. For the New Zealand CPI, substitution and new goods bias is diluted by the updating of the weights every five years, and the frequent updating of sampled firms cuts new outlet bias. The Reserve Bank considers that the upward bias is about 1 percent (Reserve Bank, 1996c).

Finally, **the credibility of an inflation target can be called into question if it is perceived as limiting the economy from realizing its full growth potential.** The emergence of capacity constraints for the first time since the adoption of inflation targeting has left policy with less leeway, and the overshooting of the band has raised concerns that the ambitious inflation target may be compelling an overly tight policy stance. High real interest rates, currency appreciation, and the widening of the current account have been cited as evidence of overly tight policy. At the same time, policy should be firm enough at the end of a business cycle to cool demand while at the same time providing for a buildup in productive capacity. Credit expansion and investment growth suggest capacity is continuing to expand.

Target band width

Choosing the best **target band width** can also be viewed as trading off flexibility and credibility. A wider band provides for absorption of the shocks to inflation which occur between the setting of policy and its impact on inflation, and reduces the need for frequent policy changes, which can be destabilizing. For New Zealand, some flexibility is afforded by the use of underlying inflation.

Policy time horizon

Policy can be weighted toward quickly bringing breaches of the inflation band back within the target range, or toward ensuring long run price stability by sometimes tolerating breaches in the short run. At the inception of inflation targeting, this issue was framed in terms of the tradeoff between the credibility gained from a more transparent short-term focus and the flexibility provided by a longer term perspective. The need to establish credibility at the outset, and the difficulty of forecasting over the long term in the face of pervasive structural shifts, led to the adoption of an annual inflation rate as the policy gauge and a more short term orientation. By way of comparison, Australia targets an average inflation rate over the business cycle, while other countries that have adopted more limited forms of inflation targeting do not specify a time horizon (Leiderman and Svensson, 1995).

However, targeting inflation over the short term may require frequent policy adjustments to counter shocks, which can be very large for a small open economy like New Zealand. For example, a 5 percent currency depreciation can push inflation up by around 1½ percent, and a 10 percent terms of trade shock can induce 1 to 1½ percent swing in inflation (Ebert, 1994).

Refinements

The policy settings are undergoing refinement with the accumulation of experience under inflation targeting and the gaining of credibility. Today, the Reserve Bank is extending its policy horizon because experience has shown that actions aimed at bringing inflation closer to the target in the short term may be at odds with stabilizing prices over the longer run (Reserve Bank, 1996a). For example, a sudden improvement in foreign investor perceptions may cause a rapid appreciation, deflationary pressures, and potential undershooting of the band. A relaxation of the monetary stance in response to this undershooting could set in train inflationary pressures that induce an overshooting in the longer run. Other considerations in support of a longer policy horizon are the room for extra flexibility provided by the gaining of credibility over time, and a better understanding of the longer term macroeconomic relationships with the entrenchment of structural changes induced by reforms. The tilt to a longer term horizon implies more rapid policy responses to the emergence of inflationary pressures, and an emphasis on interest rates as an operating guide because it influences inflation over a longer period (rather than the exchange rate).

Further, adjustments to the inflation target and band to introduce more flexibility are being evaluated. In particular, consideration is being given to adjusting upward the inflation target or widening the band. These adjustments would limit the possibility that an overly firm monetary stance would prevent the economy from realizing its full growth potential.

Transparency

Transparency enhances economic decision making by reducing market uncertainty. Transparency is especially important for inflation targeting because the central bank has wide discretion in its implementation. The lucid articulation of the policy objective and target under the RBA and PTA make the legal framework especially transparent. The frequent and frank Reserve Bank discussions of economic developments and its operating procedure modalities make the policy framework open by international standards, as demonstrated by the rarity of changes in policy instruments. Nevertheless, there may be ways to further enhance the transparency of the operating procedure.

The underlying inflation rate benchmark is proprietary to the Reserve Bank. In effect, the Reserve Bank constructs the measure by which its own performance is evaluated. Another disadvantage is that underlying inflation is hard to analyze because it is not definitionally consistent over time. One possible alternative would be for Statistics New Zealand to report a CPI-based target that is well understood and reproducible by outsiders.

Transparency could be improved by monthly rather than quarterly reporting of the CPI. While a monthly CPI would no doubt be less stable for a small open economy like New Zealand, more frequent reporting of price information would reduce the possibility of surprises.

At times, there have been discrepancies between Reserve Bank, Treasury, and market forecasts. While complete agreement among forecasts is neither expected nor desired, more detailed reporting of the forecasts could facilitate public awareness of the reasons for these discrepancies, and thereby reduce uncertainty.

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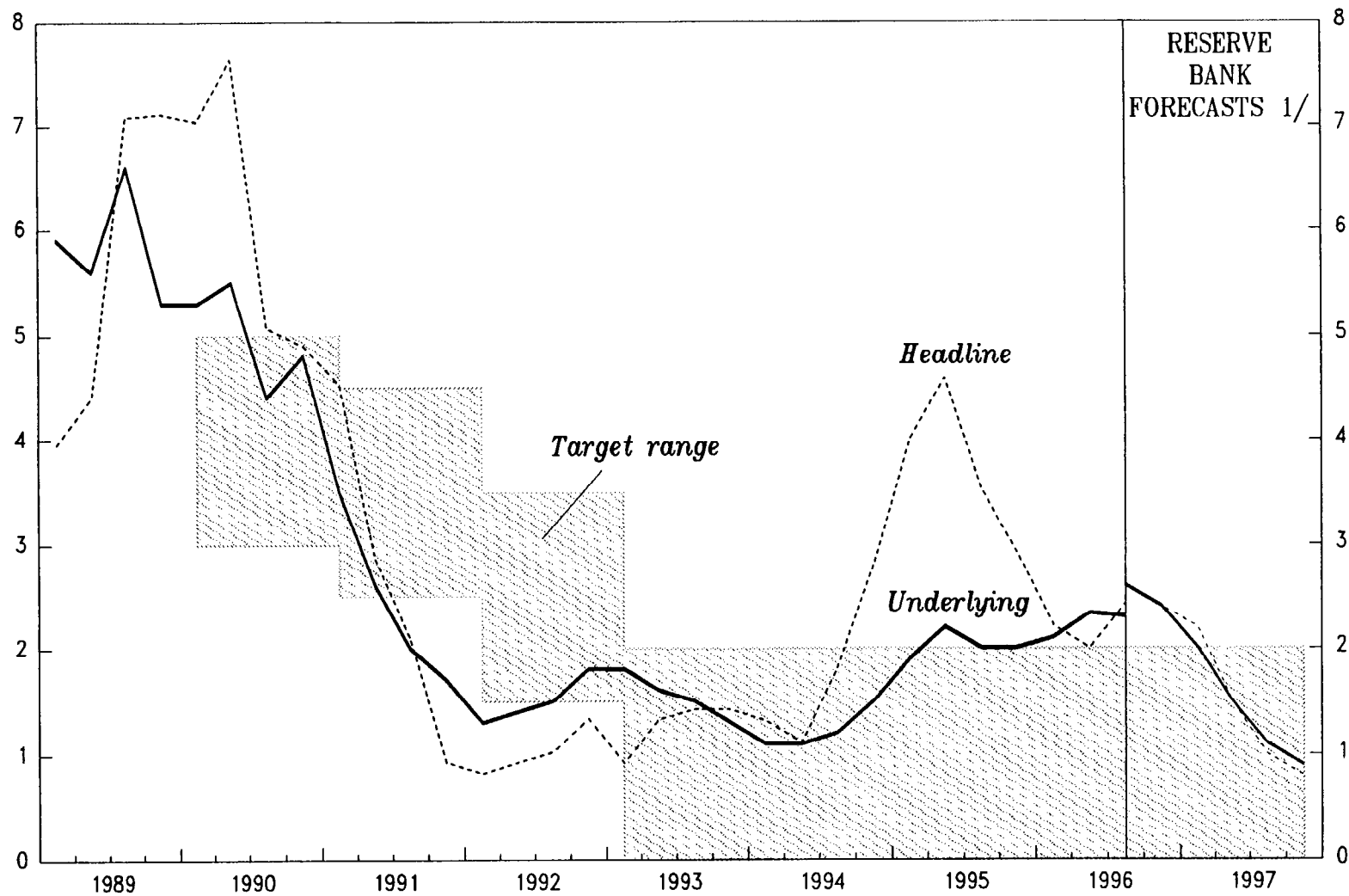
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FIGURE 16
NEW ZEALAND
INFLATION, 1989-97
(Annual growth rate)



Source: New Zealand Department of Statistics.

1/ From September 13 Economic Projections.

Table 4. New Zealand: Gross Domestic Product by Sector, 1991/92-1995/96

(Percentage change from previous year)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.
						-----1994/95-----				-----1995/96-----			
Agriculture	0.6	-16.7	20.3	-4.7	-2.7	6.0	-0.8	-8.1	-10.5	-2.3	-5.4	-3.1	-0.3
Other primary 1/	7.1	2.6	4.8	-2.1	0.9	0.8	1.5	-7.2	-3.4	-6.4	4.9	3.9	2.4
Manufacturing	-2.2	5.0	7.1	7.0	2.0	6.2	5.6	8.4	7.7	5.7	1.9	1.2	-0.5
Electricity, gas, and water	-0.3	-5.9	4.7	3.8	4.5	2.8	3.0	8.6	1.0	9.1	0.3	4.1	5.1
Construction	-15.3	-3.3	12.3	12.3	7.2	13.0	8.8	11.1	17.1	14.1	6.3	5.0	3.6
Trade, restaurants, and hotels	-2.0	2.7	4.9	9.6	4.1	10.3	10.5	10.8	7.2	5.4	5.3	1.7	4.5
Government services 2/	-0.8	2.2	3.0	0.7	0.8	0.4	1.6	0.5	0.4	1.1	0.1	0.7	1.2
Other services 3/	1.7	2.2	5.5	7.2	5.7	7.9	6.6	8.0	6.2	4.7	7.3	5.7	5.3
Gross domestic product 4/	-1.2	1.2	6.2	5.2	2.8	6.0	3.3	5.1	2.6	2.0	2.1	0.3	0.8

Source: Data provided by Statistics New Zealand.

1/ Forestry, fishing, and mining.

2/ Central and local government services.

3/ Transportation, communications, and business and personal services.

4/ Includes owner-occupied dwellings and adjustment items.

Table 5. New Zealand: Selected Quarterly Indicators of Economic Activity, 1991/92-1995/96

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.
						-----1994/95-----				-----1995/96-----				1996
(Percentage change from the previous year)														
Volume of retail sales 1/	-5.1	5.3	5.9	5.8	0.7	7.4	7.1	5.6	3.3	0.7	-0.3	-0.6	3.1	2.2
New automobile registrations	-30.4	-9.6	12.4	22.1	20.5	26.0	31.6	22.0	11.6	22.6	14.7	25.0	20.0	25.9
Building permits for new dwellings	-14.7	8.6	17.3	31.9	-4.3	30.6	33.5	42.7	21.0	-2.6	-12.2	-9.1	8.3	22.1
Manufacturing value added 2/	-9.4	3.8	1.3	6.2	9.7	0.1	0.9	8.2	15.7	19.1	15.5	5.6	0.2	...
Total real GDP 3/	-1.2	1.2	6.2	5.2	2.8	5.9	5.1	5.5	4.4	3.8	3.2	2.3	2.1	...
(In percent)														
Capacity utilization 4/	84.4	87.4	89.5	90.8	90.6	90.3	90.8	91.1	91.0	90.5	90.6	91.0	90.2	89.6
Ratio of stocks to sales:														
Manufacturing	57.2	53.5	51.5	50.2	51.0	52.0	52.0	46.0	51.0	53.0	54.0	47.0	50.0	...
Retail trade	39.0	37.8	36.4	36.8	37.3	38.0	37.4	34.3	37.8	37.6	37.6	35.7	38.4	...

Sources: Data provided by Statistics New Zealand; and the New Zealand Institute for Economic Research (NZIER), Quarterly Survey of Business Opinion.

1/ Seasonally adjusted, in constant March quarter 1995 prices.

2/ Sales less purchases by the manufacturing sector deflated by the respective producer price index.

3/ Quarterly data are based on the production measure, seasonally adjusted at constant 1991-92 prices.

4/ Based on the median capacity utilization index for the manufacturing and building and construction sectors, as estimated by the NZIER (seasonally adjusted).

Table 6. New Zealand: Expenditure on GDP, 1991/92-1995/96

Year ending March	-----1995/96-----		1991/92	1992/93	1993/94	1994/95	1995/96
	(\$NZ mn., at current prices)	(In percent of GDP)					
					(Percentage change from previous year; in constant 1982/83 prices)		
Final consumption	66,738	76.3	-1.7	1.0	2.0	3.5	1.9
Private	53,628	61.3	-2.1	0.6	2.7	4.7	1.8
Public	13,110	15.0	-0.3	2.4	-0.5	-0.7	2.1
Gross fixed investment	18,748	21.4	-18.7	4.7	16.8	16.0	8.1
Private	16,345	18.7	-13.9	8.4	23.7	16.6	7.9
Of which: Residential construction	...	...	-13.6	8.2	18.0	11.3	...
Public	2,403	2.7	-24.5	-4.0	-6.0	20.4	12.1
Changes in stocks 1/	-989	-1.1	0.0	0.8	0.7	-0.0	-0.4
Total domestic demand	86,475	98.9	-5.0	2.4	5.2	5.8	2.7
Exports of goods and nonfactor services	27,132	31.0	9.3	2.5	8.0	8.5	1.6
Imports of goods and nonfactor services	26,131	29.9	-3.7	7.4	8.1	14.0	6.2
External balance 1/	1,001	1.1	3.5	-1.2	0.1	-1.4	-1.4
Expenditure on GDP	87,475	100.0	-1.5	1.1	5.2	4.2	1.3
Memorandum item:							
GDP deflator (1991/92=100)	108	...	1.5	2.3	2.0	1.5	2.0

Source: Data provided by Statistics New Zealand.

1/ Percent contribution to growth in GDP.

Table 7. New Zealand: Prices and Wages, 1991/92-1995/96

(Percentage change from previous year)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.
						-----1994/95-----				-----1995/96-----				1996
Consumer prices	1.7	1.1	1.4	2.4	3.3	1.1	1.8	2.8	4.0	4.6	3.5	2.9	2.2	2.0
Underlying CPI 1/	1.9	1.6	1.4	1.4	2.1	1.1	1.2	1.5	1.9	2.2	2.0	2.0	2.1	2.3
Producer prices 2/														
Input prices	0.7	2.4	2.2	1.2	0.7	1.6	1.2	0.9	1.1	0.8	0.6	0.7	0.9	...
Output prices	0.6	2.6	2.6	1.8	1.1	2.0	1.7	1.9	1.7	1.5	1.2	0.6	0.9	...
GDP deflator	1.5	2.3	2.0	1.5	2.0	1.1	1.5	1.4	2.1	2.1	2.0	2.5	1.4	...
Export prices	-1.3	9.3	-1.2	-1.9	-1.8	-6.5	-4.7	2.0	2.0	-1.0	-0.9	-1.9	-3.2	-1.4
Pastoral and dairy products	-1.2	10.5	-3.7	-4.5	-0.1	-6.8	-5.7	-1.7	-3.8	-2.9	-1.0	1.3	2.3	1.9
Farming inputs price index	-0.1	4.8	4.4	-0.2	-2.8	0.7	-0.1	0.3	-1.8	-2.3	-3.4	-3.8	-1.5	...
Nominal average weekly earnings 3/	2.9	1.9	0.8	2.8	2.7	2.5	2.8	3.0	2.8	2.5	2.6	2.5	3.0	...
Real average weekly earnings	1.2	0.9	-0.6	0.3	-0.6	1.3	1.0	0.2	-1.2	-2.0	-0.9	-0.4	0.8	...

Sources: Data provided by Statistics New Zealand; and the Reserve Bank of New Zealand.

1/ Compiled by the Reserve Bank and defined to exclude the effects of changes in the terms of trade, interest rates, and government charges.

2/ Input prices are for all industries, including commodity taxes paid and subsidies received by the producer. Output prices are for all market groups based on factory door prices before addition of commodity taxes or deduction of producer commodity subsidies.

3/ Earnings include bonuses, all allowances, overtime pay, and special payments of all sectors.

Table 8. New Zealand: Costs and Prices in Manufacturing, 1991/92-1995/96

(Percentage change from previous year)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.
						-----1994/95-----				-----1995/96-----			
Real value added	-9.4	3.8	1.3	6.2	9.7	0.1	0.9	8.2	15.7	19.1	15.5	5.6	0.2
Output price index in manufacturing	0.8	3.3	2.8	1.1	0.8	1.4	0.9	0.9	1.3	0.7	1.0	1.2	0.4
Salaries and wages per hour	5.0	1.1	0.8	2.0	2.2	2.6	1.6	0.9	2.8	0.6	3.1	2.9	2.4
Real salaries and wages per hour 1/	4.2	-2.1	-2.0	0.9	1.4	1.2	0.8	0.1	1.5	-0.1	2.0	1.7	2.0
Hours worked	-5.2	3.5	6.7	5.0	3.5	5.1	4.3	5.5	5.0	5.9	3.5	2.6	1.9
Labor cost index 2/	...	...	...	1.1	1.7	0.9	1.2	1.2	1.3	1.4	1.5	1.9	1.9
Labor productivity 3/	3.2	1.4	0.4	1.9	-1.4	1.1	1.2	2.7	2.6	-0.2	-1.6	-1.4	-2.4

Source: Data provided by Statistics New Zealand.

1/ Deflated by the output price index in manufacturing.

2/ Covers also nonwage labor costs but controls for quality and quantity of work, and, therefore, does not fully reflect productivity.

3/ Real value added per man-hour.

Table 9. New Zealand: Labor Market Developments, 1991/92-1995/96

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun. -----1994/95-----	Sep.	Dec.	Mar.	Jun. -----1995/96-----	Sep.	Dec.	Mar.	Jun. 1996
(In thousands of persons at end of period)														
Working age population	2,574	2,600	2,634	2,673	2,718	2,642	2,650	2,661	2,673	2,682	2,692	2,705	2,718	2,727
Not in the labor force	932	956	941	945	931	960	962	933	945	954	955	929	931	938
Labor force	1,641	1,643	1,693	1,728	1,787	1,683	1,688	1,728	1,728	1,728	1,736	1,776	1,787	1,790
Employment	1,460	1,475	1,532	1,608	1,670	1,545	1,560	1,600	1,608	1,622	1,634	1,666	1,670	1,684
Unemployment	181	168	161	120	116	138	127	128	120	106	102	110	116	106
Registered unemployment 1/	213	215	195	160	147	185	175	181	160	156	149	161	147	150
(Percentage change from previous year)														
Working age population	1.2	1.0	1.3	1.5	1.7	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.7	1.7
Labor force	0.6	0.1	3.0	2.1	3.4	2.2	2.6	2.9	2.1	2.7	2.9	2.8	3.4	3.6
Employment	-0.8	1.0	3.9	5.0	3.9	3.9	4.2	4.9	5.0	4.9	4.8	4.1	3.9	3.8
Unemployment	12.7	-7.2	-4.4	-25.5	-3.2	-13.6	-13.6	-17.1	-25.5	-22.6	-20.0	-14.0	-3.2	-0.5
Registered unemployment	16.0	1.0	-9.4	-18.0	-8.2	-13.0	-13.2	-14.7	-18.0	-15.5	-15.1	-10.8	-8.2	-3.8
(In percent of labor force)														
Labor force participation														
rate	63.8	63.2	64.3	64.7	65.7	63.7	63.7	64.9	64.7	64.4	64.5	65.7	65.7	65.6
Unemployment rate	11.1	10.2	9.5	6.9	6.5	8.2	7.5	7.4	6.9	6.2	5.9	6.2	6.5	5.9
Of which														
27-52 weeks	2.0	1.5	1.5	1.1	0.8	1.2	1.3	1.2	1.1	0.9	1.0	1.0	0.8	0.8
Over 53 weeks	2.9	3.2	2.9	1.7	1.3	2.6	2.3	1.8	1.7	1.5	1.3	1.3	1.3	1.2

Source: Data provided by Statistics New Zealand.

1/ Registered unemployment is an administrative count of those enrolled with the New Zealand Employment Service. It does not conform to the International Labor Organization's standard definition of unemployment commonly used for international comparisons.

Table 10. New Zealand: Employment by Sector, 1991/92-1995/96 1/

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96
(In thousands of persons)					
Agriculture, hunting, forestry, and fishing	160.4	157.0	158.6	161.0	160.0
Mining and quarrying	3.5	3.5	4.0	4.5	5.3
Manufacturing	243.6	242.0	262.0	286.7	293.5
Electricity, gas, and water	12.7	11.0	10.7	10.5	13.1
Building and construction	75.8	79.6	83.5	94.7	102.9
Wholesale and retail trade	300.6	312.5	316.5	333.4	351.4
Transportation, storage, and communications	93.0	89.5	89.8	94.1	97.9
Financing, insurance, real estate, etc.	154.1	155.9	151.2	163.3	177.1
Community, social, and personal services	410.6	417.6	431.8	428.2	445.4
Other	3.7	1.9	2.2	2.1	1.6
Total employment	1,458	1,470	1,510	1,578	1,648
(Annual percentage change)					
Agriculture, hunting, forestry, and fishing	3.2	-2.1	1.0	1.6	-0.6
Mining and quarrying	-30.2	0.7	13.6	13.2	18.9
Manufacturing	-4.4	-0.7	8.3	9.4	2.4
Electricity, gas, and water	-10.1	-13.8	-2.5	-2.1	24.8
Building and construction	-14.6	5.0	4.9	13.4	8.7
Wholesale and retail trade	-3.2	4.0	1.3	5.3	5.4
Transportation, storage, and communications	-1.8	-3.7	0.3	4.8	3.9
Financing, insurance, real estate, etc.	5.1	1.2	-3.0	8.0	8.4
Community, social, and personal services	1.9	1.7	3.4	-0.9	4.0
Other	-40.7	-48.3	13.2	-3.5	-21.7
Total employment	-1.4	0.9	2.7	4.5	4.4
(In percent of total)					
Agriculture, hunting, forestry, and fishing	11.0	10.6	10.3	10.0	9.6
Mining and quarrying	0.2	0.2	0.3	0.3	0.3
Manufacturing	16.7	16.4	17.1	17.8	17.6
Electricity, gas, and water	0.9	0.7	0.7	0.7	0.8
Building and construction	5.2	5.4	5.4	5.9	6.2
Wholesale and retail trade	20.6	21.2	20.7	20.7	21.0
Transportation, storage, and communications	6.4	6.1	5.9	5.9	5.9
Financing, insurance, real estate, etc.	10.6	10.6	9.9	10.2	10.6
Community, social, and personal services	28.1	28.3	28.2	26.6	26.7
Other	0.3	0.1	0.1	0.1	0.1
Total employment	100.0	100.0	100.0	100.0	100.0

Source: Data provided by Statistics New Zealand.

1/ Based on Household Labor Force Survey.

Table 11. New Zealand: Central Government Operating Statement, 1991/92-1995/96 1/

Year ending June	1991/92	1992/93	1993/94	——1994/95——	——1995/96——		
Total revenue	27,635	27,629	29,561	32,248	33,095	34,922	35,057
<i>Of which</i>							
Total tax revenue	24,843	25,980	28,120	29,337	49,037	51,969	51,922
Direct taxation	15,508	16,186	17,901	19,323	19,843	21,193	21,255
<i>Of which</i>							
Individuals	12,375	12,729	13,699	14,491	14,857	15,572	15,626
Companies	1,850	2,320	3,121	3,780	3,967	4,466	4,063
Indirect taxation	9,335	9,794	10,219	10,014	10,370	10,738	10,978
Net surplus attributable to SOEs and Crown entities	...	...	...	307	(553)	317	(2)
Total expenses	29,174	29,418	29,371	30,960	30,400	31,635	31,743
<i>Of which</i>							
Social security and welfare	10,620	10,697	10,578	11,823	11,724	11,897	12,240
Education	4,467	4,504	4,654	4,815	4,803	4,967	4,949
Health	3,855	3,874	4,097	4,842	4,886	5,137	5,228
Finance costs 2/	4,147	3,899	3,555	3,603	3,757	3,547	3,703
Financial/operating balance 3/	(1,539)	(1,789)	190	1,288	2,695	3,287	3,314
Total revenue	38.3	36.5	36.3	37.7	38.7	39.6	39.7
<i>Of which</i>							
Total tax revenue	34.4	34.4	34.5	34.3	57.3	58.9	58.8
Direct taxation	21.5	21.4	22.0	22.6	23.2	24.0	24.1
<i>Of which</i>							
Individuals	17.2	16.8	16.8	16.9	17.4	17.6	17.7
Companies	2.6	3.1	3.8	4.4	4.6	5.1	4.6
Indirect taxation	12.9	12.9	12.5	11.7	12.1	12.2	12.4
Net surplus attributable to SOEs and Crown entities	...	...	...	0.4	(0.6)	0.4	(0.0)
Total expenses	40.4	38.9	36.1	36.2	35.5	35.9	36.0
<i>Of which</i>							
Social security and welfare	14.7	14.1	13.0	13.8	13.7	13.5	13.9
Education	6.2	6.0	5.7	5.6	5.6	5.6	5.6
Health	5.3	5.1	5.0	5.7	5.7	5.8	5.9
Finance costs 2/	5.7	5.2	4.4	4.2	4.4	4.0	4.2
Financial/operating balance 3/	(2.1)	(2.4)	0.2	1.5	3.1	3.7	3.8

Source: New Zealand Treasury, Economic and Fiscal Outlook, various issues.

1/ From 1992/93 onward, the reporting entity includes all SOEs and Crown entities, as well as the Reserve Bank of New Zealand.

2/ Finance costs include interest and other costs associated with the stock of public debt, but excludes the capital portion of debt repayments.

3/ Financial balance for 1991/92-1993/94, operating balance for 1994/95; from 1992/93, total revenue includes net surplus attributable to SOEs and Crown entities; GDP prior to 1992/93 is for year ending in March.

Table 12. New Zealand: Central Government Balance Sheet, 1991/92-1995/96 1/

(In millions of New Zealand dollars)

Year ending June	1991/92	1992/93	1993/94	1994/95	1995/96
Total assets	29,136	44,190	54,419	54,264	58,921
Cash and bank balances	464	77	70	210	344
Marketable securities and deposits	...	...	8,175	6,523	9,273
Advances and receivables	8,254	7,106	7,595	9,235	8,239
Advances	...	...	2,989	4,782	3,457
Receivables	...	...	4,606	4,453	4,782
Inventories	304	448	340	326	336
SOEs and Crown entities	...	15,929	16,569	16,420	18,487
Total physical assets	20,058	20,612	21,648	21,532	22,235
Physical assets	...	...	13,080	13,432	13,925
Commercial forests	...	...	712	646	551
State highways	...	...	7,856	7,454	7,759
Intangible assets	56	18	22	18	7
Total liabilities	57,260	59,902	60,047	57,646	55,577
Payables and provisions	3,410	3,184	4,138	3,824	4,070
Currency issued	...	1,400	1,529	1,620	1,675
Borrowings	46,674	47,478	46,429	44,096	41,500
Pension liabilities	7,176	7,840	7,951	8,106	8,332
Crown balance (net worth)	(28,124)	(15,712)	(5,628)	(3,382)	3,344

Sources: New Zealand Treasury, Economic and Fiscal Outlook, various issues; and Financial Statements of the Government of New Zealand, 1992.

1/ Starting in 1992/93, the reporting entity includes all SOEs and Crown entities, as well as the Reserve Bank of New Zealand.

Table 13. New Zealand: Statement of Cash Flows, 1991/92-1995/96

Year ending June	1991/92	1992/93	1993/94	1994/95	1995/96	1991/92	1992/93	1993/94	1994/95	1995/96
	(In millions of New Zealand dollars)					(In percent of GDP)				
Cash flows from operations	-2,021	-1,201	1,259	3,490	4,233	-2.8	-1.6	1.5	4.1	4.8
Total cash provided	27,292	28,212	30,092	33,768	35,020	37.3	37.3	37.0	39.5	39.7
Direct taxation	15,508	16,186	17,987	19,696	21,379	21.2	21.4	22.1	23.0	24.2
Indirect taxation	8,663	9,124	9,584	10,265	10,940	11.8	12.1	11.8	12.0	12.4
Fees, fines, penalties, and levies	...	151	155	212	212	...	0.2	0.2	0.2	0.2
Other receipts	3,121	2,751	2,366	3,595	2,489	4.3	3.6	2.9	4.2	2.8
Total cash disbursed	29,313	29,413	28,833	30,278	30,787	40.1	38.9	35.4	35.4	34.9
Departmental outputs	...	4,076	4,055	3,878	3,974	...	5.4	5.0	4.5	4.5
Other outputs	...	10,354	10,462	11,476	12,010	...	13.7	12.8	13.4	13.6
Finance costs	4,147	3,886	3,443	3,861	3,391	5.7	5.1	4.2	4.5	3.8
Subsidies	...	153	295	152	135	...	0.2	0.4	0.2	0.2
Current transfers	...	10,944	10,578	10,911	11,277	...	14.5	13.0	12.8	12.8
Cash flows from investing activities	1,515	-50	-1,371	-1,748	-2,526	2.1	-0.1	-1.7	-2.0	-2.9
Total cash provided	634	3,050	144	257	164	0.9	4.0	0.2	0.3	0.2
Sale of physical assets	634	3,050	144	257	164	0.9	4.0	0.2	0.3	0.2
Total cash disbursed	-881	3,100	1,515	2,005	2,690	-1.2	4.1	1.9	2.3	3.0
Net purchases of investments & advances	-1,578	2,413	686	1,165	1,675	-2.2	3.2	0.8	1.4	1.9
Purchase of physical assets	697	687	829	840	1,015	1.0	0.9	1.0	1.0	1.2
Cash flows from financing activities	816	986	110	-1,585	-1,576	1.1	1.3	0.1	-1.9	-1.8
Total cash provided	3,893	2,882	1,155	595	640	5.3	3.8	1.4	0.7	0.7
Issue of circulating money	...	61	129	104	82	...	0.1	0.2	0.1	0.1
Net issue of government stock	3,893	2,821	1,026	491	558	5.3	3.7	1.3	0.6	0.6
Total cash disbursed	3,077	1,896	1,045	2,180	2,216	4.2	2.5	1.3	2.5	2.5
Net repayment of other NZ\$ borrowing	917	449	-799	-1,025	-154	1.3	0.6	-1.0	-1.2	-0.2
Net repayment of foreign currency borrowing	1,842	1,361	1,837	3,115	2,370	2.5	1.8	2.3	3.6	2.7
Major project financing	375	79	7	90	...	0.5	0.1	0.0	0.1	...
Other items	-57	7	...	...	...	-0.1	0.0	...	...	...
Net movement in cash held	310	-265	-2	157	131	0.4	-0.4	0.0	0.2	0.1

Source: New Zealand Treasury, Economic and Fiscal Outlook, various issues.

Table 14. New Zealand: Central Government Revenue, 1991/92-1995/96 1/

Year ending June	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Total revenue	27,346	30,610	30,394	33,095	35,057
Levied through the Crown's sovereign power	24,060	25,963	27,895	30,438	32,468
Direct taxation	15,371	16,591	17,585	19,843	21,255
Income tax	15,321	16,528	17,580	19,849	21,253
Individuals	11,808	13,138	13,527	14,857	15,626
Companies	2,315	2,394	3,001	3,967	4,063
Withholding taxes	1,198	996	1,052	1,025	1,564
Other direct taxes	50	63	5	(6)	2
Indirect taxation	8,530	9,221	10,120	10,370	10,978
GST	5,452	6,000	6,779	6,809	7,262
Excise taxes	1,821	1,856	1,829	1,867	1,875
Other indirect taxes	1,257	1,365	1,512	1,694	1,841
Fees, fines, penalties, and levies	159	151	190	225	235
Earned through the Crown's operations	3,286	3,872	2,288	3,210	2,591
Investment income	1,683	1,646	1,368	2,170	1,606
Unrealized gains/losses arising from changes in the value of commercial forests	0	766	(292)	(65)	(87)
Other operational income	762	791	499	438	410
Sales of goods and services	841	669	713	667	662
Net surplus attributable to SOEs and CEs	...	775	211	(553)	(2)
(In percent of GDP)					
Total revenue	37.9	40.5	37.3	38.7	39.7
Levied through the Crown's sovereign power	33.3	34.3	34.3	35.6	36.8
Direct taxation	21.3	21.9	21.6	23.2	24.1
Income tax	21.2	21.9	21.6	23.2	24.1
Individuals	16.4	17.4	16.6	17.4	17.7
Companies	3.2	3.2	3.7	4.6	4.6
Withholding taxes	1.7	1.3	1.3	1.2	1.8
Other direct taxes	0.1	0.1	0.0	(0.0)	0.0
Indirect taxation	11.8	12.2	12.4	12.1	12.4
GST	7.6	7.9	8.3	8.0	8.2
Excise taxes	2.5	2.5	2.2	2.2	2.1
Other indirect taxes	1.7	1.8	1.9	2.0	2.1
Fees, fines, penalties, and levies	0.2	0.2	0.2	0.3	0.3
Earned through the Crown's operations	4.6	5.1	2.8	3.8	2.9
Investment income	2.3	2.2	1.7	2.5	1.8
Unrealized gains/losses arising from changes in the value of commercial forests	0.0	1.0	(0.4)	(0.1)	(0.1)
Other operational income	1.1	1.0	0.6	0.5	0.5
Sales of goods and services	1.2	0.9	0.9	0.8	0.8
Net surplus attributable to SOEs and CEs	...	1.0	0.3	(0.6)	(0.0)

Source: New Zealand Treasury, Economic and Fiscal Outlook, various issues.

1/ From 1992/93 onward, includes all SOEs and Crown entities, as well as the Reserve Bank of New Zealand; GDP prior to 1992/93 is for year ending in March.

Table 15. New Zealand: Central Government Expenditure, 1991/92-1995/96 1/

Year ending June	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Total expenses	32,495	31,429	29,639	30,400	31,743
Social security and welfare	...	12,071	11,479	11,724	12,240
<i>Of which</i> : Unemployment benefits	1,552	1,572	1,483	1,320	1,236
Superannuation	5,219	4,985	4,931	4,982	5,051
Education	...	4,539	4,627	4,803	4,949
Health	...	4,168	4,602	4,886	5,228
Core government services	...	1,464	1,723	1,340	1,565
Law and order	...	1,054	1,150	1,190	1,234
Defense	...	1,173	1,049	1,013	970
Transportation and communications	...	781	815	796	821
Economic and industrial services	...	744	711	673	997
Primary services	...	372	299	309	304
Heritage, culture, and recreation	...	310	241	233	247
Housing and community development	...	260	39	46	40
Other	...	236	14	181	48
Finance costs	4,415	3,961	3,788	3,757	3,703
Interest	4,147	3,916	3,662	3,736	3,440
New Zealand dollar	2,683	2,379	2,420	2,763	2,732
Foreign currencies	1,602	1,537	1,242	973	708
Other finance costs	130	45	126	21	263
Net foreign exchange losses/gains	1,764	296	(898)	(551)	(603)
(In percent of GDP)					
Total expenses	45.0	41.6	36.4	35.5	36.0
Social security and welfare	...	16.0	14.1	13.7	13.9
<i>Of which</i> : Unemployment benefits	2.2	2.1	1.8	1.5	1.4
Superannuation	7.2	6.6	6.1	5.8	5.7
Education	...	6.0	5.7	5.6	5.6
Health	...	5.5	5.7	5.7	5.9
Core government services	...	1.9	2.1	1.6	1.8
Law and order	...	1.4	1.4	1.4	1.4
Defense	...	1.6	1.3	1.2	1.1
Transportation and communications	...	1.0	1.0	0.9	0.9
Economic and industrial services	...	1.0	0.9	0.8	1.1
Primary services	...	0.5	0.4	0.4	0.3
Heritage, culture, and recreation	...	0.4	0.3	0.3	0.3
Housing and community development	...	0.3	0.0	0.1	0.0
Other	...	0.3	0.0	0.2	0.1
Finance costs	6.1	5.2	4.7	4.4	4.2
Interest	5.7	5.2	4.5	4.4	3.9
New Zealand dollar	3.7	3.1	3.0	3.2	3.1
Foreign currencies	2.2	2.0	1.5	1.1	0.8
Other finance costs	0.2	0.1	0.2	0.0	0.3
Net foreign exchange losses/gains	2.4	0.4	(1.1)	(0.6)	(0.7)

Source: New Zealand Treasury, Economic and Fiscal Outlook, various issues.

1/ From 1992/93 onward, includes all SOEs and Crown entities, as well as the Reserve Bank of New Zealand.

Table 16. New Zealand: Central Government Debt, 1991/92-1995/96

Year ending June	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Total outstanding debt	47,105	47,478	46,429	44,096	41,500
New Zealand dollar	26,378	27,612	29,565	31,051	31,747
Foreign currencies	20,727	19,866	16,864	13,045	9,753
Total financial assets	9,007	10,367	11,006	11,515	12,863
Marketable securities and deposits	4,878	7,506	7,947	6,523	9,062
Advances and cash	4,129	2,861	3,059	4,992	3,801
Net public debt	38,098	37,111	35,423	32,581	28,637
New Zealand dollar	22,157	23,363	25,160	25,268	27,233
Foreign currencies	15,941	13,748	10,263	7,313	1,404
Interest on public debt	4,147	3,916	3,662	3,736	3,440
(In percent of GDP)					
Total outstanding debt	65.3	62.8	57.0	51.5	47.0
New Zealand dollar	36.6	36.5	36.3	36.3	36.0
Foreign currencies	28.7	26.3	20.7	15.2	11.1
Total financial assets	12.5	13.7	13.5	13.5	14.6
Marketable securities and deposits	6.8	9.9	9.8	7.6	10.3
Advances and cash	5.7	3.8	3.8	5.8	4.3
Net public debt	52.8	49.1	43.5	38.1	32.5
New Zealand dollar	30.7	30.9	30.9	29.5	30.9
Foreign currencies	22.1	18.2	12.6	8.5	1.6
Interest on public debt	5.7	5.2	4.5	4.4	3.9

Source: New Zealand Treasury, Economic and Fiscal Outlook, various issues.

Table 17. New Zealand: Interest Rates and Yields, 1991/92-1995/96

(Period average data; in percent)

		Call Money Market Rate	Ninety-Day Commercial Bill Rate	Yields on Government Securities on -----Secondary Market-----			Yield Gap 1/	Housing Mortgage Rate 2/	Bank Base Lending Rate
Year ending March				One Year	Five Years	Ten Years			
1991/92		8.5	8.5	13.0	9.0	9.3	-0.5	11.5	13.0
1992/93		6.8	6.8	11.0	7.5	8.0	-0.8	9.5	11.0
1993/94		5.3	5.6	9.7	6.2	6.5	-0.6	8.0	9.7
1994/95		7.3	8.1	10.6	8.4	8.4	-0.3	9.5	10.6
1995/96		9.1	8.9	12.0	7.8	7.6	1.1	10.7	12.0
1995	Jan.	8.4	9.3	9.4	8.8	8.6	0.5	11.0	12.1
	Feb.	8.8	9.4	9.5	8.8	8.6	0.6	11.0	12.1
	Mar.	9.2	9.4	9.3	8.5	8.4	0.9	11.0	12.1
	Apr.	9.0	9.2	9.1	8.0	7.9	1.2	11.0	12.1
	May	9.0	9.1	8.9	7.7	7.4	1.5	11.0	12.1
	Jun.	9.0	9.0	8.9	7.7	7.5	1.3	11.0	12.1
	Jul.	8.9	8.8	8.2	7.7	7.6	1.1	10.6	12.1
	Aug.	9.1	9.0	8.3	8.0	7.9	1.0	10.6	12.2
	Sep.	9.5	9.2	8.5	8.0	7.8	1.2	10.9	12.2
	Oct.	8.9	8.7	8.0	7.4	7.3	1.3	10.6	12.2
	Nov.	8.5	8.3	7.8	7.2	7.2	1.1	10.5	12.1
	Dec.	8.7	8.6	8.2	7.5	7.2	1.1	10.4	11.9
1996	Jan.	8.8	8.6	8.2	7.3	7.1	1.3	10.4	11.8
	Feb.	8.6	8.5	8.2	7.5	7.2	1.0	10.4	11.8
	Mar.	9.1	8.9	8.6	8.2	7.8	0.7	10.4	11.8
	Apr.	9.3	9.2	9.0	8.6	8.2	0.6	10.6	11.8
	May	9.7	9.8	9.1	8.8	8.5	1.0	10.8	12.1
	Jun.	9.5	10.0	9.2	9.1	8.8	0.9	11.5	12.6
	Jul.	9.9	10.1	9.1	8.7	8.6	1.4	11.5	12.7
	Aug.	9.9	10.0	8.8	8.2	8.2	1.8	11.5	12.8
	Sep.	10.1	9.9	8.7	8.1	8.1	1.8	11.5	12.8

Sources: Data provided by Statistics New Zealand; and Reserve Bank of New Zealand.

1/ Difference between the 90-day bill rate and the yield on 5-year government bonds.

2/ Weighted prime rates for new borrowers on adjustable rate mortgages.

Table 18. New Zealand: Money and Credit Aggregates, 1991/92-1995/96 1/

Year ending March	Primary Liquidity 2/			-----M2 4/-----			-----M3 5/-----			Private Sector Credit 6/-----		Domestic Credit 7/-----	
	(\$NZ mn.)	(\$NZ mn.)	Annual percent change	(\$NZ mn.)	Annual percent change	(\$NZ mn.)	Annual percent change	(\$NZ mn.)	Annual percent change	(\$NZ mn.)	Annual percent change	(\$NZ mn.)	Annual percent change
1991/92	562	9,354	2.1	25,729	7.0	57,731	11.3	58,639	5.9	69,098	8.5		
1992/93	535	9,102	-2.7	26,062	1.3	61,307	6.2	63,777	8.8	73,599	6.5		
1993/94	440	10,475	15.1	27,351	4.9	65,332	6.6	71,653	12.3	80,878	9.9		
1994/95	556	10,746	2.6	28,483	4.1	69,726	6.7	77,261	7.8	84,291	4.2		
1995/96	553	11,548	7.5	33,924	19.1	78,108	12.0	88,515	14.6	93,733	11.2		
1995 Jan.	545	11,231	4.4	29,545	4.9	68,163	3.3	76,160	7.0	83,491	4.9		
Feb.	564	10,755	3.8	29,632	8.8	69,220	7.6	76,218	8.7	83,863	7.7		
Mar.	556	10,746	2.6	28,483	4.1	69,726	6.7	77,261	7.8	84,291	4.2		
Apr.	558	11,294	3.8	30,697	11.5	71,081	7.9	77,795	11.1	85,569	6.3		
May	563	11,325	2.0	29,946	3.4	70,777	7.7	78,593	11.4	87,249	6.6		
Jun.	566	11,319	-1.4	30,606	5.1	71,934	8.8	79,839	11.5	87,584	7.1		
Jul.	573	10,978	0.3	30,107	6.7	71,838	9.0	80,038	11.9	87,493	6.6		
Aug.	563	10,679	-3.1	29,622	5.2	72,909	9.4	81,032	11.3	89,302	8.5		
Sep.	550	10,729	-1.7	29,999	5.5	73,853	9.9	82,007	12.2	89,819	11.5		
Oct.	553	11,134	-3.0	32,290	10.6	75,042	10.5	82,892	11.2	90,033	10.1		
Nov.	544	11,207	0.8	32,158	11.6	75,803	12.2	84,549	11.4	92,122	10.9		
Dec.	555	11,877	6.3	32,844	13.9	78,712	15.5	86,003	13.3	93,740	11.6		
1996 Jan.	561	11,217	-0.1	33,406	13.1	76,910	12.8	86,137	13.1	92,268	10.5		
Feb.	561	10,864	1.0	32,883	11.0	76,976	11.2	86,666	13.7	92,431	10.2		
Mar.	553	11,548	7.5	33,924	19.1	78,108	12.0	88,515	14.6	93,733	11.2		
Apr.	540	11,524	2.0	33,935	10.5	79,679	12.1	89,638	15.2	95,475	11.6		
May	558	11,540	1.9	33,435	11.7	82,295	16.3	90,769	15.5	96,698	10.8		
Jun.	561	11,384	0.6	34,598	13.0	84,300	17.2	92,347	15.7	97,752	11.6		

Source: Data provided by Statistics New Zealand.

1/ Institutions covered are the Reserve Bank of New Zealand, registered banks, and other M3 institutions. Data are end of period.

2/ Cash held by settlement institutions at the Reserve Bank, and Reserve Bank bills with less than 20 days to maturity that the Reserve Bank will discount on demand.

3/ M1 equals notes and coins held by public plus transaction accounts.

4/ M2 equals M1 plus any other call funding and term funding without break penalties.

5/ M3 equals M2 plus all other funding.

6/ Private sector credit equals the claims of M3 institutions on the private sector.

7/ Domestic credit equals private sector credit plus the claims of M3 institutions on the government.

Table 19. New Zealand: Financial Survey, 1991/92-1995/96 1/

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Mar. -----1995-----	Jun.	Sep.	Dec.	Mar. -----1996----	Jun.
(In millions of New Zealand dollars; end of period)											
Net foreign assets and other items, net	-11,367	-12,292	-15,546	-14,565	-15,625	-14,565	-15,650	-15,966	-15,028	-15,625	-13,452
Domestic credit	69,098	73,599	80,878	84,291	93,733	84,291	87,584	89,819	93,740	93,733	97,752
Private sector credit	58,639	63,777	71,653	77,261	88,515	77,261	79,839	82,007	86,003	88,515	92,347
Claims on government 2/	10,459	9,822	9,225	7,030	5,218	7,030	7,745	7,812	7,737	5,218	5,405
Broad money	57,731	61,307	65,332	69,726	78,108	69,726	71,934	73,853	78,712	78,108	84,300
Broad money growth (in percent)	11.3	6.2	6.6	6.7	12.0	6.7	8.8	9.9	15.5	12.0	17.2
(Contribution to the growth of broad money)											
Net foreign assets and other items, net	0.9	-1.6	-5.3	1.5	-1.5	1.5	0.1	-3.9	1.2	-1.5	3.1
Domestic credit	10.5	7.8	11.9	5.2	13.5	5.2	8.7	13.7	14.3	13.5	14.1
Private sector credit	6.3	8.9	12.8	8.6	16.1	8.6	12.5	13.3	14.8	16.1	17.4
Claims on government 2/	4.2	-1.1	-1.0	-3.4	-2.6	-3.4	-3.7	0.5	-0.5	-2.6	-3.3
Memorandum items:											
Nominal GDP growth (annual percent change)	0.0	3.4	7.3	5.8	3.3	4.7	4.1	4.1	2.8	2.2	1.9
CPI (annual percent change)	1.7	1.1	1.4	2.4	3.3	4.0	4.6	3.5	2.9	2.2	2.0
Velocity of circulation of broad money 3/	1.32	1.24	1.25	1.26	1.17	0.31	0.31	0.28	0.30	0.29	0.27

Source: Reserve Bank of New Zealand, Bulletin.

1/ Reserve Bank, registered banks, and other institutions whose liabilities are included in broad money.

2/ Including claims on marketing and stabilization accounts.

3/ Ratio of nominal GDP to average monthly data for broad money.

Table 20. New Zealand: Domestic Credit by Sector, 1991/92-1995/96 1/

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun. 1996
(In millions of New Zealand dollars; end of period)						
Agriculture, hunting, forestry, and fishing	5,781	6,981	8,035	9,030	9,950	10,814
Mining and quarrying	351	452	236	262	166	168
Manufacturing	3,531	4,171	4,410	4,644	5,112	4,886
Electricity, gas, and water	934	502	630	969	1,343	1,292
Building and construction	1,252	839	931	831	1,248	1,001
Wholesale and retail trade, restaurants, and hotels	3,524	3,469	3,880	4,988	5,840	6,055
Transportation, storage, and communications	1,348	1,846	1,684	1,397	1,728	1,638
Financing, insurance, real estate, and business	20,430	19,886	20,384	22,717	24,868	26,252
Community, social, and personal services	3,648	1,903	2,631	1,688	2,115	2,265
Central and local government services	1,029	950	795	914	758	792
Households						
Housing	19,167	24,780	28,648	33,659	38,829	40,307
Other	5,455	5,630	6,295	6,472	7,730	7,871
Nonresidents	1,594	1,590	4,204	2,237	1,468	1,744
Unallocated	1,325	1,153	1,064	792	674	1,823
Total	69,366	74,152	83,829	90,600	101,828	106,908
(Percentage change from the previous year).						
Agriculture, hunting, forestry, and fishing	2.1	20.8	15.1	12.4	10.2	17.5
Mining and quarrying	172.0	28.8	-47.7	11.0	-36.8	-29.0
Manufacturing	-6.2	18.1	5.7	5.3	10.1	2.7
Electricity, gas, and water	54.1	-46.2	25.4	53.9	38.5	30.4
Building and construction	-31.3	-33.0	11.0	-10.7	50.1	18.6
Wholesale and retail trade, restaurants, and hotels	7.2	-1.6	11.9	28.6	17.1	15.5
Transportation, storage, and communications	-6.8	36.9	-8.7	-17.1	23.7	3.6
Financing, insurance, real estate, and business	9.7	-2.7	2.5	11.4	9.5	15.3
Community, social, and personal services	-1.7	-47.8	38.2	-35.8	25.3	19.8
Central and local government services	46.6	-7.7	-16.3	14.9	-17.0	14.6
Households						
Housing	17.6	29.3	15.6	17.5	15.4	16.5
Other	-11.8	3.2	11.8	2.8	19.4	14.0
Nonresidents	-8.3	-0.2	164.3	-46.8	-34.4	-6.0
Unallocated	-42.3	-12.9	-7.8	-25.6	-14.8	182.6
Total	4.7	6.9	13.0	8.1	12.4	15.9

Source: Data provided by Statistics New Zealand.

1/ Covered are the Reserve Bank, registered banks, and other M3 institutions.

Table 21. New Zealand: Balance of Payments, 1991/92-1995/96

Years ending March	1991/92	1992/93	1993/94	1994/95	1995/96
(In billions of New Zealand dollars)					
Exports, f.o.b.	16.8	18.6	19.5	20.6	20.2
Imports, f.o.b.	-13.2	-15.2	-16.4	-18.5	-19.3
Trade balance	3.6	3.4	3.1	2.1	0.9
Nonfactor service receipts	4.6	5.0	5.5	6.3	6.8
Nonfactor service payments	6.1	6.8	6.4	6.9	7.0
Net nonfactor services	-1.4	-1.7	-0.9	-0.6	-0.3
Balance on goods and nonfactor services	2.2	1.7	2.2	1.5	0.6
Investment income receipts	-0.4	-0.1	0.6	0.9	1.2
Investment income payments	4.4	3.8	5.2	7.3	7.7
Net transfers	0.7	0.9	1.2	1.6	2.3
Balance on invisibles	-5.5	-4.7	-4.2	-5.4	-4.5
Current account balance	-1.9	-1.3	-1.0	-3.3	-3.6
Capital account balance	0.4	1.3	1.8	2.9	4.3
Government	-1.9	-1.4	-2.4	-0.6	-1.8
Private capital	2.2	2.8	4.2	3.5	6.1
Net direct investment	1.3	6.5	0.9	2.0	...
Other 1/	0.9	-3.7	3.3	1.5	...
Change in reserve assets 2/	1.5	-0.1	-0.7	0.4	0.0
Memorandum items:					
Gross reserves	5.8	6.2	6.9	6.3	6.8
Gross external debt					
(In percent of GDP)	86.0	91.5	91.5	82.7	80.9
(In percent of GDP)					
Exports	23.3	24.9	24.4	24.3	23.1
Imports	-18.4	-20.4	-20.5	-21.9	-22.1
Trade balance	5.0	4.6	3.9	2.5	1.0
Net nonfactor services	-2.0	-2.3	-1.1	-0.7	-0.3
Net investment income	-6.6	-5.2	-5.6	-7.6	-7.4
Net transfers	1.0	1.2	1.6	1.9	2.6
Invisibles balance	-7.6	-6.2	-5.2	-6.4	-5.1
Current account balance	-2.6	-1.7	-1.3	-3.9	-4.1

Sources: Data provided by Statistics New Zealand; and Fund staff estimates.

1/ Includes other private and government capital movements, and errors and omissions.

2/ Computed on a transactions basis. A minus (-) sign corresponds to an increase in reserves.

Table 22. New Zealand: Foreign Trade Value, Volume,
and Unit Values, 1991/92-1995/96

Year ending March	----Value 1/----		---Exports 2/---		---Imports 2/---		Terms of Trade
	Exports (In millions of New Zealand dollars)	Imports	Volume	Unit Value	Volume	Unit Value	
			-(Percentage change from the previous year)-				
1991/92	16,370	13,790	10.8	-1.3	-5.7	1.0	-2.3
1992/93	17,970	15,629	1.6	9.3	6.0	6.7	2.4
1993/94	18,999	16,647	6.4	-1.2	9.5	-2.7	1.5
1994/95	20,179	19,137	8.6	-1.9	16.4	-1.8	-0.1
1995/96	19,886	19,851	0.3	-1.8	4.3	-0.6	-1.1
1992/93 Jun.	4,935	3,514	11.1	8.9	2.4	10.8	-1.7
Sep.	4,031	4,365	-3.3	10.3	15.5	8.3	1.8
Dec.	4,366	4,170	-4.4	9.1	13.6	4.4	4.5
Mar.	4,638	3,579	2.6	8.8	-7.3	3.6	5.0
1993/94 Jun.	5,206	3,865	-0.6	5.1	9.7	-0.2	5.3
Sep.	4,416	4,594	7.5	1.2	6.4	-0.7	2.0
Dec.	4,545	4,335	8.5	-4.3	8.4	-4.0	-0.4
Mar.	4,833	3,853	11.6	-6.5	14.3	-6.0	-0.6
1994/95 Jun.	5,373	4,237	10.6	-6.5	14.5	-4.4	-2.3
Sep.	4,655	4,917	11.0	-4.7	10.6	-3.4	-1.4
Dec.	4,958	5,483	7.2	2.0	25.4	-0.4	2.4
Mar.	5,192	4,500	5.7	2.0	14.7	1.1	0.9
1995/96 Jun.	5,394	4,846	1.3	-1.0	14.5	-1.0	0.1
Sep.	4,708	5,182	2.1	-0.9	4.8	0.2	-1.1
Dec.	4,909	5,188	0.9	-1.9	-3.9	-0.7	-1.2
Mar.	4,874	4,635	-3.1	-3.2	4.0	-1.0	-2.3
Jun.	5,641	4,794	6.2	-1.4	0.1	-0.7	-0.8

Source: Data provided by Statistics New Zealand.

1/ Based on external trade statistics; exports valued f.o.b. and imports c.i.f.

2/ Percentage changes in value terms may not be consistent with volume and unit value changes, as the latter two estimates are obtained from trade statistics expressed in value for duty terms.

Table 23. New Zealand: Changes in Volumes and Unit Values of Exports, 1991/92-1995/96

(Percentage change from previous year)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.
						-----1994/95-----				-----1995/96-----				1996
Meat														
Volume	10.6	4.1	-2.5	2.1	9.0	-0.7	-5.2	21.6	-0.3	5.9	26.3	5.4	3.4	0.8
Unit value	-0.9	6.9	-0.8	-11.0	-9.5	-9.9	-11.9	-10.6	-11.8	-13.8	-12.9	-4.7	-6.2	0.6
Dairy products														
Volume	6.3	-1.2	7.9	15.8	-11.4	32.1	19.8	12.6	4.2	-10.2	-15.7	-14.5	-5.4	19.1
Unit value	-2.8	19.7	-3.5	-12.8	12.6	-14.6	-15.6	-12.8	-7.8	0.7	10.9	20.3	19.1	5.6
Wool														
Volume	34.7	-17.1	9.7	12.8	-20.6	36.0	12.9	-4.4	13.7	-30.5	-28.5	-1.4	-23.1	-6.1
Unit value	-19.2	8.7	-8.8	19.4	5.5	7.3	18.4	27.7	24.2	21.4	10.5	-4.4	-2.9	-10.8
All pastoral products														
Volume	9.3	-1.1	2.5	7.7	-1.4	12.6	6.7	5.9	5.0	0.2	0.3	-0.8	-4.8	7.6
Unit value	-1.2	10.5	-3.7	-4.5	-0.1	-6.8	-5.7	-1.7	-3.8	-2.9	-1.0	1.3	2.3	1.9
Fish and fish products														
Volume	15.9	-1.1	5.6	-1.3	8.9	17.2	-2.2	-15.9	3.3	8.6	13.6	10.1	2.2	9.1
Unit value	16.9	14.8	-5.2	1.3	-6.0	-4.3	0.5	3.9	5.5	-1.4	-4.1	-10.3	-8.4	-5.9
Forestry products														
Volume	15.3	11.1	0.1	7.0	0.8	-4.8	22.0	15.5	-0.9	6.4	-2.1	-2.9	1.8	-1.0
Unit value	-1.3	6.9	23.0	-6.6	2.6	-7.5	-14.7	-2.7	-0.2	2.3	4.0	5.9	-1.8	-10.3
Manufactured goods other than food														
Volume	12.1	10.1	12.4	11.1	1.3	13.9	12.3	9.2	9.0	2.2	3.0	0.9	-1.2	4.8
Unit value	-2.5	3.3	-3.5	6.5	-4.6	-2.9	3.3	11.6	14.6	2.0	-0.4	-6.6	-12.4	-3.2
Of which														
Aluminum														
Volume	2.6	-4.4	7.8	-0.9	1.0	-2.1	1.1	-7.0	5.2	1.0	-3.3	7.2	-0.8	5.1
Unit value	-15.9	3.1	-11.5	24.2	1.4	5.2	11.6	31.3	50.3	23.2	15.4	-2.7	-21.8	-14.3
Total exports														
Volume	10.8	1.6	6.4	8.6	0.3	10.6	11.0	7.2	5.7	1.3	2.1	0.9	-3.1	6.2
Unit value	-1.3	9.3	-1.2	-1.9	-1.8	-6.5	-4.7	2.0	2.0	-1.0	-0.9	-1.9	-3.2	-1.4

Source: Data provided by Statistics New Zealand.

Table 24. New Zealand: Composition of Exports, 1991/92-1995/96 1/

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Meat	2,772	3,076	2,982	2,689	2,643
Of which: Beef and veal	1,377	1,442	1,394	1,249	1,123
Lamb and mutton	1,216	1,390	1,342	1,192	1,250
Dairy products	2,246	2,669	2,750	2,798	2,813
Wool	1,064	957	960	1,299	1,077
Fruits and vegetables	1,072	1,016	1,042	1,092	1,201
Other agricultural products	174	198	195	210	205
Live animals	167	186	184	154	139
Forestry products	1,713	2,034	2,519	2,515	2,611
Fish and seafood	972	1,085	1,071	1,084	1,120
Minerals and fuels	529	422	542	401	350
Manufactured goods classified					
by materials (excluding metals)	2,917	3,436	4,028	4,167	4,229
Metals and articles of metal	1,265	1,261	1,282	1,458	1,471
Of which: Aluminum	684	676	668	826	839
Iron and steel	436	422	440	429	438
Nonelectrical machinery	386	482	605	675	697
Electrical machinery	252	324	376	433	476
Other	840	822	463	1,203	853
Total merchandise exports	16,370	17,970	18,999	20,179	19,886
(In percent of total exports)					
Meat	16.9	17.1	15.7	13.3	13.3
Of which: Beef and veal	8.4	8.0	7.3	6.2	5.6
Lamb and mutton	7.4	7.7	7.1	5.9	6.3
Dairy products	13.7	14.9	14.5	13.9	14.1
Wool	6.5	5.3	5.1	6.4	5.4
Fruits and vegetables	6.6	5.7	5.5	5.4	6.0
Other agricultural products	1.1	1.1	1.0	1.0	1.0
Live animals	1.0	1.0	1.0	0.8	0.7
Forestry products	10.5	11.3	13.3	12.5	13.1
Fish and seafood	5.9	6.0	5.6	5.4	5.6
Minerals and fuels	3.2	2.3	2.9	2.0	1.8
Manufactured goods classified					
by materials (excluding metals)	17.8	19.1	21.2	20.7	21.3
Metals and articles of metal	7.7	7.0	6.7	7.2	7.4
Of which: Aluminum	4.2	3.8	3.5	4.1	4.2
Iron and steel	2.7	2.3	2.3	2.1	2.2
Nonelectrical machinery	2.4	2.7	3.2	3.3	3.5
Electrical machinery	1.5	1.8	2.0	2.1	2.4
Other	5.1	4.6	2.4	6.0	4.3
Total merchandise exports	100.0	100.0	100.0	100.0	100.0

Source: Data provided by Statistics New Zealand.

1/ Based on external trade statistics, f.o.b. data are derived from the disaggregation of principal exports in Statistics New Zealand, Key Statistics, except for manufactured exports and metal exports which are derived from broad tariff classification groupings.

Table 25. New Zealand: Changes in Volumes and Unit Values of Imports, 1991/92-1995/96

(Percentage change from previous year)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.
						-----1994/95-----				-----1995/96-----				1996
Foods and beverages														
Volume	0.7	10.2	14.4	9.9	6.3	11.6	12.8	7.2	8.7	8.3	14.4	-2.4	5.9	-3.1
Unit value	1.5	3.5	-4.0	-0.4	-2.7	-1.3	-0.3	0.8	-0.8	-6.1	-3.8	-0.4	-0.3	7.2
Petroleum and petroleum products														
Volume	-2.2	-2.7	14.4	7.6	11.3	13.5	0.5	36.8	-11.5	6.1	26.2	-12.5	27.6	13.2
Unit value	-11.6	5.9	-12.6	-8.9	2.1	-25.3	-6.1	-6.0	6.5	7.4	-8.4	-1.7	11.8	1.9
Nonfuel crude materials														
Volume	-0.8	11.7	9.6	-0.0	2.5	1.1	3.1	-4.2	-0.2	4.5	-12.0	14.0	5.4	-6.2
Unit value	-0.8	1.3	-8.0	2.6	-0.2	-1.7	-0.3	6.3	6.4	-0.4	2.4	-0.9	-1.6	3.5
Nonfood manufactured goods														
Volume	-7.0	6.2	8.3	18.4	3.7	15.5	11.7	27.6	18.6	16.2	3.2	-4.2	2.3	--
Unit value	2.5	7.3	-1.3	-1.7	-0.7	-3.0	-3.8	-0.2	0.3	-1.2	1.2	-0.7	-2.1	-1.7
Iron and steel														
Volume	-4.8	19.8	26.4	11.3	-8.9	21.9	-6.7	21.8	12.5	4.6	-4.0	-16.4	-17.6	-0.2
Unit value	6.6	-2.5	-7.6	-3.0	8.1	-5.3	-3.1	-0.7	-2.6	0.4	9.9	11.8	10.5	5.1
Nonelectrical machinery														
Volume	-6.9	3.7	21.7	16.2	11.0	26.0	21.4	11.1	7.4	12.1	0.2	14.5	19.8	12.0
Unit value	-2.1	11.5	-3.3	-0.7	-3.8	-2.9	-3.2	-1.4	4.7	-4.9	1.6	-3.5	-8.1	0.7
Electrical machinery														
Volume	-21.6	1.5	4.0	28.4	11.6	16.5	25.5	26.7	47.3	19.8	22.9	11.0	-6.0	1.7
Unit value	3.4	8.3	1.2	-6.7	-3.9	-2.7	-7.4	-7.2	-9.5	-3.9	-6.5	-4.1	-0.8	-0.4
Transportation equipment														
Volume	-19.1	-4.8	-1.1	33.2	-2.6	17.6	-8.8	100.2	33.4	55.4	-4.6	-32.1	-1.8	-16.7
Unit value	10.5	15.7	6.9	0.9	-0.3	-0.2	1.8	2.6	-0.5	2.0	0.7	-4.4	0.8	-4.4
Plastics and articles of plastic														
Volume	2.0	26.9	13.5	10.4	-4.4	10.1	14.9	17.1	-0.9	-4.4	-7.5	-8.7	4.9	10.0
Unit value	-3.0	-1.6	-6.8	1.0	5.3	-7.8	-5.2	5.7	12.5	17.2	16.1	0.5	-10.5	-14.7
Textile yarns and fabrics														
Volume	2.3	9.5	3.9	12.3	-2.6	5.3	20.0	13.4	9.7	-3.3	-3.1	-5.1	0.9	3.4
Unit value	5.1	4.8	-3.1	0.2	-1.7	1.6	-2.2	2.7	-1.2	-4.5	-1.9	1.4	-1.6	-2.4
Total imports														
Volume	-5.7	6.0	9.5	16.4	4.3	14.5	10.6	25.4	14.7	14.5	4.8	-3.9	4.0	0.1
Unit value	1.0	6.7	-2.7	-1.8	-0.6	-4.4	-3.4	-0.4	1.1	-1.0	0.2	-0.7	-1.0	-0.7

Source: Data provided by Statistics New Zealand.

Table 26. New Zealand: Composition of Imports, 1991/92-1995/96 1/

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Foods, beverages, and tobacco	1,037	1,172	1,287	1,428	1,498
Petroleum and petroleum products	987	1,029	1,016	998	1,135
Nonfuel crude materials	1,494	1,703	1,813	1,893	1,974
Plastics and articles of plastic	565	710	754	848	859
Textiles and textile products	731	841	835	962	921
Iron and steel	237	279	320	348	347
Metals and articles of metal	674	659	690	827	895
Nonelectrical machinery	1,971	2,276	2,687	3,103	3,314
Electrical machinery	1,421	1,568	1,657	1,989	2,138
Transportation equipment	2,058	2,284	2,396	3,265	3,136
Other	2,614	3,107	3,191	3,475	3,635
Total merchandise imports	13,790	15,629	16,647	19,137	19,851
(In percent of total imports)					
Foods, beverages, and tobacco	7.5	7.5	7.7	7.5	7.5
Petroleum and petroleum products	7.2	6.6	6.1	5.2	5.7
Nonfuel crude materials	10.8	10.9	10.9	9.9	9.9
Plastics and articles of plastic	4.1	4.5	4.5	4.4	4.3
Textiles and textile products	5.3	5.4	5.0	5.0	4.6
Iron and steel	1.7	1.8	1.9	1.8	1.7
Metals and articles of metal	4.9	4.2	4.1	4.3	4.5
Nonelectrical machinery	14.3	14.6	16.1	16.2	16.7
Electrical machinery	10.3	10.0	10.0	10.4	10.8
Transportation equipment	14.9	14.6	14.4	17.1	15.8
Other	19.0	19.9	19.2	18.2	18.3
Total merchandise imports	100.0	100.0	100.0	100.0	100.0

Source: Data provided by Statistics New Zealand.

1/ Based on external trade statistics; foods, beverages, and tobacco comprise tariff chapters 01-24; crude materials comprise chemicals, fertilizers, and pharmaceutical products; other categories compiled from data in Statistics New Zealand, Key Statistics.

Table 27. New Zealand: Services and Transfers, 1991/92-1995/96

(In millions of New Zealand dollars)

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96
Receipts					
Transportation	1,915	2,055	2,237	2,468	2,314
Travel	1,947	2,174	2,425	2,914	3,532
Insurance	-24	-45	-34	-19	-18
Other miscellaneous services	666	757	802	848	856
Government current transactions	111	103	94	88	76
International investment income	-405	-77	640	855	1,238
Income from direct investments	-961	-556	247	464	...
Official investment income	425	360	256	231	...
Other	130	119	137	159	...
Transfers	1,644	1,812	2,151	2,625	3,338
Total	5,855	6,781	8,312	9,779	11,336
Payments					
Transportation	-2,281	-2,453	-2,403	-2,658	-2,797
Travel	-1,744	-1,861	-1,838	-1,935	-2,001
Insurance	-193	-245	-310	-366	-318
Other miscellaneous services	-1,716	-2,079	-1,783	-1,798	-1,790
Government current transactions	-117	-116	-91	-110	-118
International investment income	-4,370	-3,788	-5,161	-7,313	-7,738
Income from direct investments	-1,173	-1,339	-2,960	-4,528	...
Official investment income	-1,877	-1,785	-1,691	-1,775	...
Other	-1,319	-663	-511	-1,010	...
Transfers	-904	-905	-907	-1,001	-1,078
Total	-11,326	-11,445	-12,494	-15,179	-15,838
Net services and transfers					
Transportation	-366	-398	-166	-190	-483
Travel	203	313	587	979	1,531
Insurance	-217	-290	-344	-385	-336
Other miscellaneous services	-1,050	-1,322	-981	-950	-934
Government current transactions	-6	-13	3	-22	-42
International investment income	-4,775	-3,865	-4,521	-6,458	-6,500
Transfers	740	907	1,244	1,624	2,260
Total	-5,472	-4,663	-4,181	-5,401	4,498

Source: Data provided by Statistics New Zealand.

Table 28. New Zealand: External Debt, 1991/92-1995/96

Year ending March	1991/92	1992/93	1993/94	1994/95	1995/96
(In millions of New Zealand dollars)					
Official government 1/	20,036	23,523	26,289	23,418	21,896
Other sector 2/	41,989	44,776	46,951	46,626	48,866
Total external debt	62,025	68,299	73,240	70,044	70,762
Of which: Long-term	36,912	33,187	30,532	29,018	25,468
Debt service	8,725	10,966	11,264	8,395	9,885
Of which: Official government	2,862	4,577	5,092	3,184	2,097
(In percent of GDP)					
Official government 1/	27.8	31.5	32.8	27.6	25.0
Other sector 2/	58.2	60.0	58.6	55.0	55.9
Total external debt	86.0	91.5	91.5	82.7	80.9
Of which: Long-term	51.2	44.5	38.1	34.3	29.1
Debt service	12.1	14.7	14.1	9.9	11.3
Of which: Official government 1/	4.0	6.1	6.4	3.8	2.4
(In percent of total)					
Currency of denomination					
New Zealand dollar	23.6	30.5	34.9	44.1	50.6
U.S. dollar	39.6	38.7	39.2	33.8	28.4
Japanese yen	13.2	11.3	8.7	8.7	6.7
Australian dollar	5.0	5.4	4.8	4.8	5.2
Debt instruments					
Loans	44.9	36.8	32.8	31.5	30.4
Bills and bonds	35.0	31.3	28.1	24.7	22.1
Deposits	15.8	21.3	21.9	23.6	23.4
Domestically issued securities	4.3	6.6	13.1	15.3	19.3

Source: Data provided by Statistics New Zealand.

1/ Includes the Reserve Bank, the Treasury, and all other government departments.

2/ Includes private and other government sectors.

Table 29. New Zealand: Exchange Rates, 1992-96 1/

Year ending March	-----US\$/SNZ-----		-----SA\$/SNZ-----		Reserve Bank Trade-Weighted Index 2/-----		Nominal Effective Rate 3/-----		Real Effective Rate 3/-----	
	Level		Level		Index		Index		Index	
	Percent change 4/		Percent change 4/		June 1979 = 100		Percent change 4/ 1980=100		Percent change 4/ 1980=100	
1991/92	0.57	-5.4	0.72	-6.3	56.5	-5.5	95.4	-3.3	93.3	-5.2
1992/93	0.53	-5.9	0.75	3.7	53.6	-5.1	89.0	-6.8	85.5	-8.4
1993/94	0.55	4.0	0.80	7.3	55.6	3.7	96.0	7.9	90.9	6.4
1994/95	0.61	10.5	0.88	9.3	58.1	4.6	101.3	5.6	95.7	5.3
1995/96	0.66	8.7	0.88	0.4	62.2	7.0	106.7	5.3	101.2	5.7
1993										
Mar.	0.52	-4.4	0.76	4.7	53.8	-1.2	90.5	0.2	86.4	-1.4
Jun.	0.54	0.1	0.78	9.2	54.0	0.8	92.1	2.7	87.7	1.3
Sep.	0.55	1.5	0.82	10.9	55.6	4.3	95.6	9.9	90.9	6.4
Dec.	0.55	4.9	0.82	9.5	56.4	5.2	96.7	9.0	91.6	7.6
1994										
Mar.	0.57	9.6	0.81	6.5	56.3	4.6	99.5	9.9	93.6	8.4
Jun.	0.58	7.5	0.80	3.2	56.7	5.0	99.3	7.9	93.3	6.5
Sep.	0.60	9.2	0.81	-1.1	57.2	2.9	99.7	4.3	93.9	3.3
Dec.	0.62	12.7	0.82	-0.1	58.8	4.3	102.1	5.6	96.6	5.5
1995										
Mar.	0.64	12.4	0.86	6.3	59.8	6.3	104.1	4.7	99.0	5.7
Jun.	0.67	14.9	0.92	14.4	60.9	7.3	105.0	5.7	100.0	7.1
Sep.	0.66	10.1	0.89	9.9	61.5	7.5	106.1	6.4	100.5	7.1
Dec.	0.65	5.2	0.87	6.1	62.2	5.9	105.6	3.4	100.1	3.5
1996										
Mar.	0.67	4.9	0.89	3.9	64.3	7.4	110.1	5.7	104.2	5.2
Jun.	0.68	1.9	0.86	-6.3	64.9	6.6	112.1	6.8	106.2	6.2
Sep.	0.69	4.4	0.88	-2.0	66.0	7.4	...	...	...	...
1996										
Jan.	0.66	3.1	0.89	6.4	64.7	8.0	108.4	2.9	102.6	2.6
Feb.	0.68	6.4	0.89	5.0	63.8	6.9	110.6	6.4	104.7	5.9
Mar.	0.68	5.3	0.88	0.4	64.3	7.3	111.3	7.9	105.3	7.3
Apr.	0.68	2.2	0.87	-4.4	65.0	6.7	112.0	7.4	106.1	6.7
May	0.69	2.7	0.86	-6.2	64.6	6.6	112.8	7.2	106.9	6.5
Jun.	0.68	1.0	0.85	-8.2	65.1	6.4	111.5	5.8	105.6	5.5
Jul.	0.69	2.3	0.87	-5.8	65.9	6.8	113.3	6.9	107.4	6.8
Aug.	0.69	4.7	0.88	-0.9	65.5	6.9	112.6	6.5	106.9	6.8
Sep.	0.70	6.2	0.88	1.0	66.7	8.5	...	...	...	...

Sources: Data provided by Statistics New Zealand; and IMF, Information Notice System.

1/ Period averages.

2/ Trade-weighted index computed by the Reserve Bank against the currencies of Australia, the United States, Japan, the United Kingdom, and Germany. Monthly data are end of period; annual data are averages of the monthly data.

3/ From the IMF, Information Notice System.

4/ Percentage change from the previous year.

Table 30. New Zealand: Gross Official International Reserves, 1992-96

(In millions of U.S. dollars; end of period)

Year ending March	Gold 1/	SDRs	Reserve Position in the Fund	-----Foreign Exchange-----			Gross Official Reserves	Months of Imports(c.i.f.) Equivalent
				Total	Reserve Bank Overseas	Treasury Overseas		
1991/92	0.1	1.3	82	3,089	2,424	665	3,172	4.6
1992/93	0.1	0.2	149	3,145	2,417	729	3,294	5.2
1993/94	--	0.1	146	3,741	2,447	1,294	3,887	5.4
1994/95	--	0.3	158	3,942	2,523	1,280	4,100	4.2
1995/96	--	0.9	176	4,402	2,542	1,859	4,579	4.4
1994								
Mar.	--	0.1	146	3,741	2,447	1,294	3,887	5.4
Jun.	--	0.1	152	3,858	2,471	1,388	4,010	4.8
Sep.	--	0.2	146	3,353	2,425	928	3,499	3.5
Dec.	--	0.3	147	3,561	2,351	1,210	3,709	3.2
1995								
Mar.	--	0.3	158	3,942	2,523	1,280	4,100	4.2
Jun.	--	0.1	165	3,614	2,631	983	3,779	3.5
Sep.	--	0.9	157	3,887	2,555	1,332	4,045	3.6
Dec.	--	0.8	164	4,245	2,575	1,670	4,410	3.9
1996								
Mar.	--	0.9	176	4,402	2,542	1,859	4,579	4.4
Jun.	--	0.3	178	5,295	2,717	2,578	5,473	5.0
Sep.	--	0.7	183	6,282	2,727	3,555	6,467	...

Sources: IMF, International Financial Statistics; and Reserve Bank of New Zealand.

1/ Gold valued at SDR 35 per ounce.

TERMINOLOGY, ASSUMPTIONS, AND METHODOLOGIES USED IN THE GROWTH ACCOUNTING EXERCISE

This annex provides a brief technical summary of the terminology, assumptions, and methodologies used in the growth accounting exercise. Sarel (1996) discusses these issues in more detail, and also makes the case that these specific assumptions and methodologies are superior to those used by previous studies.

First, we estimate the growth rates of per-capita output, capital, and labor in 11 economies (New Zealand, five ASEAN economies, and five OECD economies), as well as their factor shares, during the period 1978–96. Then, we calculate their growth rates of total factor productivity (TFP).

A. Output

We use the Penn World Tables (PWT) data on output per person during the period 1978–92.¹ The major advantage of this database is that it measures output per person in PPP-adjusted 1985 dollars, meaning that this variable is, in principle, not affected by domestic prices of goods and services (both relative to other goods and services in the domestic economy and relative to prices denominated in a common currency in foreign economies). Unfortunately, the PWT database does not (so far) continue beyond 1992. Therefore, for the period 1993–96, we extrapolate the series using national accounts data and IMF staff estimates for growth rates of population and GDP.

B. Capital

We construct the capital stocks series using historical data on investment flows. The PWT database contains data on investment flows during the period 1960–92, measured in PPP-adjusted 1985 dollars. We extrapolate the investment series forward to 1996, using official national accounts and IMF staff estimates of the growth rates of investment (at constant prices). We also extend the series backward, using a logarithmic extrapolation method, up to the year 1901. We assume that the capital stocks were zero at the end of the year 1900, and the rate of capital depreciation is 5 percent per year. We calculate the end-of-year capital stocks during the period 1901–96, assuming that the annual investment flows occurred in the middle of the year and the effective rate of depreciation during the second half of the year was half of the annual depreciation rate (i.e., 2.5 percent). Finally, we calculate the average capital stock per person for each year as a geometric average of the capital stock at the end of the previous year and at the end of the current year, divided by the population size. We repeat this procedure for each one of the countries in our sample.

¹We use the latest version available of this database, PWT 5.6a. This is a 1995 NBER update to PWT 5.0, a database described by Summers and Heston (1991).

C. Labor

We use an estimated function that relates productivity to age, and information on the age structure of the population for each country and every year in the sample, to construct measures of “effective labor supply per person” (i.e., adjusted for demographic differences), both across countries and over time. These measures are contained in the “Effective Labor Supply” (ELS) database. Sarel (1995) constructed this database, using economic data from the PWT database and demographic data estimated and forecasted by the United Nations (1990). The ELS database covers 119 countries during the period 1950–2025, and contains estimates at 5-year intervals. For the purpose of this note, we derive a logarithmic interpolation of these 5-year estimates, to obtain annual estimates for the 11 countries in our sample, during the period 1978–96.

D. Factor Shares

We estimate technological factor shares for each economy in the sample, during the period 1978–96. The estimation procedure is based on the key assumption that technological factor shares in each economy and at each point in time are fully determined by the structure of production and, possibly, the level of development. The procedure is implemented in three steps:

- For each major type of economic activity, collect data to construct a sample of observations, and estimate the intrinsic technological factor shares (possibly as a function of the level of development).
- For each country and for every year in the sample, estimate the relative intensity of each economic activity.
- For each country and for every year in the sample, find the aggregate (economy-wide) technological factor shares.

E. Calculating Total Factor Productivity Growth

We now have estimates of growth rates of output, capital, and labor per person, and capital shares. Using the decomposition of a Cobb-Douglas production function, we now perform a simple 2-step growth accounting exercise:

- Calculate the growth rate of inputs, weighted by capital and labor shares:

$$[\alpha][\text{growth of capital per person}] + [1-\alpha][\text{growth of labor per person}].$$
- Calculate the growth rate of TFP as the difference between the growth rates of output and inputs:

$$[\text{growth of TFP}] = [\text{growth of output per person}] - [\text{growth of inputs per person}].$$

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