



THE NATIONAL BANK OF NEW ZEALAND LIMITED

# *Outlook for the NZD/AUD*

ARTHUR GRIMES

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## 1.0 INTRODUCTION AND SUMMARY

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The 9% rise in the New Zealand dollar (NZD) relative to the Australian dollar (AUD) between the December 1994 and June 1995 quarters considerably changed the relative competitiveness of producing in New Zealand vis a vis Australia. We analyse why this change took place and whether it was warranted. We also provide projections for the next five years for movements in the NZD/AUD exchange rate based on "fundamentals".

Our analysis looks first at the factors which have historically determined movements in the NZD/AUD. The key factors in this respect are relative inflation rates, terms of trade movements and current account (balance of payments) positions. The relative importance of these factors may have changed over time. Hence we analyse developments over a number of time horizons ranging from 1959-1995 to 1988-1995. We publish our research into the key determinants of the NZD/AUD over each of these periods and over an intervening period following New Zealand's 19.5% devaluation in late 1967.

The key points which emerge from this research are as follows:

- Each of our estimates point to an **overvaluation** of the NZD/AUD in the June 1995 quarter (when the actual rate averaged 0.919). Estimates of this over-valuation range from 9.5% to 12.1%.
- By comparison, the exchange rate was **fairly valued** in December 1994, at 0.845.
- The NZD/AUD was **undervalued** for the period from September 1991 to June 1993, and again in early 1994.
- Over recent years, and especially through 1995, the NZD/AUD has been influenced by developments in the US dollar (USD) relative to the Japanese yen (JPY) in addition to the longer term determinants of the exchange rate.

On the basis of our analysis, we develop an equation which projects movements in the NZD/AUD based on fundamental factors. This equation projects that the NZD/AUD will consolidate over the near term and then resume an appreciating trend as indicated in Table 1.

TABLE 1: MODEL PROJECTIONS OF THE NZD/AUD

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December Qtr Average	1995	1996	1997	1998	1999	2000
NZD/AUD	0.86	0.87	0.89	0.90	0.92	0.94

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## 2.0 HISTORY OF THE NZD/AUD RATE

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### 2.1 The Nominal NZD/AUD

Figure 1 graphs the NZD/AUD since 1959. Until New Zealand's devaluation in 1967, the NZD was worth approximately AUD1.25. The devaluation brought the two dollars to parity. This was maintained until March 1973 when the NZD slipped by 5% relative to the AUD. It then maintained a generally downward trend, reaching AUD0.57 in late 1984 following New Zealand's July 1984 devaluation.

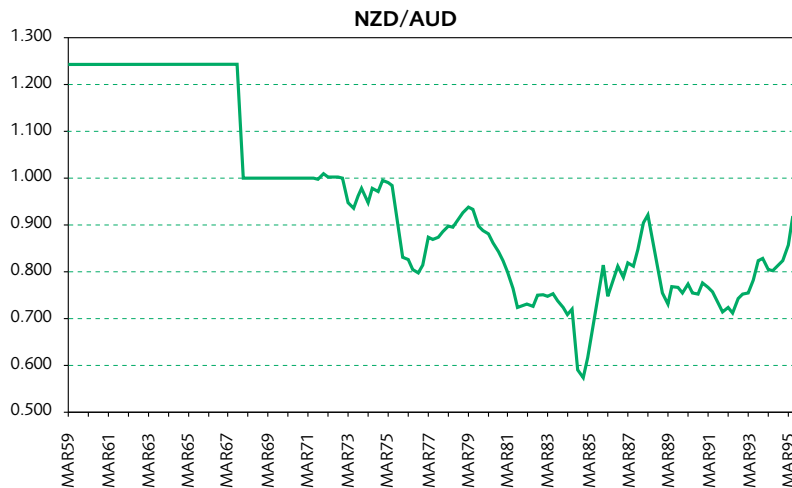


FIG 1

The AUD was floated in December 1983, while the NZD was floated in March 1985. Prior to these dates the two rates were fixed by the respective central banks. The New Zealand float has been "clean" in the sense that the Reserve Bank of New Zealand has not intervened directly in the foreign exchange market to influence the NZD. However its monetary policy actions do affect the NZD. Indeed monetary policy in New Zealand has placed considerable emphasis on monitoring and affecting the overall value of the NZD, as measured by the trade-weighted index (TWI), in order to influence the ultimate inflation outcome. The Reserve Bank of Australia has intervened directly in the foreign exchange market to influence the AUD. Its other monetary policy actions have also been designed to influence the value of the AUD at times.

The floating exchange rate period has been marked by considerably greater volatility in the NZD/AUD than was the fixed rate period. This was especially the case in the early years of the New Zealand float. The strongly competitive (for New Zealand) pre-float rate of the NZD/AUD at 0.617 in March 1985 was quickly lost as the rate soared to 0.813 in December 1985 and to 0.921 in March 1988. By June 1992, it had fallen as low as 0.712.

Overall, through the post-float period (i.e. June 1985 - June 1995) the NZD/AUD has averaged 0.788. This is considerably below the average of the December 1967 - June 1995 period (following New Zealand's devaluation in late 1967). The average NZD/AUD over this period was 0.850, and for the period March 1959 - June 1995 the average NZD/AUD was 0.944. Thus the June 1995 quarter rate of 0.919 was lower than the long-term average rate, but was 16.6% higher than the post-float average.

## 2.2 The Real NZD/AUD

Inflation in New Zealand was above that of Australia for almost all the period 1966 to 1988. This helps to explain the downward trend in the NZD/AUD over most of this period. In order to standardise for this influence, we look at two measures of the "real exchange rate" between the two countries. The first compensates for the influence of consumer price increases (excluding the effects of GST) in the two countries (we label this series RCNZD/AUD). The second measure compensates for the influence of producer prices of manufactured outputs between the two countries (this series is labelled RPNZD/AUD). The latter series is preferable if we wish to compare changes in manufacturing competitiveness between New Zealand and Australia<sup>1</sup>.

In each case, we have adjusted the exchange rate series so as to make the real exchange rate identical to the nominal NZD/AUD in June 1995, thus facilitating comparisons of historical developments with the present. Figure 2 graphs the two real exchange rate measures for the period March 1959 - June 1995. The two series move closely together throughout the whole period. We henceforth concentrate on the PPI based series as the key measure for our analysis.

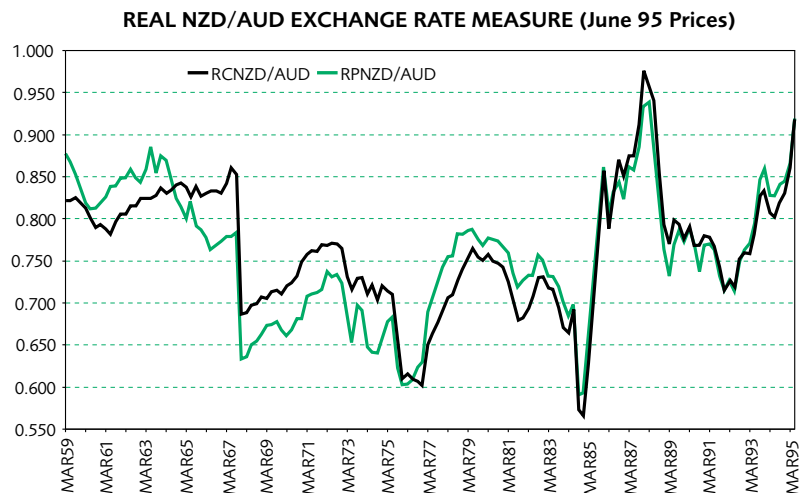


FIG 2

At 0.919 in June 1995, the RPNZD/AUD was 20.9% above its average of 0.760 for the period March 1959 - June 1995; 24.4% above its average of 0.739 for the period December 1967 - June 1995; and 13.9% above its average of 0.807 for the June 1985 - June 1995 period. All of these comparisons suggest a substantial degree of overvaluation of the NZD relative to the AUD in mid-1995<sup>2</sup>.

<sup>1</sup> We have also calculated a unit labour cost measure of the real exchange rate (since 1966), which shows similar trends to the other two series. We do not concentrate on it here because of the similarity in trends and also because the productivity data on which it is based are not considered as reliable as are the PPI and CPI data.

<sup>2</sup> The unit labour cost measure shows an overvaluation of 17.5% relative to the post-float average.

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### 3.0 EXCHANGE RATE DETERMINANTS

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#### 3.1 Long-Run Determinants

The real exchange rate is likely to shift over time as a result of a number of factors. These include relative movements in the terms of trade<sup>3</sup> between the two countries, the countries' respective current account positions (i.e. balance of payments), productivity developments, and relative cost (especially wage) movements.

Real exchange rate movements which reflect these developments do not necessarily result in an exchange rate misalignment. Instead a real exchange rate revaluation is usually required in such circumstances to compensate for these other effects. For instance, if New Zealand productivity improves or wage costs decline relative to those in Australia, producers in New Zealand will be advantaged so enabling them to sustain competitiveness at a higher exchange rate. Similarly, if New Zealand's terms of trade improve relative to Australia's, then New Zealand's exporters are favoured relative to Australia's and so New Zealand's real exchange rate can be expected to rise. Also, if a country has a major current account deficit, an exchange rate depreciation may be required to improve the position of exporters and other traded goods producers in the country so helping to return the current account toward balance. The currency outflows associated with the deficit may also place downward pressure on the exchange rate in these circumstances.

We use statistical techniques to determine the key long-run influences on the New Zealand real exchange rate versus Australia (RPNZD/AUD). Our equation estimates are carried out over three different periods (each ending in June 1995) to check both how robust our results are, and how the relative influences have changed over time. The longest sample begins in March 1959, the earliest period for which we have all the required data. Our middle sample begins in December 1967, following New Zealand's major devaluation. The third sample begins in September 1988. This period is the post-float period, excluding the first three years when the New Zealand exchange rate was extraordinarily volatile (so masking any of the underlying longer term determinants). All equations use quarterly average data.

For each sample period, we estimate the determinants of the logarithm (ln) of the real exchange rate (RPNZD/AUD) by estimating a statistical regression equation as follows:

$$\ln(\text{RPNZD/AUD}) = a + b \cdot \ln(\text{RTOT}) + c \cdot \text{CURDIF} + d \cdot \ln(\text{RPROD}) + e \cdot \ln(\text{RWAGE})$$

where: RPNZD/AUD = real (PPI based) NZD/AUD exchange rate

RTOT = relative terms of trade (New Zealand/Australia)

CURDIF = difference (NZ-A) between current account balances (%GDP)

RPROD = relative real manufacturing labour productivity (NZ/A)

RWAGE = relative wages (NZ/A)

<sup>3</sup> The ratio of export prices to import prices.

We find, over each sample, that the key determinants of the real exchange rate were the terms of trade and current account positions. Neither the productivity nor wage variables contributed any significant explanatory power over any of the sample periods. Table 2 reports the results of our regressions for the three different sample periods, after omitting the insignificant variables (RPROD and RWAGE).

TABLE 2: DETERMINANTS OF RPNZD/AUD\*

Sample	RTOT	(t)	CURDIF	(t)	R <sup>2</sup>
Mar 59 - Jun 95	0.132	(3.12)	1.10	(4.20)	0.20
Dec 67 - Jun 95	0.360	(9.58)	0.44	(1.98)	0.54
Sep 88 - Jun 95	0.515	(4.72)	3.11	(3.32)	0.52

\*The coefficients below RTOT show the estimated percentage rise in RPNZD/AUD caused by a 1% rise in RTOT. The coefficients below CURDIF show the estimated percentage rise in RPNZD/AUD caused by a one percentage point improvement in NZ's current account (as a % of GDP) relative to Australia's. The t-value in parentheses next to each coefficient is a measure of its statistical significance (generally, a t-value in excess of 2 indicates a statistically significant effect). The R<sup>2</sup> is the proportion explained by the equation of the movement of RPNZD/AUD away from its average.

In the successive samples, the exchange rate has become more responsive in policy terms, firstly with the shift to adjustable peg exchange rates (after 1967) and then to the floating rates in the 1980s. These policy shifts have had the effect of making the real exchange rate more responsive over time to the fundamentals. For this reason, we use the estimates of the final sample in what follows. These estimates indicate that a 1% rise in New Zealand's terms of trade relative to those of Australia result in a 0.5% increase in RPNZD/AUD; a one percentage point improvement in New Zealand's current account balance (as a % of GDP) relative to Australia's results in a 3.1% rise in RPNZD/AUD.

Figure 3 graphs RPNZD/AUD along with the two key determinants, RTOT and CURDIF. New Zealand's terms of trade have generally been on an improving trend relative to Australia's since the 1950s. In particular, they strengthened strongly relative to Australia's in 1992, maintaining most of this advantage thereafter. Since 1989, New Zealand's balance of payments position has also been consistently better than Australia's. Both of these factors have contributed to an upward trend in RPNZD/AUD over recent years.

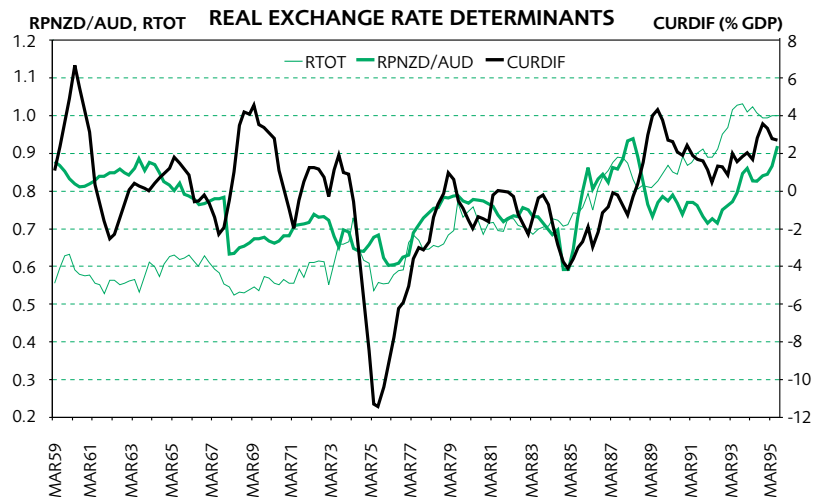


FIG 3

Figures 4 to 6 graph the actual and predicted values for RPNZD/AUD obtained from each of the sample periods. Each of these figures point to an over-valuation of RPNZD/AUD in the first two quarters of 1995, even after allowing for the effects of the terms of trade, the respective current account positions and the relative inflation positions (the latter are taken into account by virtue of using a real - i.e. inflation-adjusted exchange rate). According to the three alternative samples, the June 1995 exchange rate (which averaged 0.919) was overvalued by 12.1%, 9.5% and 10.5% respectively. In other words, fair value for the NZD/AUD in the June 1995 quarter was approximately in the range 0.82 - 0.84. By September, the NZD/AUD had fallen back to a monthly average of 0.87, which was closer to its fair value as derived above.

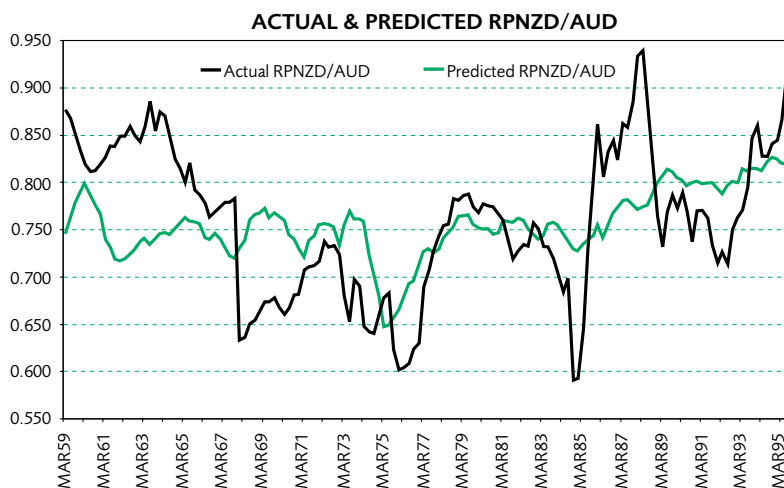


FIG 4

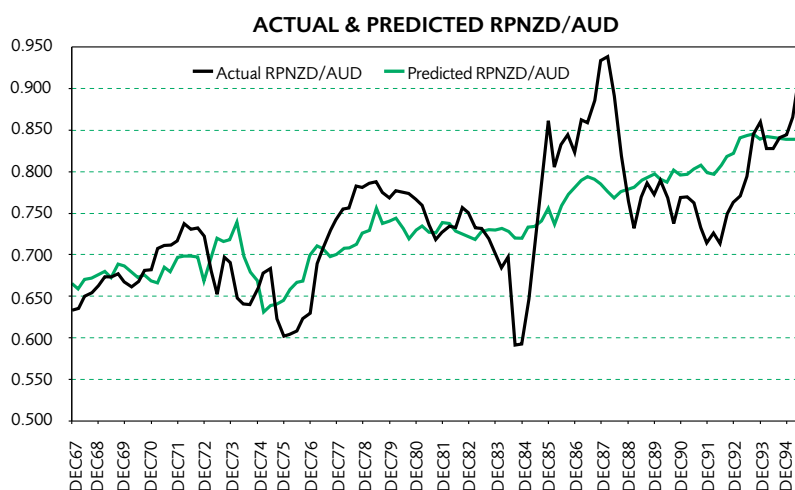


FIG 5

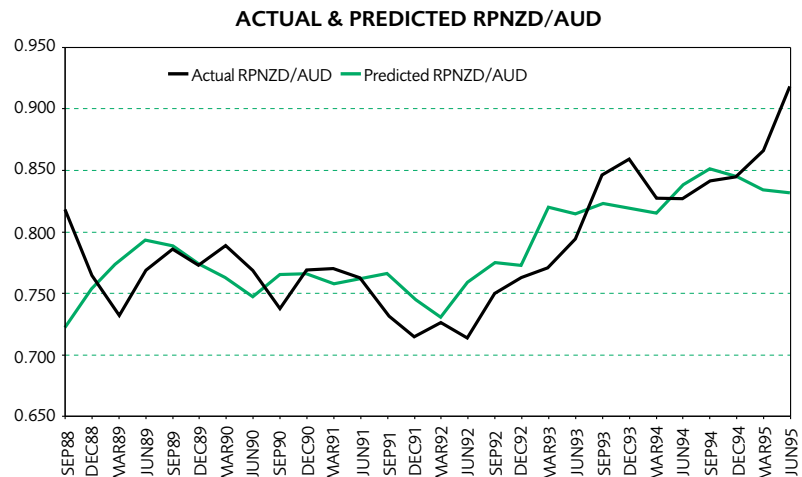


FIG 6

### 3.2 Short-Run Determinants

A number of short-term factors may have influenced the early 1995 rise in the NZD/AUD over and above the influence of the longer term determinants (inflation, terms of trade and the current account). Possibilities include: real productivity movements, differential wage (and/or other inflation) movements, fiscal policy, interest rates, and movements in other exchange rates (particularly the USD/JPY rate). Expectations, as opposed to past developments, of the fundamentals variables may also be important. Forward-looking market participants will build expectations of movements in the fundamental variables into current exchange rates. We analyse the potential effects of these possibilities in turn. The fall in the NZD/AUD since June 1995 aids this analysis since any factor explaining the rise in the NZD/AUD to June should also be able to explain the subsequent partial downward retracement in the rate.

#### 3.2.a Productivity movements

Our longer term analysis showed little or no long-term exchange rate reaction to differentials in productivity growth between New Zealand and Australia. However, a sudden burst of productivity in New Zealand (over and above that in Australia) could at least facilitate a temporary increase in the NZD/AUD as it would help to cushion the adverse profitability effects of an exchange rate rise.

Unfortunately productivity is difficult to measure. If we measure productivity as annual manufacturing production divided by the number of manufacturing employees there is little difference in recent productivity trends between the two countries. Over the year to June 1995 estimated productivity growth in New Zealand manufacturing exceeded that in Australia by 1%, but this followed a year in which estimated productivity growth in Australian manufacturing exceeded that in New Zealand. Since 1986, manufacturing productivity has expanded almost equally in both countries at an annual rate of just over 3%. Given these trends, we do not see productivity trends contributing significantly to the early 1995 rise in the NZD/AUD.

### 3.2.b Wage and price inflation

Wages have grown slightly faster in Australia than in New Zealand over recent years, but the gap is not sufficient to explain the magnitude of the rise in the NZD/AUD. Table 3 lists the rates of growth of Total Average Weekly Earnings for all employees in each country for the four years to February 1995. This measure, although affected by changes in hours worked per person and by changes in the ratio of full-time to part-time work, is the most comparable wage series between the two countries.

TABLE 3: TOTAL AVERAGE WEEKLY EARNINGS INCREASE (% p.a.)

Year to February	1992	1993	1994	1995	Average
New Zealand	2.9	0.9	1.2	3.3	2.1
Australia	2.2	2.1	2.1	3.6	2.5

The wage advantage to New Zealand over the three years to February 1995 is a cumulative 2.4%; given that wages constitute approximately two thirds of value added in the economy, the advantage to New Zealand producers from this effect is just 1.6% over three years. The minor nature of this effect comes on top of the statistical findings of the last section that wage differentials have played little or no part in explaining RPNZD/AUD over any of the sample periods examined. This factor is therefore unlikely to have been a significant contributor to the movements through 1995 of the NZD/AUD.

Similarly, consumer price and producer price inflation in the two countries have been of comparable magnitudes in recent years. Over the past two years, CPI inflation has averaged 2.9% and 3.2% respectively in New Zealand and Australia; while producer price inflation (for manufactured outputs) has averaged 1.5% and 1.8% respectively. Actual price inflation differentials therefore also play no significant role in recent NZD/AUD movements.

However, with forward-looking financial markets, expectations of future wage and price developments may be an important determinant of the current exchange rate. In May 1995 (mid-way through the June quarter), consensus forecasts for (headline) CPI inflation in Australia for calendar 1995 and 1996 were 4.3% and 4.2% respectively. For New Zealand, the corresponding figures were 3.9% and 1.6%. The quite different outlook for 1996 inflation could potentially have driven the NZD/AUD upwards in anticipation. Similarly, the outlook for Australian wage inflation in 1995 and 1996 was 4.6% and 4.8% respectively, compared with the New Zealand outlook of 2.0% and 2.2%. Again this suggests that some anticipatory upward move in the NZD/AUD was warranted. However the relative positions had hardly changed by the time of the September consensus forecasts<sup>4</sup>, making it difficult to sustain the hypothesis that this forward-looking behaviour was the prime determinant for the strong upward movement, and subsequent downward retracement, in the NZD/AUD through 1995.

<sup>4</sup> The September consensus forecasts (in each case for 1995 and 1996) were as follows: Australian CPI inflation, 4.5% and 4.2%; Australian wage inflation, 4.9% and 5.0%; New Zealand CPI inflation, 3.5% and 1.0%; New Zealand wage inflation, 2.0% and 2.0%.

### *3.2.c Fiscal policy*

The New Zealand government has run a consistently more prudent fiscal policy than the Australian government over recent years. The New Zealand government's operating balance (which excludes items such as asset sales) showed a surplus equivalent to 0.9% of GDP in 1993/94, rising to an estimated 3.0% surplus in 1994/95. The New Zealand government anticipates a surplus of 3.6% in 1995/96 with surpluses being maintained at these levels or above (even after tax cuts) thereafter.

By contrast, the Australian government ran a financial deficit (including asset sales) equivalent to 3.2% of GDP in 1993/94, with a further deficit of 2.8% in 1994/95. It anticipates a slight surplus in 1995/96, but this includes sizeable revenues derived from asset sales. Excluding asset sale proceeds, a deficit of 1.0% is forecast for 1995/96.

The strong New Zealand fiscal performance may have been an influence on the exchange rate through 1995. In particular, the Australian dollar appeared to be marked down by the markets earlier in the year in response to a perceived inadequate government reaction to the lack of savings in Australia. This lack of savings relative to investment is manifested in the Australian current account deficit, currently standing at 5.7% of GDP. The impact of fiscal policy on the exchange rate can therefore be largely subsumed under the effects of the current account deficit on the exchange rate, and we take these effects into account directly in our analysis.

### *3.2.d Current account and terms of trade outlook*

Our research suggests that the current account positions and the terms of trade for both countries are important in determining the cross rate. Hence, with forward-looking markets, the outlook for both variables will also be important in determining the current exchange rate. However, the terms of trade are particularly difficult to forecast, given the influence on them of commodity prices which, in turn, are difficult to forecast. Thus expectations of the terms of trade are unlikely to have affected the NZD/AUD significantly.

Current account forecasts could potentially be more important. In June 1995, the New Zealand annual current account deficit as a proportion of GDP (estimated at 3.0%) was 2.7 percentage points lower than the Australian deficit (estimated at 5.7% of GDP). If expectations were for this to change markedly over the next one to two years, the NZD/AUD could already embody this effect. Consensus forecasts are for the gap to increase slightly to 3.1 percentage points in the year to December 1995, falling to 2.3 percentage points in the year to December 1996. Given our analysis in the previous section, neither of these estimates can explain more than a 1% deviation in the actual exchange rate away from fundamentals. Again, therefore, we cannot use this factor to explain the overvalued NZD/AUD through the first half of 1995.

### 3.2.e *Interest rate effects*

New Zealand's short term interest rates were above those of Australia in early 1995, prompting the possibility that this may help to explain the strong NZD/AUD. In June 1995, the NZ 90 day bill rate averaged 1.4 percentage points (p.p.) higher than the Australian rate. This was slightly higher than in March (a 1.2 p.p. margin) but was lower than in each of September and December 1994 (1.6 p.p. and 1.5 p.p. respectively). It was also little different to June 1994 (1.2 p.p.) or June 1993 (1.5 p.p.). Further, the gap in the month of September 1995 was 1.7 p.p., implying that this factor was not instrumental in the downward retracement of the NZD/AUD after June. Thus changes in the two countries' monetary policy stances, as reflected in short term interest rates, do not appear to explain the movements in the NZD/AUD through 1995.

We tested this effect explicitly by including the differential between the two countries' 90 day rates in the exchange rate equation (estimated in section 2) for the period September 1988 - June 1995. The variable was statistically insignificant, although it did have the correct sign. The coefficient implied that a one p.p. increase in the interest rate differential would raise the NZD/AUD by approximately 1%. Again, given the small magnitude of the movements in this variable, we cannot use it to explain the path of the NZD/AUD over 1995.

### 3.2.f *The USD/JPY exchange rate*

World foreign exchange markets were volatile in the first three quarters of 1995. Of particular note were movements in the USD/JPY rate. Between December 1994 and April 1995, the USD fell over 16% relative to the JPY (from 100.1 to 83.7), coming on top of a 9% fall in the twelve months to December 1994. The USD/JPY rate averaged between 83 and 85 over each of April, May and June of 1995. By September 1995, the USD/JPY had reverted to an average of 100.

The AUD also fell against the JPY over the first four months of 1995; between December 1994 and April 1995, the AUD slipped 20% relative to the JPY. This was a slightly greater fall than that experienced by the USD, possibly exacerbated by greater than expected weakness in the Australian current account position at the time.

As with the USD and the AUD, the NZD also slipped against the JPY between December 1994 and April 1995, but by only 12%. The rise in inflationary pressures within New Zealand at the time resulted in the Reserve Bank wishing to prevent a reduction in the TWI. Over the same period, the TWI remained almost unchanged, appreciating by just 0.7%. In order for the TWI to remain at this level, at a time when the NZD was dropping sharply against the JPY and also against the Deutschmark (DEM), the NZD had to appreciate against the other currencies in the currency basket - the USD, AUD and GBP (Sterling). Because of the Reserve Bank's focus on TWI stability, and given that each of the three major currency blocs is represented in the TWI, the New Zealand dollar was also viewed as a "safe haven" currency during the first half of 1995. That is, it was seen as a currency that was likely to be less volatile than other currencies during periods of major volatility between the major currency blocs. This view further helped to stabilise the TWI during this period.

Given the stability in the TWI, the depreciation of the USD and AUD against the JPY therefore translated into an appreciation of the NZD/AUD rate. Between December 1994 and April 1995, the NZD/AUD appreciated by 10%.

The importance of the USD/JPY in influencing the NZD/AUD can be gauged by adding the former rate to our equation explaining movements in the NZD/AUD rate over September 1988 - June 1995. Over this period, the USD/JPY rate is a statistically significant influence on the NZD/AUD; a 1% rise in the yen relative to the US dollar contributes on average to a 0.27% rise in the NZD/AUD rate. This effect alone is estimated to have lifted the NZD/AUD rate by 4% between the December 1994 quarter and the June 1995 quarter, so bringing the estimated NZD/AUD rate for June 1995 to 0.882 (compared with the actual value of 0.919).

However we cannot treat this rate of 0.882 as an "equilibrium" rate. In theory, the USD/JPY exchange rate should have no effect on the NZD/AUD rate other than through factors directly influencing New Zealand or Australian variables (such as inflation, terms of trade or the current account of either country). Thus we can use the yen strength to explain a temporary move away from equilibrium of the NZD/AUD, but must expect this effect to dissipate over time. In analysing future movements of the NZD/AUD, however, the potential for major moves in the USD/JPY rate must still be considered as they will impact on the dynamics of the NZD/AUD rate.

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## 4.0 OUTLOOK FOR THE NZD/AUD

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In order to analyse likely future developments in the NZD/AUD rate we use the equation estimated above which includes the USD/JPY effect. We use the parameters derived from the equation estimated over the 1988-1995 period. Since the projections are purely model-based, given assumed developments in the determining factors, they should be interpreted more in the nature of a projection of exchange rate fundamentals (together with the added impact of USD/JPY movements) rather than of actual exchange rate developments in any particular quarter.

### 4.1 Key Determinants

Before projecting forward with the equation, we have to make assumptions regarding developments in the four variables which enter into the equation. The relevant variables are: the ratio of the terms of trade between New Zealand and Australia; the difference between the current account to GDP ratios in the two countries; the ratio of producer prices for manufacturing outputs in the two countries; and the USD/JPY exchange rate.

The terms of trade are inherently difficult to forecast since they depend strongly on developments in commodity prices, which in themselves follow near random walks. For this reason, we project that the ratio of the terms of trade remain at their June 1995 level over the forecast period.

Australia's current account deficit as a proportion of GDP in the year to June 1995 was approximately 2.7 percentage points higher than New Zealand's deficit. We project that the difference between the two ratios will stay at approximately 2.5 percentage points through to March 1988. After that, we expect policies instituted in Australia to encourage (public and private) savings will lead to a steady reduction in the difference between the two deficits. Specifically, we assume that the two deficits will differ by just 1 percentage point by December 1999, with the difference staying at that magnitude for the remainder of the forecast horizon.

Our USD/JPY forecast embodies the view that the rate will stay at just below 100 (on a quarterly average basis) for the September and December quarters of 1995, and then average 100 through to September 1997. After that, we forecast a gradual yen appreciation, reaching 90 in March 2000.

Inflation is expected to remain higher in Australia than in New Zealand over the forecast horizon. As a result, we project that manufacturing producer output prices in Australia will increase 2 percent per annum faster than corresponding prices in New Zealand.

## 4.2 Projections of the NZD/AUD

Given these assumed developments in the key determinants of the exchange rate, our model predicts that the NZD/AUD will develop as shown in Table 4.

TABLE 4: MODEL PROJECTIONS OF THE NZD/AUD

Quarter	Predicted	Actual
Mar 1994	0.81	0.83
Jun 1994	0.84	0.83
Sep 1994	0.86	0.84
Dec 1994	0.85	0.84
Mar 1995	0.85	0.87
Jun 1995	0.88	0.92
Sep 1995	0.86	0.90
Dec 1995	0.86	
Mar 1996	0.86	
Jun 1996	0.86	
Sep 1996	0.86	
Dec 1996	0.87	
Mar 1997	0.87	
Jun 1997	0.87	
Sep 1997	0.88	
Dec 1997	0.89	
Mar 1998	0.89	
Jun 1998	0.90	
Sep 1998	0.90	
Dec 1998	0.90	
Mar 1999	0.91	
Jun 1999	0.91	
Sep 1999	0.92	
Dec 1999	0.92	
Mar 2000	0.93	
Jun 2000	0.93	
Sep 2000	0.93	
Dec 2000	0.94	

The near term model projections indicate the unwarranted nature of the spike in the NZD/AUD over the June 1995 quarter and the first part of the September 1995 quarter. By the close of the September quarter, the actual NZD/AUD had returned to 0.87, which was virtually equal to its projected level. The model projects that the rate will consolidate at around this level through to 1997. The exchange rate is then projected to renew its trend appreciation, reaching 0.94 in 2000.

A key sensitivity of this projection is to the USD/JPY exchange rate. If this rate were to stay at its June 1995 average of 84.5 throughout the forecast horizon, the predicted NZD/AUD would rise to 90 by mid-1996 and to 93 in March 1998. Conversely, if the USD were to rally further to 110 in the near future and to remain at that level, the NZD/AUD rate could be as low as 0.83 in early 1996. Another sensitivity is to the current account deficit. If the Australian deficit were to remain 2.7 percentage points of GDP higher than New Zealand's deficit, the projected NZD/AUD exchange rate would reach 0.97 in December 2000 (given the original USD/JPY track).

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## 5.0 CONCLUSION

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Our modelling work suggests that an appreciating trend in the NZD/AUD exchange rate is warranted. However, the 20 year high in this rate reached in July 1995 (at 0.95) was unwarranted. These peak rates were driven principally by sharp downward moves in the USD and the AUD against the JPY. While these moves should theoretically have no long-term effect on the NZD/AUD rate, they do in practice affect this rate owing to New Zealand's monetary policy focus on the TWI.

By the end of the September 1995 quarter, the NZD/AUD rate had virtually returned to the level projected by our model. Given reasonable projections of key longer run determinants of the NZD/AUD rate, our model predicts a period of consolidation in this rate at around the 0.87 level until 1997. The trend appreciation should then resume, with the NZD/AUD rising to around 0.94 by December 2000. While this projection is subject to the actual out-turns for key determinants within our model, there is little indication that the rate will rise to parity within the forecast time period. For such an outcome to occur within this time-frame, we would most likely have to see a renewed plunge in the USD/JPY rate, a worsening of the Australian current account deficit, a substantially higher Australian inflation rate, or a substantial deterioration in Australia's terms of trade compared with New Zealand.

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