

# Developments in the Eurokiwi bond market

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The last few years have seen a marked increase in the volume of offshore issues of New Zealand dollar-denominated bonds (otherwise known as 'Eurokiwi' bonds).<sup>1</sup> A total of \$18 billion of these bonds has been issued since 1996 compared with a mere \$1.5 billion in the five years previously, and about \$8 billion in 1985-87 when Eurokiwi issues first came to prominence.<sup>2</sup>

This article explains both the reasons for the upsurge in Eurokiwi bond issues and their impact on the New Zealand financial markets and economy. It shows how, in effect, the Eurokiwi market has allowed the substantial borrowing needs of ordinary New Zealanders to be met (by small overseas investors) more cheaply than would have otherwise been possible.

Some observations are also made on possible future developments in the Eurokiwi market.

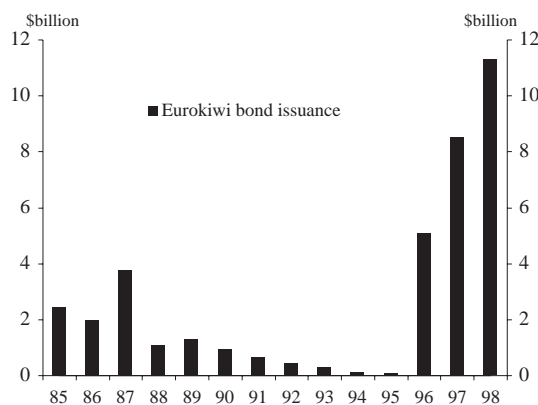
## 1 The development of the Eurokiwi bond market

Simply defined, a Eurokiwi bond is a New Zealand dollar bond, issued typically by a non-New Zealand borrower, to investors based outside New Zealand. The bonds are usually listed on a foreign stock exchange and are often able to be sold in small 'retail' parcels (as low as \$1,000 in many cases). The Eurokiwi market is not unique. There are Euro bond markets in many currencies, including, for example, the Australian and Canadian dollars.

Eurokiwi issues have been bunched in two distinct periods: 1985 to 1987; and 1996 to the present (see figure 1).

One indicator of the extent of the expansion of the Eurokiwi market is its size compared with that of the New Zealand government bond market. Table 1 shows that the levels of Eurokiwi and government bonds outstanding are now similar whereas in 1995 the Eurokiwi market was only around a tenth of the size of the government bond market.<sup>3</sup>

**Figure 1**  
Annual Eurokiwi bond issuance



Note: The 1998 figure is calculated by annualising the amount of issuance to the end of May.

**Table 1**  
Bonds outstanding (\$NZbn)

As at	Eurokiwis	Government bonds*
31 March 1995	1.6	19.0
1996	1.7	19.5
1997	7.7	18.4
1998	16.0	18.3

\* Excludes holdings by the Reserve Bank.

<sup>1</sup> The term 'Eurokiwi' is used here to refer to a number of different types of offshore New Zealand dollar-denominated issues including both so-called eurobonds and global issues.

<sup>2</sup> Note also that around \$3.6 billion of so-called Samurai NZ dollar bonds were also issued in 1996 and 1997 to Japanese retail investors. They have a more complex structure than Eurokiwi issues, and as none have been issued since early 1997, they are not dealt with as such in this article. However, the general principles behind Samurai issues are the same as for Eurokiwis.

<sup>3</sup> Nevertheless, the volume of secondary market trading in Eurokiwi bonds is still very small in comparison to the \$1.2 billion daily turnover in the government bond market.

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## How do Eurokiwis work?

The Eurokiwi bond market stems from two key factors:

- a high demand for credit in New Zealand which has pushed up New Zealand interest rates;

at a time when

- interest rates in other countries, notably in Europe and Japan, have been low and falling.

In these circumstances, investors in the low interest rate market tend to look for higher yielding investments, such as New Zealand dollar investments. This offshore demand for New Zealand dollar (NZD) investments creates the potential for borrowers to borrow NZDs more cheaply than if they were constrained to the New Zealand market alone. In other words, foreigners effectively expand the supply of NZD funding available. Their strong appetite for the yields available on NZD investments, relative to those available in their home country currency, and other currencies, enable borrowers to issue NZD securities at particularly competitive pricing.

However, New Zealand corporates and banks do not have ready access to this offshore source of NZD funding: they are simply insufficiently well known in those overseas markets. But organisations like, for example, the World Bank, and major internationally known banks and corporations, do have that access because they are well known as credit-worthy names.

These organisations, of course, have no need for NZD funding. But what an organisation like the World Bank can do is raise NZDs and on-lend the proceeds, typically to a New Zealand bank. In return, the New Zealand bank raises and on-lends the currency required by the World Bank. In essence, each borrows the currency required by the other, and they ex-

change the proceeds (in a back-to-back arrangement known as a cross-currency swap).

What is happening here is that the World Bank and the New Zealand bank each borrow in the market in which they have a **comparative** advantage, and share the net benefit.<sup>4</sup> Even if, as generally will be the case, the New Zealand bank can access US dollars only at a margin above the World Bank's cost of borrowing USDs, so long as this margin is less than the advantage the World Bank enjoys in the offshore NZD market, there exists an opportunity for both to 'gain from trade'.<sup>5</sup> The end result is that each ends up with the currency they need, and at a lower all-up funding cost than if they each borrowed the currencies they require directly.

The box describes in greater detail the investment flows involved in a typical Eurokiwi structure.

## The incentives to issue Eurokiwis

Bank lending has grown strongly in New Zealand in recent years – the annual rate of growth in the resident measure of private sector credit has ranged between 8 and 16 percent between 1994 and early 1998. Most of the lending has been to households, not to firms or the government. A number of factors explain this expansion of household lending, including a surge in immigration and a general rise in incomes as the economy moved out of recession in the early-mid 1990s. The ensuing housing market boom was reflected in a rise in housing-related mortgage borrowing demand as New Zealanders sought to own (and/or build) more, and more expensive, houses.

Figure 2 shows the upsurge in lending to households. Annual lending growth by New Zealand financial institutions has typically been greater than 11 percent since 1994, peaking at over 15 percent in the middle of 1996. Meanwhile, growth in nominal GDP (ie the economy over-

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<sup>4</sup> Typically the structure will be put together by an international investment bank, which identifies the opportunity and brings together the various parties to make the structure work.

<sup>5</sup> The concept of 'comparative advantage' here is no different from that which underpins international trade in goods and services.

## Investment flows associated with a typical Eurokiwi bond deal

The diagram below shows the investment flows associated with a typical Eurokiwi issue. There are four main groups of participants:

- Ordinary New Zealanders wishing to borrow New Zealand dollars at a fixed rate from their bank (call this bank XYZ bank) via a fixed rate mortgage (eg a 3 year fixed rate mortgage).
- A New Zealand bank (XYZ bank) which lends New Zealand dollars via a fixed rate mortgage to their New Zealand customers. In turn, XYZ bank needs to borrow New Zealand dollars at a fixed rate, which they do in the interest rate swaps market (in this case for 3 years). XYZ bank does this because they wish to minimise their exposure to interest rate risk by borrowing funds of around the same maturity as the mortgages they are investing in. To facilitate the Eurokiwi deal the XYZ bank must obtain US dollars, typically in the short term (floating rate) USD inter-bank market.
- An internationally recognised entity of high credit standing, say, for example the World Bank, which is prepared to issue three year fixed rate New Zealand dollar bonds in its own name to foreign investors. This entity invests the New Zealand dollars raised with the (XYZ) bank at the interest rate swaps rate and in exchange XYZ bank lends US dollars to the World Bank for the term of the bond issue (ie 3 years) at the prevailing US short-term interest rate. The combination of the New Zealand dollar interest rate swap and the floating rate US dollar loan is known as a cross-currency swap.
- A group of retail foreign investors who are willing to buy the New Zealand dollar bonds issued by the World Bank (these investors are often colloquially referred to as Belgian dentists). In essence, while they may be investing in a relatively unfamiliar currency, they are attracted by the yields available on New Zealand dollar investments, and take comfort in dealing with a familiar name and familiar credit risk. This group of investors

ultimately have to buy New Zealand dollars to invest in the World Bank securities as they are not natural holders of New Zealand dollars.

### Who ends up with what?

The four main participants end up with the following:

#### *Ordinary New Zealanders*

This group ends up with fixed rate mortgages in New Zealand dollars at interest rates lower than would have been available in the absence of the Eurokiwi market.

#### *XYZ Bank*

XYZ Bank has lent funds to households at the fixed mortgage rate and has raised those funds at the wholesale interest swap rate. Thus XYZ makes a gross profit equivalent to the margin between its fixed mortgage lending rate and the wholesale swaps rate at which it has borrowed NZDs. How much of that margin is retained by the bank and how much is passed on to borrowers by way of lower mortgage interest rates depends on the level of competition for lending amongst banks. In recent years the level of competition has been high, and most, if not all the benefits have accrued to borrowers from banks. (Banks' profit margins on fixed rate lending, if anything, have narrowed, not widened.)

Note also that XYZ bank cannot just borrow US dollars to fund its fixed rate New Zealand dollar mortgage portfolio. To do so would leave XYZ exposed to the risk of the value of the New Zealand dollar falling over the term of the mortgages. This is a risk that XYZ bank – and banks generally – are unwilling to take. But if the credit demands of the households are to be met, someone has to be willing to take this exchange rate risk. The Eurokiwi structure leaves the currency risk with the Belgian dentist, who, by investing, exhibits a willingness to accept the currency risk (in return for the high interest rate).

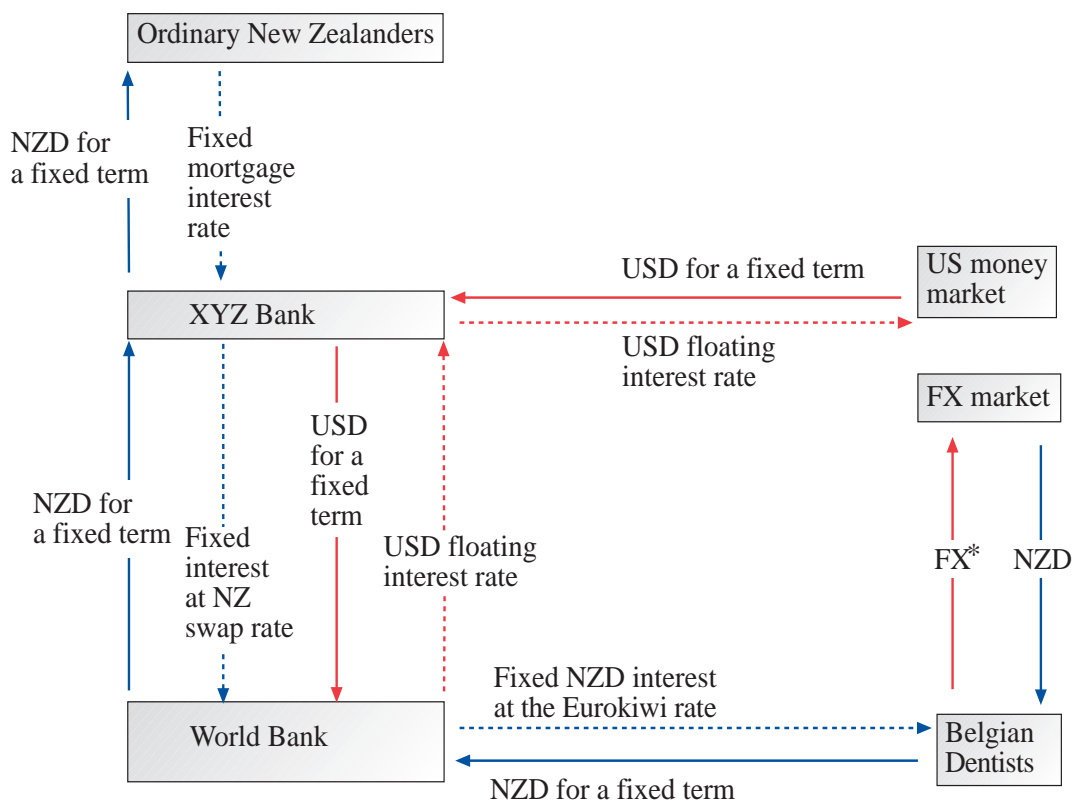
### World Bank

The World Bank ends up with US dollars on which it pays a floating rate of interest, plus a locked-in profit equivalent to the spread between the swap rate at which it lent New Zealand dollars to XYZ Bank and the rate at which it sold its bonds to the Belgian dentists (the latter usually being close to the New Zealand government bond rate). This locked-in profit is, in effect, the 'fee' that the World Bank receives for using its name to help raise fixed rate New Zealand dollars on behalf of the XYZ bank. Or as the World Bank sees things, it gets access to US dollars at an all-up cost lower than it would otherwise be able to borrow at. Note that this whole process can be repeated with any other currency, not just US dollars. For

example, if the World Bank wanted to obtain Deutschemarks instead of US dollars, then all that would need to happen is that it would borrow floating rate Deutschemarks from XYZ bank rather than US dollars.

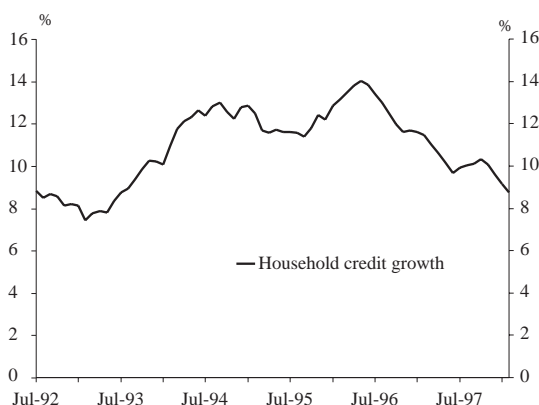
### Belgian Dentists

These investors end up owning New Zealand dollar denominated bonds which return a fixed rate of interest close to the New Zealand government bond rate. They also have an exposure to the New Zealand dollar exchange rate. If the currency depreciates relative to their own currency over the life of the bond then their return is reduced. If it rises then their return is enhanced.



\* This could be either Belgian francs or any other foreign currency that Belgian investors have to invest.

**Figure 2**  
**Annual household credit growth**



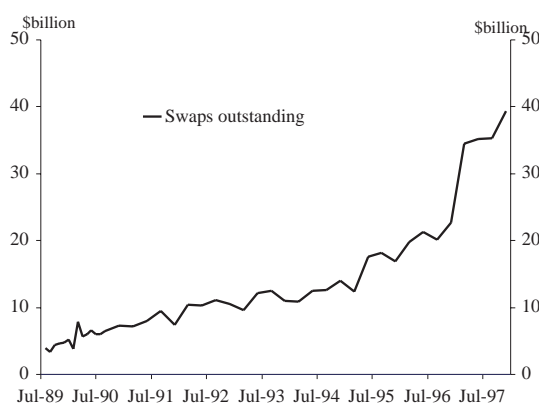
all) has averaged only around 5 percent per annum.

Much of this lending has been done at fixed rates of interest. Since 1994, the relatively firm stance of monetary policy in New Zealand (itself partially responding to the strength of credit growth) has translated into a steeply downward sloping yield curve – that is, on average, floating or, in other words, short-term, interest rates have been significantly higher than long-term, or ‘fixed’, interest rates. Since banks set retail lending rates at a margin over relevant wholesale rates (ie the rates at which they themselves can borrow the funds to on-lend), retail fixed mortgage rates have tended to be significantly lower than retail floating mortgage rates.

Intense competition in the fixed rate mortgage market has reinforced the shift towards lower fixed borrowing rates. This has been reflected in profit margins on fixed rate mortgages that have often been significantly narrower than on the traditional variable rate mortgages. As many prospective mortgage borrowers appear to choose simply the lowest interest rate on offer, regardless of the term for which the rate is fixed, there has been a surge in the amount of mortgage lending at fixed rates. Existing floating rate borrowers switching to fixed rate loans have also underpinned the growth in fixed rate lending. In 1994, only 7 percent of all mortgages were at fixed rates whereas by mid-1997 this ratio had risen to 52 percent, and will have risen further since then.

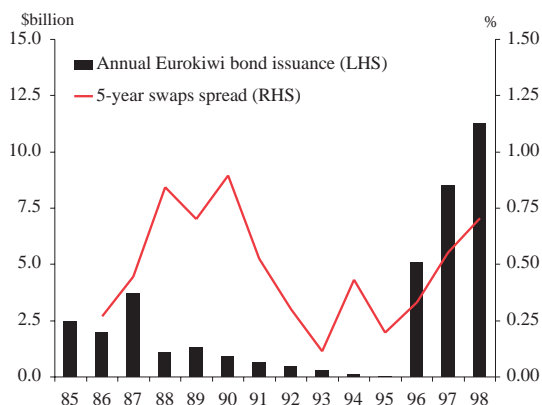
For banks the counterpart to the growth in fixed rate mortgage lending has been an increased fixed rate funding requirement. As local retail depositors are generally quite reluctant to invest for longer terms, especially when longer term rates are lower than short-term rates, much of this borrowing has been undertaken in the interest rate swaps market (which is, in essence, simply a wholesale market for borrowing and lending at fixed interest rates). The swaps market itself has grown strongly in recent years with the growth rate having accelerated since 1995 (see figure 3). The total amount of NZD interest rate swaps outstanding has almost doubled since early 1997.

**Figure 3**  
**Interest rate swaps outstanding**



This strong demand for fixed rate funding has had the effect of putting upward pressure on NZD interest rates in the swaps market. Meanwhile, the rates at which Eurokiwi issuers can borrow in the offshore NZD market are generally quite closely related to New Zealand government bond rates. By looking at swap spreads, that is, the difference between the swap rate and the rate on a government bond of the same maturity, one can get a reasonable sense of the funding advantage that exists in the Eurokiwi market. A widening of these spreads makes issuing Eurokiwis more attractive to potential issuers of Eurokiwi bonds, since it means a wider margin between their interest cost of borrowing (from offshore retail investors) and on-lending (in a swap) to New Zealand banks.

**Figure 4**  
**Eurokiwi issuance and the 5-year swaps spread**



Note: The 1998 figure is an annualised amount based on issuance to the end of May. Swaps spread data is from The National Bank of New Zealand Ltd and Fixed Interest Securities Ltd.

Figure 4 illustrates how the volume of Eurokiwi issues has tracked swap spreads. The decline in swap spreads from 1990 to 1995 and the subsequent widening in spreads after 1995 correspond broadly with the fall and rise in Eurokiwi issuance.

**Factors motivating the investors in Eurokiwi bonds**

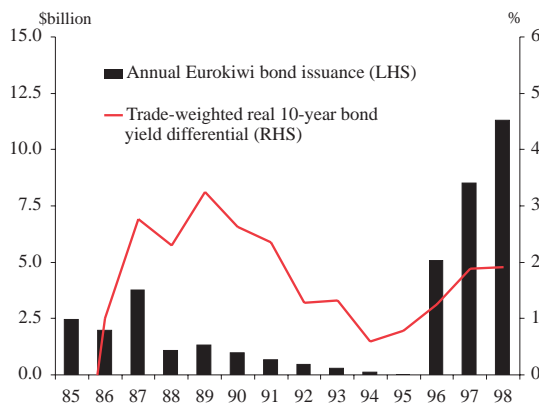
The total return available to the offshore buyers of Eurokiwi bonds is another key factor behind the success of the market. There are two elements to the total return that an offshore investor receives from an investment in a Eurokiwi bond:

- the yield that the Eurokiwi bond offers over and above that available on comparable investments – both in the investor’s own currency but also in other markets; and
- the expected movement in the value of the New Zealand dollar relative to the investor’s own currency from the date at which the Eurokiwi bond is purchased to the date at which the bond matures.

**Bond yield differentials to offshore**

Figure 5 shows the difference between the real 10-year government bond yield in New Zealand and the average of real 10-year yields for New Zealand’s trading partners since 1987.<sup>6</sup> In recent years, the returns available to investors in New Zealand bonds have risen significantly relative to those available on the bonds of other countries. The recent resurgence of the Eurokiwi market, and the relatively high levels of issuance seen in the mid to late 1980s were both associated with periods when New Zealand interest rates have been relatively high. Two types of rate differential matter: those between New Zealand and the home countries of potential investors (typically Western European), and the rate differential between New Zealand and other countries where European investors might also choose to invest.

**Figure 5**  
**Eurokiwi issuance and the trade-weighted real 10-year bond yield differential**



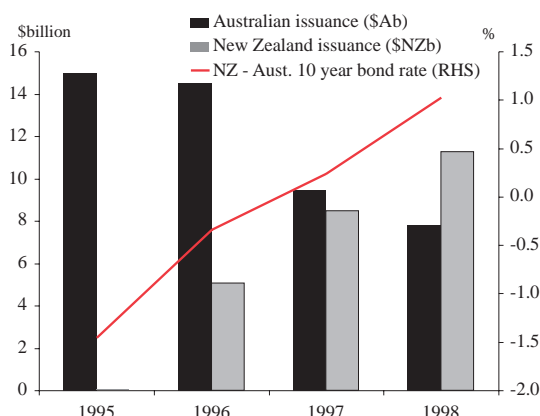
Note: The 1998 figure is an annualised figure based on the amount of issuance in the year to the end of May.

A comparison of the relative fortunes of the Australian and New Zealand Eurobond markets illustrates the powerful impact that changing interest rate differentials between alternative investment destinations can have on Eurobond issuance. In 1995 just under \$A15 billion of Euro-Aussie bonds were issued, but there was

<sup>6</sup> Most of the Eurokiwi issues are for terms considerably shorter than 10 years (typically 2 to 3 years). The movements in the yield differentials have tended to be more marked at shorter maturities.

a mere \$NZ 50 million of Eurokiwi issues.<sup>7</sup> If the current pace of issuance persists in both markets for the rest of the year then there will be just over NZ\$11 billion of Eurokiwi issues in 1998 and A\$8 billion of Euro-Aussie issues despite the much larger size of the Australian economy. In 1995 New Zealand 10-year bond yields were around 150 basis points lower than comparable Australian yields. Now New Zealand rates are around 100 basis points higher than those in Australia. Australian Eurobond issuance has slowed dramatically relative to New Zealand issuance because Australian interest rates fell relative to New Zealand interest rates.

**Figure 6**  
**Australian and New Zealand Eurobond issuance**



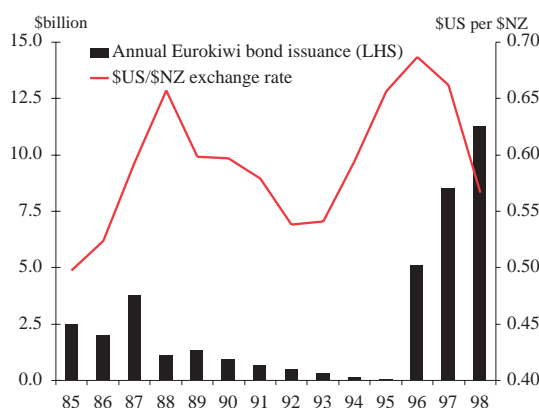
**The exchange rate**

It is difficult to know with certainty how the buyers of Eurokiwi bonds think about currency movements. Anecdotal evidence suggests that some investors tend to extrapolate recent trends into the future. So a past trend of a strong New Zealand dollar could stimulate investment as offshore investors ‘hop onto the bandwagon’. Figure 7 shows the relationship between the value of the New Zealand dollar and the volumes of Eurokiwi issuance since the early 1980s. The experience up until 1997 suggested that the strength of the currency was a factor behind Eurokiwi issuance. Similarly, the depreciation of the New Zealand dollar in the late

1980s was often quoted as a key reason why Eurokiwi issuance reduced from 1988 onwards. So the recent depreciation of the currency could mean that the demand for Eurokiwi bonds could fall off quite quickly, although so far we have seen, if anything, even stronger levels of Eurokiwi investment. In general, therefore, it may be that other factors – primarily the width of interest rate differentials and swaps spreads – are more important than the direction of the currency.<sup>8</sup>

Also, New Zealand dollar markets are now relatively mature and reasonably well recognised as an investment destination. Hence Eurokiwi bonds may be more attractive for a given level of interest rates/swaps spreads than would have been the case in the mid- to late 1980s.

**Figure 7**  
**Eurokiwi issuance and the \$US/\$NZ exchange rate**



Note: The 1998 figure is an annualised amount based on the amount of issuance in 1998 until the end of May.

<sup>8</sup> In fact, some have argued that a fall in the exchange rate can, at the margin, increase Eurokiwi demand as offshore investors can get more New Zealand dollar Eurobonds for a given amount of foreign currency they have available to invest. Perhaps the truth lies somewhere in between, with most Eurokiwi investors implicitly taking the view that for a range of relatively stable countries, currency movements are difficult to predict and investment choices are best made based on yield differentials. The direction of the currency appears to be more important for Samurai bond issuance. Samurai issuance has stopped since the exchange rate started falling in the middle of 1997.

<sup>7</sup> Australian data are based on Reserve Bank of Australia estimates.

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## **2 Eurokiwi bond issues: what impact do they have on the financial markets and the economy?**

We can think about the macro-economic impact of Eurokiwi issues under a number of headings.

### **The impact on interest rates**

A rise in the demand for borrowing in New Zealand dollars generally requires an increase in New Zealand interest rates to entice investors to supply the extra amount of credit (or in other words invest more New Zealand dollars). Eurokiwi bond issuance allows small offshore investors who would not normally invest in the New Zealand dollar bonds to do so. These small investors would not normally invest here because:

- the amounts they have available to invest are generally too small to be directly invested in the New Zealand government or corporate bond markets. Distribution channels for these New Zealand issued products do not exist at a retail level in Europe or in America;
- the investors prefer to invest with entities they know. Thus, New Zealand corporate entities or New Zealand banks would probably have to pay significantly higher interest rates than Eurokiwi issuers, even if the distribution channels did exist.

By enlarging the pool of investors in New Zealand dollar assets, the Eurokiwi market has reduced the extent to which New Zealand interest rates have had to rise to satisfy the increased borrowing demands in recent years.

### **The impact on the exchange rate**

A second important macro-economic impact of the Eurokiwi market has been on the exchange rate. As noted above, the Eurokiwi market has encouraged/allowed more offshore investors to invest in the New Zealand bond market. To do this they have needed to buy New Zealand dol-

lars in the foreign exchange market. This means that there has been higher demand for New Zealand dollars than otherwise would have been the case. This increased demand for New Zealand dollars pushed up the value of the New Zealand dollar exchange rate relative to where it would have been without the Eurokiwi bond market.

### **The impact on the current account**

A third important macro-economic impact is on the current account. All else equal, anything which makes capital more readily available will make borrowing easier. The Eurokiwi market is an example of one such development. More investors have become available, resulting in lower interest rates than otherwise and consequently more household borrowing than otherwise would have occurred. The result is more spending directly on housing and indirectly on other things as the result of higher house prices and personal wealth. A rise in spending, particularly at a time when the exchange rate is high, is generally associated with higher demand for imported goods and ultimately a larger current account deficit. The growth in export volumes may also decline because of the higher exchange rate. Overall, the result is a larger current account deficit than would otherwise have been the case.

Nevertheless, the impact on the current account deficit should not be overstated. A large proportion of the widening in the current account in recent years has reflected consumption and investment decisions that would have occurred irrespective of the existence of the Eurokiwi market, and many expenditures are not overly sensitive to relatively small changes in interest rates. Also Eurokiwi issues are not the only capital flows influencing interest and exchange rates.

### **The impact on the capital account**

Trends in the capital account mirror those in the current account – after all, if there were no capital account flows then there could not be a current account deficit. With regard to Euroki-

iwi issues and the capital account, however there are two points to be noted.

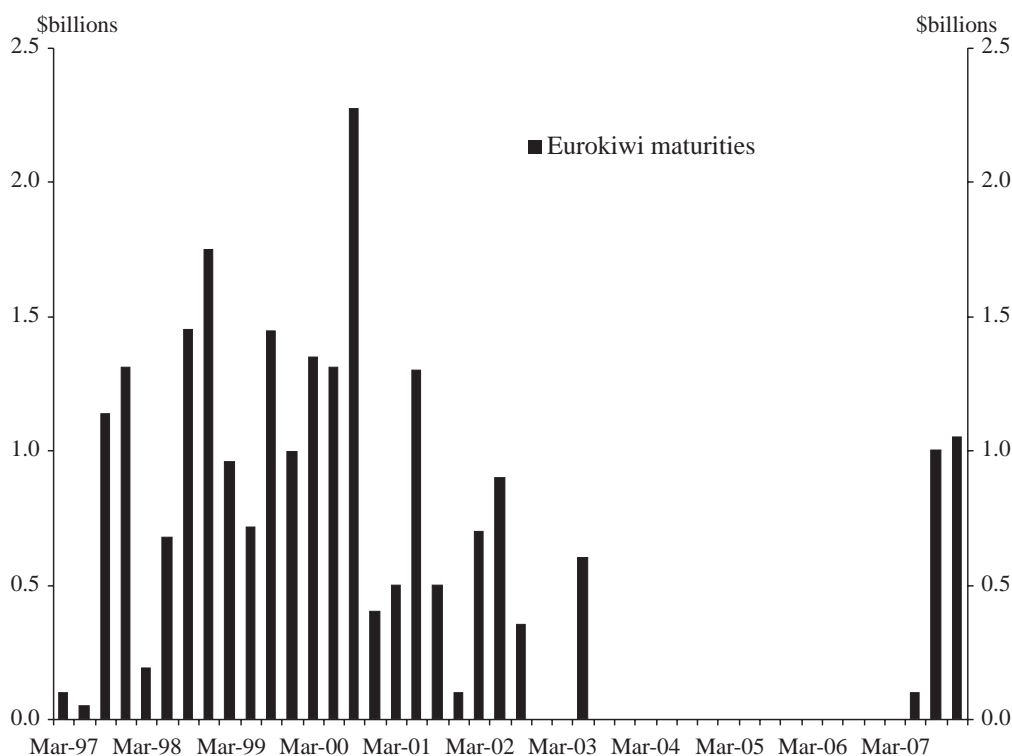
First, taken in isolation, a Eurokiwi issue will not result in an immediate net inflow of capital: the inflow of funds from the offshore investor is offset by an outflow of funds from someone else, being the party who sells the New Zealand dollars required by the offshore investors. Unless the seller of New Zealand dollars is a New Zealand importer, then there is no current account outflow, and hence no net capital account inflow. More likely, one capital account transaction will be offset by another capital account transaction. The corollary is that the initial effect of Eurokiwi issues tends to be seen in financial market prices – that is, in the exchange rate and in interest rates. Other things being equal, the extra demand for New Zealand dollars, and the extra supply of capital from offshore investors, causes the exchange rate to rise and interest rates to fall.

It is only as the effects on spending of lower interest rates and a higher exchange rate take

effect, that imports will tend to increase (and/or exports fall). At this stage, we see a widening of the current account deficit and a corresponding inflow of capital, in net terms. And the upward pressure on the exchange rate will tend to ease, as New Zealanders become sellers of New Zealand dollars, and purchasers of the foreign currency they need to pay for their imports.

Secondly, the inflow of capital that gets recorded in the capital account of the balance of payments, and in the external debt statistics, is not the Eurokiwi bond itself – which, after all, is issued by non-residents to non-residents. (The balance of payments and external debt data is concerned only with transactions between residents and non-residents). Rather, what appears in the data is the foreign currency borrowing raised by the New Zealand banks (see box for details) – offset, at least initially, by an increase in the foreign assets, or reduced foreign liabilities, of the party who sells New Zealand dollars to the Eurokiwi investors.

**Figure 8**  
**Eurokiwi maturities**



### 3 The Eurokiwi bond market: what lies ahead?

At a general level this question is perhaps relatively easy to answer: Eurokiwi issuance will continue for as long as the conditions which have fostered its development in New Zealand recently are sustained. The key feature required is high domestic interest rates relative to the other markets. Generally, if credit demand remains strong here (and thus domestic interest rates and swap spreads remain high) and monetary policy overseas remains relatively easy (and thus foreign interest rates stay relatively low) then Eurokiwi issuance is likely to continue. A moderating factor is the perceptions of foreign investors about the risks of owning New Zealand dollar bonds. If risk perceptions rise for whatever reason (for example increased concerns over the size of the current account deficit, or the exchange rate depreciation that has already occurred) then Eurokiwi issuance would likely fall.

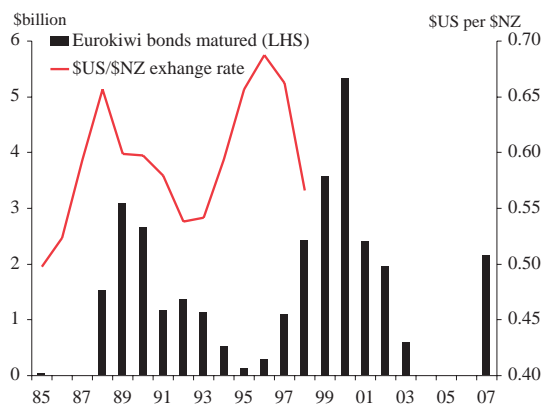
The analysis becomes trickier when we try to think about the impact of the maturity of the Eurokiwi bonds already on issue. As at 31 March 1998 nearly \$16 billion of Eurokiwi bonds were outstanding. Figure 8 depicts the distribution of future maturities. At least \$500 million of Eurokiwis will mature in almost every quarter until the second half of 2002. The amount of Eurokiwi maturities peaks in 2000 when over \$5 billion of Eurokiwi bonds will mature – an amount roughly equal to the forecast current account deficit for that year.

The impact of these maturities on the financial markets will depend on the degree to which new issuance occurs over the years ahead. In a very short time, we have seen the proportion of our total demand for credit which has been supported by this particular type of offshore investor rise significantly. The increased inflow of capital from offshore has helped keep interest rates relatively lower than otherwise in the face of strong credit demand and held the currency up relative to where it might otherwise have been. Looking forward, all else equal, if New Zealanders' demand for credit remains strong, but new offshore investment is not so easily forth-

coming, then interest rates will rise. Similarly, if the level of new issuance is not enough to offset the significant number of Eurokiwi maturities scheduled for the years ahead – or if other groups of offshore investors do not emerge – then all else equal, the exchange rate will experience downward pressure.

Any adjustments that are required will likely occur ahead of the actual maturity dates of the Eurokiwis as the maturity profile is known well in advance. Changing perceptions of the expected strength of new issuance and the factors that drive Eurokiwi issuance will flow through into adjustments in interest rates and the exchange rate sooner rather than later. For example, if investors increasingly expect a slow down in the economy, weaker credit demand, easier monetary policy, and lower short-term interest rates, Eurokiwi issuance will also be expected to slow and the exchange rate to fall. The shift in perceptions will generally come at the same time as movements in the monetary policy cycle and will complement the effects of that cycle. Past experience backs this up. The late 1980s and early 1990s, when the last concentration of Eurokiwi maturities occurred, coincided with a period of exchange rate depreciation. However, it was changes in the stance of monetary policy, and hence interest rates, which were more closely linked to movements in the exchange rate rather than the maturity profile itself. In particular, the bulk of the depreciation of the exchange rate oc-

**Figure 9**  
**Eurokiwi maturities and the \$US/\$NZ exchange rate**



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curred after 1989 when the amount of Eurokiwi maturities was tailing off (see figure 9) but when interest rates fell the most.

### **Will the financial market adjustment be smooth?**

The smoothness of the adjustment to financial market prices will depend on the nature of the shocks to people's expectations of future issuance and the combination of shocks that occur.

An example of a relatively benign shock is a downward revision to expectations of future credit demand. A slower economy with weaker credit demand, lower interest rates and narrower swaps spreads would result. Consequently, Eurokiwi demand would fall off because the market would look less attractive to both the issuers and buyers of Eurokiwi bonds. However, because the demand for credit slackens, funding requirements also slacken. This is an example where the Eurokiwi market moderates the impact on interest rates of changes in credit demand. When credit demand is strong, the Eurokiwi market helps reduce the extent to which interest rates rise. But correspondingly, when credit demand slackens off – which does not happen overnight – interest rates do not fall as much either. The exchange rate would still need to adjust to a lower level as the net demand for New Zealand dollars from offshore has reduced. But this adjustment should occur in a relatively orderly fashion (as has occurred over the last year) because expectations of future credit demand seldom swing quickly in any direction – either up or down.

A potentially faster-acting shock is a rise in foreign interest rates – perhaps in response to a firming in monetary policy abroad. In this case the differential between domestic and offshore interest rates would narrow, diverting investment away into different markets. The faster the interest rate differentials narrow then the faster that Eurokiwi issuance would drop off, resulting in a more rapid fall in the exchange rate and faster rise in interest rates. The rise in interest rates would occur because credit de-

mand in New Zealand would not fall immediately despite higher foreign interest rates. But if the rise in foreign interest rates reflects a stronger international economic environment then perceptions of the likely stance of domestic monetary policy would firm as well. Thus domestic interest rates may rise with foreign rates, slowing the narrowing in the differentials. So, in this case the adjustment to Eurokiwi issuance and hence domestic financial prices could also turn out to be measured rather than sharp.

A marked change in offshore investors' perceptions of the risks associated with investing in New Zealand could also cause a faster adjustment. This might occur for a number of reasons (for example, concerns over the current account deficit or the exchange rate) and could result in a faster drop-off in Eurokiwi demand and higher interest rates (as credit demand would remain close to previous levels), and a lower exchange rate (as offshore demand for New Zealand dollars would decline).

Overall, it is difficult to know for sure how the Eurokiwi market will evolve in the next few years and how financial prices will adjust to those developments. An important point is that, regardless of what happens, New Zealand banks are generally not directly exposed to changes in interest rates or exchange rates because they generally cover or 'hedge' all of their risks associated with Eurokiwi issues. For example, when the banks' fixed rate funding from the Eurokiwis matures, the mortgages banks have on the other side of their balance sheet will also be due for re-pricing. The residual exposures are with domestic borrowers, particularly homeowners, who could face higher interest rates when their fixed rate mortgage terms mature, and the foreign owners of the Eurokiwis who are exposed to movements in the exchange rate.

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## 4 Conclusion

In sum, the Eurokiwi bond market has enjoyed a renaissance in the past few years. Increased demand for borrowing in recent years has pushed New Zealand interest rates up relative to offshore interest rates, and, in effect, has spilled over to other markets. Eurokiwi issuers, by accessing offshore demand for high yielding NZD investments, have been able to obtain cheap funding for themselves, and at the same time have facilitated the borrowing needs of New Zealanders by helping local banks tap a source of finance (ie small retail offshore investors) which would not normally be available. The result has been to moderate the upward

pressure on New Zealand interest rates given the strength of borrowing demand, and to put upward pressure on the exchange rate. In essence, the Eurokiwi market is a reflection of how the global financial markets respond efficiently to match supply and demand for funds.

Looking forward, the future of the Eurokiwi market is uncertain and largely depends on the extent to which New Zealand interest rates remain high relative to those available offshore. If the rate of Eurokiwi issuance does slow, then, all else equal, the effects will tend to be seen in a lower exchange rate and higher interest rates than otherwise.