
Exchange rate strategies for small open developed economies such as New Zealand

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Changes in the global financial system, together with new experience with fixed and floating exchange rates, have resulted in a reassessment of exchange rate strategies for both developed and emerging market economies. The emergence of a currency union in Europe has been seen by some as showing the path forward in the continuing integration process of developed nations, including New Zealand. In view of the large swings in the New Zealand exchange rate over the past decade, some attention has recently been paid to alternative exchange rate strategies that might allow for reductions in exchange rate variability, and potentially better economic growth performance. This article discusses these issues. It is an edited version of a paper presented by the Reserve Bank to an economic workshop on Exchange Rate Strategies for Developed Open Economies in the New Millennium, held in February 2002. Papers presented at this workshop are available at: http://www.rbnz.govt.nz/research/workshops/111791/0111791-02.html#P99_2657

1 Introduction

Over the past two decades, the liberalisation of capital flows and the creation of deep and liquid foreign exchange markets have changed the economic environment within which open economies operate. The benefits of these developments are substantial, including greater availability of options for financing productive activity all over the world, and better opportunities for savers to diversify risk and increase return. Nevertheless, the new environment also poses serious new challenges for policy-makers.

One of these challenges is the risk posed by the interface with the international economy. A series of costly currency and financial crises during the past decade illustrates a greater macroeconomic fragility of economies with fixed exchange rates and open capital accounts. These crises include those of the European Monetary System in 1992-3, Mexico in 1994, Southeast Asia in 1997, Russia and Brazil in 1998 and more recently also Turkey and Argentina. Moreover, the initial outbreaks of crises have resulted in unpredicted contagion effects, striking several countries with apparently strong fundamentals and well-regarded economic policies.

The increased frequency and severity of these currency and financial crises, particularly in emerging markets, has led to a rethinking about exchange rate arrangements, in two general directions. First, a consensus has emerged about the "impossible trinity" of a fixed exchange rate, capital mobility, and a monetary policy dedicated to domestic goals. This in turn has led several countries to abandon fixed rates, through the adoption of a floating exchange rate (often combined with inflation targeting) or via the formation of a currency union or dollarisation. Second, there are now discussions regarding the best way to modify the international financial architecture to reduce the overall likelihood of crises. In addition, much has been written on the urgency of reducing country-specific macroeconomic fragility by structural means, eg improving governance structures, designing more robust financial systems, more effective bankruptcy codes and selecting more appropriate exchange rate regimes.

In developed economies, the focus of the exchange rate policy debate has tended to be less about preventing or containing crises on the home front, and more about the measures that may improve growth and welfare prospects over the longer term. The recent debate has been dominated by the ongoing European transition to a common currency, as part of a package to increase political and economic integration.

¹ We are grateful for many helpful contributions and comments from colleagues at the Reserve Bank. Particular thanks go to David Archer, Geof Mortlock, Dean Scrimgeour and Kelly Eckhold. Valuable assistance with tables and graphs was received from Wesley Thompson, Monica Shin and Graham Howard.

A neglected area of discussion is the appropriate exchange rate regime for relatively small, open, developed economies that are outside of the European experiment, such as New Zealand, Iceland, Norway, Australia and Canada. These economies are naturally affected by the changes in the international economic environment, and their policy-makers must consider how best to respond to these changes in order to manage new risks and take advantage of opportunities to improve welfare.

This article discusses a range of issues relating to the appropriate choice of exchange rate regime for a small, open economy, such as New Zealand. Section 2 surveys exchange rate arrangements of developed countries and discusses the issue of exchange rate volatility. Section 3 describes the New Zealand context of successful performance in maintaining price stability while suffering disappointments with respect to growth performance. Section 4 describes various options available to New Zealand with respect to currency arrangements. These options include those that may mitigate exchange rate movements within a floating exchange rate regime as well as the option to form a currency union with a trading partner. Section 5 concludes.

2 Exchange rate issues for developed economies

Developed countries differ from emerging market economies in several ways. They have a higher per capita income, long-established institutional structures associated with rules-based democracies, and significant social welfare programmes. Effective governance and regulatory structures have evolved, which enjoy widespread public acceptance, due in part to their accountability to the electorate. All of this allows for a greater measure of robustness in response to economic shocks of various kinds. While robustness is not the same as immunity, it does imply a considerably lower likelihood of a panic-generated crisis, and a greater capacity to contain damage caused by real shocks.

By and large, a duality of exchange rate regimes exists today among the developed economies. Table 1 (reproduced from Fischer, 2001, p7) shows that, of 22 developed countries (not including euro area countries Greece or Luxembourg), ten have opted to join the euro area, nine float their currencies independently and the remaining three are special cases: Singapore with a managed float, Hong Kong with a currency board, and Denmark, with a slightly flexible peg to the euro.

Table 1
Exchange rate arrangements in developed market economies
(as of December 31, 1999)

Euro area		Other	
Austria	NS	Australia	IF
Belgium	NS	Canada	IF
Finland	NS	Denmark	HB
France	NS	Hong Kong SAR	CB
Germany	NS	Japan	IF
Ireland	NS	New Zealand	IF
Italy	NS	Norway	IF
Netherlands	NS	Singapore	MF
Portugal	NS	Sweden	IF
Spain	NS	Switzerland	IF
		United Kingdom	IF
		United States	IF

Source: IMF, *Annual Report 2000*

Note: Economies listed in the MSCI Developed Markets index.

Key:

NS = Arrangements with no separate legal tender

CB = Currency board

IF = Independently floating

HB = Pegged rate in horizontal band

MF = Managed float with no pre-announced exchange rate path

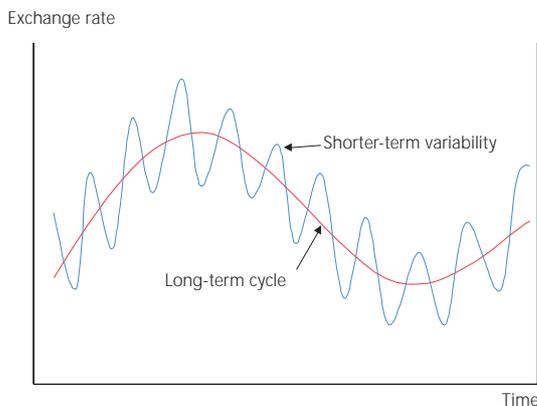
All of the countries on which we focus in this article have floating exchange rates, albeit with varying degrees of periodic intervention in foreign exchange markets.

The most obvious characteristic of a floating exchange rate is the constant fluctuation against other currencies. This allows for efficient absorption of shocks to the current account, but is also believed to be disruptive to trade and foreign investment. To the extent that most fluctuations are temporary, and some large swings are clear over-reactions that do not find support in fundamentals, one does not have to look far for a motivation to seek mechanisms to reduce variability.

Types of volatility

It is helpful at this point to draw a distinction between short-term volatility, which looks at fluctuations with a frequency of less than a year, and longer cycles of up to several years.

Figure 1
Exchange rate volatility and cycle amplitude

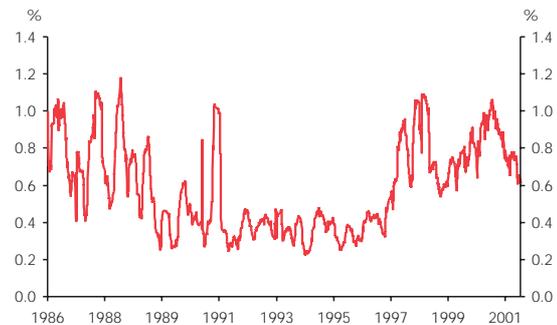


Short-term volatility: Volatility is a term generally used to describe exchange rate fluctuations that occur over a reasonably short time horizon, such as hourly, weekly, or monthly.

In New Zealand, exchange rate volatility appears to have increased recently after a relatively stable period between 1992 and 1997, resulting in some expressions of concern. Figure 2 depicts the evolution of volatility, defined as the standard deviation of the daily percentage change in the NZD/USD exchange rate for a 60 day moving window.

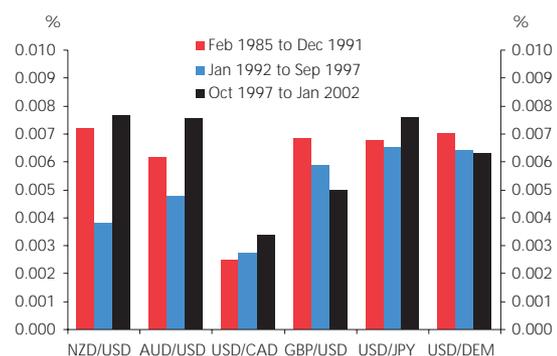
Figure 2 shows that while volatility against the US dollar has increased in recent years from a fairly stable period between 1992 and 1997, it is lower than the volatility that was typical in the mid- to late 1980s. Volatility against the Japanese yen has been broadly similar but slightly higher during this time period, exhibiting a bit less of a “smile” pattern. By contrast, volatility against the Australian dollar has not increased as much in recent years, and after following the figure 2 series very closely since 1986 has recently diverged to levels significantly lower than volatility against the US dollar. This may reflect the closer integration between the Australian and New Zealand economies.

Figure 2
Exchange rate volatility in NZD/USD
(rolling 60 day volatility)



In comparison with other countries, New Zealand dollar volatility does not seem significantly different with respect to the US dollar. Figure 3 shows that, for three periods since 1985, the short term volatility in the AUD/USD exchange rate has been very similar to that of the NZD/USD, and that broadly similar volatilities are seen in some other currencies relative to the USD. The notable exception is in the USD/

Figure 3
USD currency pair volatility comparisons
(rolling 30 day volatility)



Canadian dollar exchange rate, which has displayed relatively low volatility, again possibly reflecting the close integration of those two economies.

In addition, empirical estimates of the direct cost of exchange rate volatility in New Zealand (as elsewhere) have been low. Fluctuations in the trade-weighted exchange rate index (TWI) with frequencies varying from 1 to 8 quarters have extremely small or insignificant effects on exports, imports and investment (Gray, 2002). One possible explanation for this is that most businesses are able to hedge themselves effectively against this type of volatility. Brookes et al (2000) find that New Zealand firms typically engage in substantial hedging of known trade receipts and payments out to around six months, but with less cover for flows expected between six and twelve months ahead. There is also a rapid fall-off in the extent of cover for trade that is expected to occur beyond 12 months. In other words, firms are relatively easily able to insulate themselves from short-horizon exchange rate volatility.

Amplitude of the exchange rate cycle: The business cycle frequency of the exchange rate fluctuations is often referred to as the 'amplitude of the exchange rate cycle', to distinguish it from higher frequency volatility.

Of course, long-term variations in the exchange rate often have benefits, to the extent that they move with swings in fundamentals such as commodity prices or foreign demand. But it is also well known that exchange rates often deviate from fundamentals for very extended periods of time. For example, the persistence of deviations from purchasing power parity (PPP) in modern floating exchange rate data has been difficult to explain (eg Rogoff (1996)).

Long-term exchange rate fluctuations that do not track fundamentals are problematic for businesses with unhedged exposure to these unpredictable movements, which in turn do nothing to insulate against external shocks. Whereas hedging instruments can often be used to mitigate the costs associated with short-term volatility, firms generally "ride out" the longer-term exchange rate cycles. The costs associated with doing this can be significant.

There are basically two reasons why firms do not use hedging instruments to insulate themselves from longer-term cycles. First, firms often face considerable uncertainty about the size

of income and cost streams beyond the next 6-12 months. Without a better understanding of exchange rate exposure, they are not in a position to put in place a good hedging strategy. Hedging could also leave a firm significantly worse off if it prevents the firm from benefiting from a favourable exchange rate development, especially if the move puts the firm's competitors at an advantage. For example, when the New Zealand dollar began to depreciate in response to the Asian crisis, many firms were unable to benefit from the depreciation because they had already covered a large proportion of export sales with forward contracts.

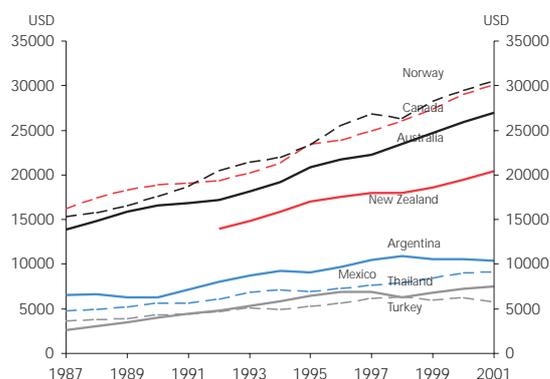
Second, long-term hedging contracts are usually expensive, if available at all. Foreign exchange cover for long terms involves significant credit exposure. If the firm taking the forward cover is unable to settle an exchange rate deal when it comes due, the bank which has written the forward cover risks taking a substantial loss in unwinding the financial contract. Such risks add to the cost of hedge contracts. Moreover, it is more difficult for financial intermediaries to lay off their risk positions in respect of longer-term swaps and forwards, therefore reducing their willingness to provide hedges to exporters and importers.

3 The New Zealand context

New Zealand formally introduced inflation targeting in 1989, and has had a freely floating exchange rate since 1985. The results of this framework to date are broadly positive, given that inflation has been low and stable for ten years, and there have been no financial or banking sector crises – even in the face of the Asian crisis and a significant exchange rate depreciation. However, economic growth has been disappointing relative to many of our trading partners and our relatively high external indebtedness exposes the economy to potential vulnerabilities. Overall, though, the current exchange rate system seems sustainable and robust, particularly given the overall environment of fiscal surpluses, low levels of public debt and a sound banking system. Recent GDP growth has also been surprisingly robust, given the global slowdown of 2001.

Nevertheless, and as noted above, over the past two decades the relative growth performance of New Zealand has been disappointing. Wide-ranging reforms during the late 1980s and early 1990s generated hopes of more rapid growth during the 1990s than has been the case. A common benchmark of comparison is Australia, which reformed less than New Zealand, but has grown faster during the same period.

Figure 4
Evolution of per capita GDP (PPP-corrected)



This poor relative growth performance has sparked a search for explanations, including in respect of the exchange rate.² The role of the New Zealand dollar in the recent business cycle has also been the topic of a speech by the Governor of the Reserve Bank (Brash (1999)). Various commentators have wondered whether movements in the New Zealand dollar's exchange value have been detrimental to growth.

These movements have been large. Figure 5 illustrates how, for example, between late 1992 and early 1997, the TWI appreciated by almost 30 per cent before depreciating by a similar magnitude over the following 3½ years.

While the New Zealand exchange rate has moved through very significant cycles, other larger currencies have also, on occasion, experienced similarly large movements. Figure 6 plots the recent episode of depreciation in New Zealand's real effective exchange rate alongside recent episodes of significant currency depreciation for other OECD economies.

² Other, non-exchange-rate-related explanations, abound. For example, Skilling (2001) has explored the possibility that the unsatisfying relative performance of New Zealand is due to characteristics that are not so amenable to policy, such as smallness, dispersion of population and distance from major external markets.

Figure 5
Evolution of New Zealand's trade weighted exchange rate index 1985-2001



Each episode has been lined up at a common starting point (ie at the peak of the respective exchange rate cycle). Thus, for example, New Zealand's episode of depreciation starts in the first quarter of 1997 and ends in the fourth quarter of 2000. The episode of depreciation for Canada starts in the third quarter of 1991 and proceeds until the second quarter of 1995. While the fall in the New Zealand dollar has been very significant, the magnitude of cycle that New Zealand has experienced is not significantly different from those of other countries.

Similarly, figure 7 shows that New Zealand's mid-1990s episode of appreciation, although large, was also not substantially out of line with movements in other currencies.

In understanding these large movements, it is possible to point to some specific drivers, such as the factors that contributed to the large yen depreciation of the mid-1990s or the large US dollar depreciation of the late 1980s. But so too can we point to some specific factors driving the large New Zealand dollar movements. It remains to be seen whether these magnitudes of exchange rate movement will be the norm or the exception.

Even if New Zealand is not an outlier in the magnitude of its exchange rate cycle, this is of limited comfort. Instability of exchange rates among the major currencies has long been a topic of policy-maker concern and discussion, with regular proposals for target zones among the three major currencies. Fischer (2001) points out that, while such a system does not exist formally, it still seems that when major exchange rates get very far out of line with fundamentals, two or three of the big three economies' authorities will agree to intervene in the currency markets. Examples of this include mid-1995,

Figure 6
Peak to trough comparison of various real exchange rates³

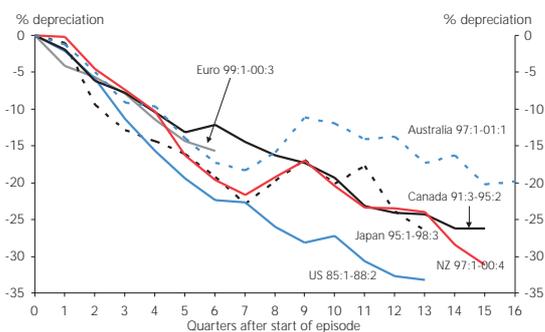
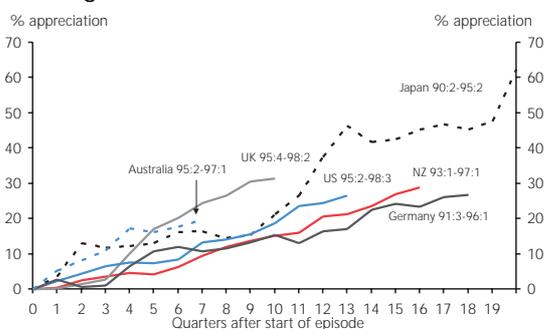


Figure 7
Trough to peak comparison of various real exchange rates



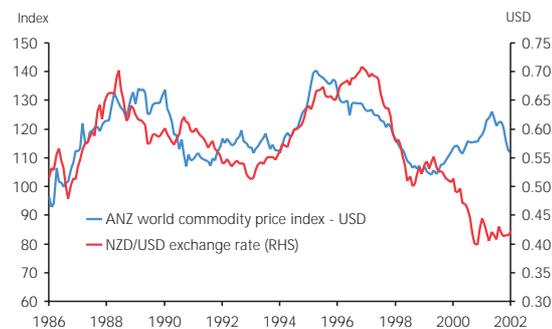
when the yen-dollar exchange rate reached 80, implying a yen that was significantly appreciated relative to estimates of its equilibrium value, and 2000, when the euro was significantly depreciated relative to its estimated equilibrium value.

This brings us to the question of the extent to which such exchange rate swings reflect shifts in underlying economic fundamentals. If movements in New Zealand's exchange rate predominantly reflect "fundamentals", then there is a strong case for retaining a flexible exchange rate. But to the extent that movements do *not* reflect fundamentals, then it is arguable that such exchange rate swings are more disruptive and impose higher average transactions costs on relatively open economies such as New Zealand than corresponding fluctuations do in less open large economies such as the United States, Japan or the euro area.

The significant body of economic literature on this topic provides mixed evidence. There are a number of economic drivers that can potentially explain a significant proportion

of exchange rate fluctuations. For New Zealand, Australia and Canada, commodity price fluctuations are an important driver. Figure 8 shows the NZD/USD exchange rate and the ANZ index of the world prices of New Zealand's commodity exports. For most of the sample, the exchange rate moved broadly together with the index of commodity prices, thus smoothing the cycles of NZD prices. In more recent times, the currency has fallen even as commodity prices rose, thus amplifying the movement in domestic prices, rather than dampening it. It therefore seems that the exchange rate moves in association with commodity prices during some periods but not during others.

Figure 8
Commodity prices and the exchange rate, 1986 - 2002



On the other side of the debate, there is substantial evidence to suggest that exchange rates sometimes deviate from fundamentals for very extended periods of time (eg Rogoff, 1996). A range of various structural and time-series exchange rate models have been unable to outperform a random walk model. This conclusion was first drawn by Meese and Rogoff (1983) for major OECD currencies, and their conclusion has stood the test of time, with scant evidence of robust exceptions to their finding. With regard to the exchange rates of smaller open economies, there has been less consensus, with a number of relatively successful attempts at using commodity prices or the terms of trade to model the "commodity currencies" of Canada and Australia.⁴ However, Chen and Rogoff (2002) were unable to overturn the earlier Meese and Rogoff result, even after incorporating world commodity price fluctuations in models of the exchange rates of Canada, Australia and New Zealand.

³ The exchange rates shown are the real effective exchange rates as calculated by the IMF.

⁴ See Frankel and Rose (1995) for a survey of the empirical research on exchange rates.

Despite observing that world prices of commodity exports “do appear to have a strong and stable influence on the real exchange rates of New Zealand and Australia”, Chen and Rogoff found that standard exchange rate equations – adjusted for commodity price shocks – do not offer very much encouragement for the point of view that the commodity currencies might be easier to explain than the major currencies. In other words, even after taking the explanatory power of commodity price movements into account, there remains an extremely persistent movement of real exchange rates away from the levels suggested by their fundamentals.

The costs of significant exchange rate amplitude, over and above that driven by fundamentals, are difficult to measure. It is clear that the profitability of firms in the tradables sector will suffer when the exchange rate is very uncompetitive, at the top of the exchange rate cycle, while firms will enjoy higher than average profitability at the bottom of the cycle. Assuming that these effects are symmetric, the main microeconomic cost to the economy will be the transition costs associated with people having to move between the tradables and non-tradables sectors. The more important external trade is to an economy, the greater the potential costs of unexpected currency fluctuations. For New Zealand, with a moderately large tradables sector, these costs may be high.

The costs of significant amplitude are likely to be still higher if firms are risk averse. Consider a domestic manufacturer who would like to invest in a new factory, in order to expand export production. Although at the current, relatively low level of the exchange rate, the expansion may be highly profitable, the manufacturer may (quite rightly) be concerned about how the exchange rate will move over the life of the new plant. In the New Zealand case, many exporters were hurt by the high exchange rate in 1995-96, and memory of that time may be sufficient to deter the manufacturer from expanding at the lower exchange rate.

In other words, risk averse behaviour would imply that the growth of new firms during periods of a low exchange rate might not be sufficient to offset the decline of firms during periods of a high exchange rate. In the aggregate, this would result in slower overall tradables sector growth than might be expected with a more stable exchange rate. Further research would be required to determine whether such risk

aversion, and the associated trade hysteresis, has been important in the New Zealand export sector.

There is, however, some recent empirical evidence which suggests surprisingly large economic benefits associated with entrenched exchange rate stability, such as that achieved in a currency union. Rose (2000) uses trade volume data to suggest that trade may increase by up to a factor of three with the adoption of a currency union. The direction is plausible, although there are some reasons to be cautious about the magnitude of this result (see Smith, 2001). Using a different approach, Parsley and Wei (2001) find that dramatic reductions in international price dispersion take place under currency union arrangements, even compared with what takes place via currency market intervention. By focusing on reductions in international price dispersion, as opposed to trade flows, Parsley and Wei find that reducing volatility via intervention has nowhere near the microeconomic price convergence effects of establishment of a currency board or use of a common currency. Other information pertinent to this topic includes small business surveys reported on by Grimes et al (2000), which suggest that a separate New Zealand currency may be an obstacle to cross-border business expansion. More data and empirical studies are continually emerging, and these are being given due attention in New Zealand as well.

One of the points of caution in trying to quantify the potential impact of currency union is that the adoption of a currency union tends to be associated with other aspects of economic integration, such as a reduction of trade barriers and harmonisation of commercial law and product standard arrangements. It can therefore be difficult accurately to measure the extent to which currency union *per se* increases trade and economic growth and how much of the increased trade is attributable to other aspects of economic integration.

Finally, for central bankers there is always some concern that exchange rate volatility may partly derive from the monetary policy process itself. When responding to domestic inflation pressures with interest rate increases, an incentive may emerge for international capital to take advantage of a growing interest rate differential with the rest of the world. This would tend to cause the exchange rate to appreciate. Thus, a side effect of minimising overall price variability may be an exacerbation of the exchange rate cycle, increasing

the costs of price variability for the tradables sector. To some extent, this may have been the case in New Zealand in the mid-1990s when measures to contain strong inflation in the non-tradables sector (and particularly the housing sector) led to high domestic interest rates – which was an important driver of the exchange rate appreciation over that time. However, it should be emphasised that the alternative response of not responding as strongly to inflation pressures would have resulted in higher domestic inflation, which would itself have hurt the tradables sector.

4 Exchange rate options that are available to New Zealand

There are many possible exchange rate arrangements for a developed economy, at least in theory. Options at one end of the spectrum include dollarisation and entering into a currency union. At the other end of the spectrum is the adoption of a freely floating exchange rate. In the middle are the options of pegging the exchange rate or adopting a managed float (of which there are many forms). New Zealand has operated very much at the free floating end of the exchange rate spectrum; we have not intervened in the foreign exchange market to influence the rate since the currency was floated in 1985. These arrangements have now proved robust over several economic cycles.

By contrast, adjustable peg systems have not proved viable over any lengthy period, especially for countries that are integrated into the international capital markets (see, eg Stiglitz 2001, Fischer 2001). A major lesson of the repeated European Monetary System crises in the eighties and in 1992-3 and the many emerging market crises since 1994 is that adjustable pegs are especially problematic for countries with open capital accounts. Pegging the exchange rate is therefore not an option to consider seriously in an environment characterised by close integration of financial markets, without significant controls on the flows of capital. Instead, this section first discusses the status quo arrangement – ie retention of a free floating exchange rate system with no direct intervention in the foreign exchange market, while reserving the right to correct disorderly market conditions.⁵ We then consider those options that may moderate/affect

the behaviour of floating exchange rates. Finally, we consider the option of entering a currency union with a large trading partner.

4.1 Retaining the status quo

There are three main advantages of a floating exchange rate regime for New Zealand. First, the exchange rate can act as a buffer against shocks to the current account. Given the relative importance of commodities in New Zealand production and exports, shocks to the terms of trade will often require adjustment of the exchange rate in order to maintain external balance.

Second, a floating exchange rate encourages the private sector to be more diligent in hedging foreign currency exposures.⁶ On balance, banks and corporates in New Zealand have robust systems for the management of foreign exchange exposures, as has been discussed in some detail by Woolford et al (2001).

The third benefit of a floating exchange rate is that this enables monetary policy to be dedicated to a price stability target which can be pursued independently, without policy-makers being burdened by conflicting objectives or undermined by the monetary measures needed to support a managed float. In practice, the floating currency arrangement has been an important element in facilitating credible disinflationary policies in New Zealand.

The main disadvantages of a floating exchange rate stem from the extent to which the exchange rate ‘overshoots’ or ‘undershoots’ its real fundamental drivers. The discussion above has highlighted some of the problems, particularly with respect to the tradables sector, that are caused by exchange rate movements beyond those attributable to fundamentals.

⁵ This right exists but has not been exercised during the period since 1985.

⁶ Eichengreen (2000b) points out that if the exchange rate floats, banks will have an object lesson, on a daily basis, on the need to hedge their foreign currency exposures, whereas for a variety of reasons incentives are quite the opposite under pegs.

4.2 Options to moderate the behaviour of floating exchange rates

Capital controls

For a country such as New Zealand, with an open capital account and a floating exchange rate, capital markets effectively determine the prevailing “mix” of monetary policy, in terms of the configuration of interest and exchange rates. With free capital movement, a change in the Official Cash Rate (OCR) can induce cross-border capital flows and changes in the exchange rate. While the Reserve Bank sets the OCR, it cannot determine the mix of interest rate and exchange rate conditions. There have been times when we would have preferred a different combination of settings, but had limited capacity to achieve this (eg in the mid-1990s, when monetary conditions took the form of a higher exchange rate than we would have preferred). In addition, there is no scope to direct monetary policy only at one sector or one region of the economy. In short, monetary policy is generally too blunt a tool to target the source of inflationary pressure directly.

Some countries have attempted to influence the “mix” of monetary conditions by establishing supplementary controls as an additional policy tool. Chile introduced capital controls in the 1990s in order to influence the size and composition of capital inflows, with rather mixed success.⁷ During the turmoil of the Asian crisis, Malaysia put controls on capital outflows as part of a package of crisis containment measures.

At the Reserve Bank we have also studied whether there are any supplementary measures that, if adopted, might ease apparent imbalances (Reserve Bank (2000)). We have not been convinced that any of the options we have identified would, if employed, have materially eased the cyclical imbalances that we experienced in the 1990s. We also recognise that any such gains would have come at significant ongoing costs to the efficient operation of New Zealand's

economy and financial markets. Capital controls of the type utilised by Chile might perhaps have limited to some extent the upward pressure on the exchange rate that New Zealand experienced in the mid-1990s. These gains would nevertheless have had to be weighed against the longer-term costs of making it more difficult and costly for New Zealand borrowers to access world capital markets across all stages of the cycle, and not simply when New Zealand was wanting to lean strongly against domestic inflation.⁸

For New Zealand, having successfully liberalised domestic financial markets, it is far from straightforward to restrain cross-border capital flows. As Eichengreen (2000a) has pointed out, an open capital market makes it easier for banks to channel international financial transactions through affiliates and to repackage them as derivative securities. In the end, for controls to be effective, they have to be draconian and distortionary, which does not usually appeal to policy-makers or their constituents.

Sterilised intervention in the foreign exchange market

Compared with capital controls, sterilised intervention in the foreign exchange market is a more orthodox tool. The process of a central bank buying or selling its own currency in the market in exchange for foreign currency is said to be sterilised when it is ‘neutralised’ by other transactions in the domestic money market to ensure that the level of settlement cash in the banking system remains unchanged. This ensures that foreign exchange intervention has no impact on the monetary base.

In the academic literature, there remains considerable controversy over whether intervention can be successful at stabilising exchange rates—and if it is, whether it is wise to use it.⁹ This controversy notwithstanding, authorities in many countries do intervene from time to time in the foreign exchange markets to try to stabilise the exchange rate, even while taking care not to be perceived as trying to defend a particular rate. According to Fischer (2001), this is one of

⁷ The overall conclusion seems to be that capital controls did for a time alter the maturity structure of foreign borrowing (Gallego et al (1999)) but they also led to evasion and distortionary behaviour. Empirical evidence presented by Edwards (2000) suggests that the Chilean controls became less effective after 1998 (and are not currently used at all). There is evidence (see Eichengreen (2000a)) that limits on bank borrowing abroad encouraged Chilean mining companies to borrow on behalf of the banks and on-lend the proceeds.

⁸ Further discussion is contained in *Reserve Bank of New Zealand Bulletin* (2000), p 88.

⁹ For a good survey of the debate, with on balance cautiously positive conclusions on the effectiveness of exchange rate intervention, see Sarno and Taylor (2001).

the remaining areas in which central bankers place considerable emphasis on the “touch and feel” of the market, and where systematic policy rules are not yet common.

As noted above, the Reserve Bank has not intervened in the foreign exchange market since the New Zealand dollar was floated in March 1985; the role of intervention has been deliberately reserved for cases of “extreme disorder”, and to date no “extreme disorder” has been encountered. It is sometimes asked whether use of this tool should be considered in order to mitigate some of the difficulties associated with a floating exchange rate. The Reserve Bank’s response to this question to date has been that, after 17 years of not having intervened, it is unclear how financial markets would respond to a change in intervention policy, and it is unclear as to the likely effectiveness of more regular intervention (*Reserve Bank, 2000*).

Nevertheless, for the purpose of this article it is useful to discuss this position. One argument against intervention is the possibility of financial risk, in the sense that the interventions may be unprofitable. Some central banks have indeed made significant losses from foreign exchange intervention, although this has generally only been the case when the central bank has attempted to defend a particular level of the exchange rate (eg the Bank of England in 1992). The experience of central banks that have focused more on influencing market sentiment and dynamics has been that financial profits are common, at least when measured over long horizons.

As mentioned above, the formal statistical evidence is relatively equivocal on whether central bank intervention is effective in moving exchange rates in the manner desired. Markets nevertheless remain rather attentive to central bank intervention. If the Reserve Bank were to change the current policy of non-intervention, an obvious objective of the new policy would be to smooth out the extreme tops and bottoms of the exchange rate cycle, intervening only when movements no longer seemed in line with fundamentals.

A policy of sterilised intervention to reduce the extent of exchange rate overshoots presupposes that market dynamics or ‘herd effects’ largely drive overshoots in the exchange rate. On this basis, intervention is undertaken with the objective of influencing market sentiment and dynamics in

ways that assist in reducing the extent of overshoot. However, it is also possible that the exchange rate cycle is actually driven by monetary policy itself, perhaps as a result of interest rate responses to demand conditions in the non-tradables sector. Under such circumstances, intervention would probably not be very effective.

Would an alternative policy on foreign exchange intervention have had a material impact on the recent exchange rate cycle in New Zealand? There is little doubt that the exchange rate would still have appreciated very strongly under the influence of the high New Zealand interest rates during the mid-1990s even if sterilised intervention had been used with the objective of reducing exchange rate peaks and troughs. Nevertheless, there is also little doubt that the real exchange rate became overvalued during that time.¹⁰ If sterilised intervention had succeeded in reducing the extent of the exchange rate appreciation, even by only a couple of percentage points, then some of the costs of that overvalued exchange rate might have been avoided. In turn, this might have reduced any incidence of firms abandoning the tradables sector for the non-tradables sector, as discussed above. Unfortunately, it is just as difficult to assess the benefits of limiting large exchange rate cycles as it is to estimate their costs. This is an area where there is scope for more research.

Using monetary policy to influence the exchange rate

In the global context, the issue is unresolved as to whether monetary policy in a floating exchange rate system should be used in the short run to try to affect the exchange rate.

There is a large but inconclusive literature on the desirability of including exchange rate movements in the loss function¹¹ of a central bank. At face value it would seem that an inflation targeting central bank should respond to exchange rate movements only insofar as these affect inflation. But to the extent that monetary policy-makers care about the real

¹⁰ See Brook & Hargreaves (2000, 2001) for estimates of the equilibrium real exchange rate.

¹¹ A loss function makes explicit how concerned a central bank is about missing its target(s), which may include a specific inflation rate, a zero output gap, a particular exchange rate, etc. The central bank may not be able to meet all targets simultaneously, but it minimises its “loss” by making appropriate trade-offs.

side of the economy (and central banks inevitably do concern themselves with the implications of monetary policy for the real economy), then central banks might wish to respond to asset price movements (such as the exchange rate) for reasons other than their impact on inflation. However, to the extent that a central bank does seek to influence the level or direction of the exchange rate, regardless of the inflationary consequences of doing so, it risks allowing inflation to move outside of the target band. It is not possible simultaneously to pursue an exchange rate target and an inflation target, other than possibly for short periods.

Fischer (2001) has suggested that the issue is not unlike that of how monetary policy in an inflation targeting framework should respond to movements in output and unemployment. In particular, there is almost certainly some short-run tradeoff between the real exchange rate and inflation. It is a valid policy question how an inflation targeting monetary authority should best deal with this tradeoff.

At the Reserve Bank, our response to this tradeoff has evolved over time¹² as inflation expectations have become better anchored and as the extent of exchange rate pass-through has declined.¹³ Currently our approach is to 'look through' the direct price level effects that stem from exchange rate changes, and to focus more predominantly on the demand effects of exchange rate movements. However, we have not closely considered what impact this policy approach may have on the magnitude and duration of the exchange rate cycle itself.

In any case, it is not obvious how the central bank could exert a significant influence on the real exchange rate cycle while maintaining an inflation target.

4.3 A currency union for New Zealand?

Of particular relevance to the Reserve Bank is the sometimes voiced suggestion that New Zealand should enter a currency union with a large trading partner, such as Australia or the United States. The arguments in favour of a currency union have been the standard optimum currency area cost-benefit analysis: New Zealand would gain microeconomic efficiency

and would become more integrated with partner economies, at the cost of losing monetary policy independence.

Various aspects of the costs and benefits of this are continually being examined, though with few clear-cut recommendations emerging so far (for a survey, see Bjorksten 2001). This is not particularly surprising. Similar exercises were conducted in various European countries prior to the launch of EMU, with much clarification of the dimensions and issues but with the same lack of conclusive evidence in favour of one side or the other. The Reserve Bank has also observed that the decision of whether or not to abandon the New Zealand dollar is fundamentally a political issue (Brash (2000)).

The studies undertaken on the European Union show that the microeconomic benefits of currency union relate to the response of production to lowered transaction costs and enlarged markets, and this depends in part on a host of integration-related policy measures (including competition policy, harmonisation of regulations, financial sector consolidation, etc), which necessarily in some form accompany the adoption of a currency union. On the other side of the ledger, the costs relate to business cycles that are not synchronised across countries, the likelihood of large asymmetric shocks, and the limits to rapid price and wage adjustment. For both the costs and the benefits, the bottom line effects of a currency union over time are subject to a large amount of uncertainty, and in the European case the decision to proceed was therefore more politically than economically driven.

Coleman (1999) has nevertheless observed that, even without trying to quantify costs and benefits, changes to the global economic environment have led to lower costs and greater benefits of a currency union today than would have been the case in earlier decades. This is especially true of the progress being made in facilitating closer economic integration of financial markets and the harmonisation of commercial law, product standards and other legal and regulatory frameworks. A continuation of these trends will increase the attractiveness of abandoning an independent currency in New Zealand.

However, it is important to recognise the very real limitations of drawing parallels between the European experience and

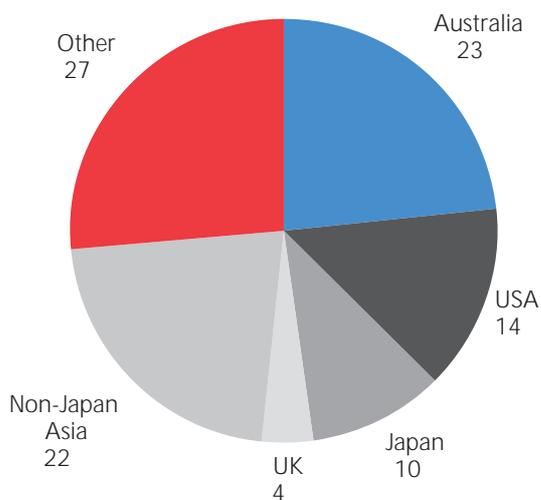
¹² See Brook (2001) for a discussion of this evolution.

¹³ See Hampton (2001) for a discussion of the recent changes in exchange rate passthrough in New Zealand.

the New Zealand context. There are at least three major differences worth noting.

First, New Zealand trade is highly diversified across trading partners. As figure 9 shows, a currency union which eliminates exchange rate volatility with one trading partner will not remove exchange rate volatility for most of the tradables sector. Indeed, it is arguable that entering into a currency union could actually result in greater exchange rate volatility and cyclical amplitude of the new currency against some of our trading partners' currencies than is currently the case with the New Zealand dollar. Currency union therefore has the potential to make a substantial proportion of New Zealand's exporters and importers worse off than may be the case if the New Zealand dollar is retained.

Figure 9
Share of New Zealand imports in 2001, by major trading partner (per cent of total imports)



A second major difference between the European context and what applies to New Zealand is the fact that, for small European countries, the status quo was not an option. A currency union of one sort or another was emerging, with major implications for the economic environment, and the decision for most EU members was whether or not to take part in it. Europeans in many countries were therefore concerned in a policy sense with the general consequences of the emergence of the EMU, the effects of the EMU on the national economy in the event of participation/non-participation, appropriate national economic policy under

each alternative, and currency exchange arrangements between the EMU insiders and outsiders.

For New Zealand, the choice is between the status quo and adopting the currency of a much larger country or bloc of countries, probably with little effective representation in the setting of the common monetary policy. The question to consider would thus be the desirability of an effective dollarisation.

To date, the arguments favouring dollarisation have been directed primarily towards developing or emerging economies, where the domestic monetary policy arrangements lacked credibility. No other countries that are starting from a situation of successful management of inflation with a floating exchange rate have seriously considered dollarisation. Buiter (2000), writing on the case of Iceland, forcefully argues that this is only to be expected:

“Unilateral ‘euroisation’, where a ‘peripheral’ country simply adopts the currency of another (‘centre’) nation, without a fair share of the common seignorage, without access to the discount window and other lender of last resort facilities, and without a voice in the decision-making processes of the centre’s central bank should be of interest only to a chronically mismanaged economic basket case, whose only hope of achieving monetary stability is to unilaterally surrender monetary sovereignty.”

Because of the established success and credibility of New Zealand’s inflation targeting monetary policy, the benefits to New Zealand of dollarisation are probably limited to those that derive from expanded trade and economic integration, rather than from any enhancements to the credibility of monetary policy. Therefore, insights from the dollarisation literature are of limited applicability.

The third difference between the European and New Zealand contexts concerns the timing of any decision to abandon the domestic currency: that is, whether there is sufficient convergence in business cycles at the moment of currency unification. This is a factor over which New Zealand would have fairly complete control; because the status quo remains an option for New Zealand, there is more or less complete flexibility in choosing when to abandon the national currency,

if at all. For most European countries, the timing was pre-decided.

Eichengreen (2000b) has suggested that timing should be part and parcel of a currency union decision. Similarly, Lars Calmfors has repeatedly pointed out the long-lasting negative effects in Europe of even short run macroeconomic disturbances, namely high and persistent unemployment and/or inflation at various periods in recent economic history. Both economists come out strongly in favour of synchronising business cycles before joining a monetary union. In effect, the timing consideration was one of Sweden's justifications for staying out, and remains a central issue to the UK. Given greater product and labour market flexibility, these issues are probably less of a concern for New Zealand than for Europe, although no one would presumably advocate that New Zealand adopt the currency of a booming economy at the same time as New Zealand were heading into a downturn.

5 Summary and conclusions

New Zealand is a developed small open economy that enjoys a high degree of integration into global financial markets. Inflation targeting and a policy of non-intervention in foreign currency markets have so far proved effective in maintaining price stability and avoiding currency crises, and seem to provide appropriate incentives to the private sector to hedge foreign currency risk. To date, we can be happy with our current approach.

Nevertheless, changes to the thinking about optimal exchange rate regimes have been substantial in recent years. The Bank is keeping an eye on developments.

The question of modifying New Zealand's exchange rate policy has arisen not because of any concerns about unsustainability or exposure to the risk of crisis, but rather because of disappointment over a slower relative growth performance compared with the rest of the OECD member countries. There is an awareness that small open economies could suffer greater adverse consequences of a floating exchange rate regime than do larger economies, so the subject is worth some careful examination. There is also an

awareness that floating exchange rates today do not deliver as many benefits as was previously anticipated, and the example of EMU in Europe is providing new evidence on relative costs and benefits of a currency union arrangement among developed countries.

Given the motivations for change, the issues of the recent dollarisation literature, in which a country enters a common currency arrangement for the monetary policy credibility benefits, have been more or less irrelevant here.

The Reserve Bank's contribution, with regard to economic growth, is to maintain low and stable inflation and to ensure financial sector soundness, thereby reducing risk for lenders and ensuring a lower real interest rate than would otherwise be the case. The Bank cannot by itself increase trade, spur investment or otherwise directly promote growth over the long term via activist policy. Nevertheless, the Bank has a role to play in fostering informed debate about changes to institutional arrangements, insofar as they affect the financial sector and/or the conduct of monetary policy.

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