

FOREIGN EXCHANGE INTERVENTION OPTIONS

TABLE OF CONTENTS

1. INTRODUCTION	3
2. RATIONALE FOR FOREIGN EXCHANGE INTERVENTION.....	5
Exchange rate dynamics	5
Generic intervention options.....	6
How might intervention work in practice?	9
What is the optimal level of disclosure?.....	11
How effective is foreign exchange intervention at reducing exchange rate cyclical variability?	11
Is intervention welfare enhancing?	13
3. THE COSTS AND RISKS OF INTERVENTION – FINANCIAL AND NON- FINANCIAL.....	15
The financial costs of intervention.....	15
Non-financial risks.....	16
4. THE LEGAL AND INSTITUTIONAL FRAMEWORK FOR INTERVENTION ..	18
Section 16	18
Section 17	19
A preferred approach	19
Choice of intervention “agent”	20
Making intervention operational.....	21
5. FINANCIAL IMPLICATIONS AND DISCLOSURE	23
What scale of intervention might be needed?	23
What level of capital would be needed?	23
What are the implications for the Reserve Bank and Crown balance sheets?	23
Funding strategies	28
Accounting Issues	28
6. SUMMARY AND NEXT STEPS.....	31
APPENDIX 1: “RBA STYLE” INTERVENTION – A STYLIZED EXAMPLE	33
APPENDIX 2: DRAFT MEMORANDUM OF UNDERSTANDING	34

1. INTRODUCTION

This paper has been prepared by the Reserve Bank of New Zealand in response to the Minister of Finance's request to be briefed on the merits of Crown foreign exchange intervention. This involves consideration of foreign exchange intervention goals in addition to the Reserve Bank's current objective of restoring foreign exchange market functionality if necessary. This paper should thus be considered in conjunction with the Governor of the Reserve Banks' letters to the Minister of Finance, dated February 9th and March 1st, 2004.

In the first of these letters, an increase in the level of foreign reserves was recommended in order that the Bank will be better prepared to meet its current foreign exchange intervention objective. With the Bank's current intervention objective, foreign reserves assets are matched with foreign currency liabilities, leaving the Bank's and Crown's foreign currency position hedged.

By contrast, the second letter and this paper focus on intervening when the exchange rate is at cyclical extremes, i.e., when the dollar is well above or below levels justified by its economic fundamentals. The aim of intervention would be to reduce the peaks and troughs of the exchange rate cycle.

The purpose of intervention of this nature by the Bank would be primarily based on section 8 of the Reserve Bank of New Zealand Act 1989 (the Act), which requires the Bank to conduct monetary policy for price stability purposes. It would thus be consistent with the Bank's obligations under the Policy Targets Agreement (PTA) and, in particular, with respect to avoiding unnecessary instability in the exchange rate.

Such an additional intervention objective would involve the Bank directly buying or selling New Zealand dollars (NZDs) in exchange for foreign currency leaving the Bank's (and the Crown's) balance sheet exposed to an open foreign exchange position from time to time. In order to provide room for unhedged positions to be taken while still leaving the appropriate amount of foreign assets available for crisis intervention, additional reserves would be required at times. In order to absorb the, ultimately temporary, gains and losses associated with unhedged positions, the Bank would also require additional capital.

In discussing the relative pros and cons of alternative foreign exchange intervention objectives and approaches, this paper provides:

- An assessment of the net economic benefits of reduced cyclical exchange rate variability, and an assessment of the effectiveness of Crown foreign exchange intervention in reducing exchange rate variability;

- An assessment of the risks that would need to be managed if the Bank's current objective of foreign exchange intervention was widened to include reducing cyclical exchange rate variability;
- An outline of a foreign exchange intervention framework that would best achieve the objective of reducing cyclical exchange rate variability while managing the relevant risks;
- An overview of the financial and reporting implications for the Bank and the Crown of undertaking foreign exchange intervention; and
- An overview of the next steps to be considered if foreign exchange intervention were to be considered.

The recommendations for the Minister of Finance pursuant to this paper are included in the Governor's letter dated 1 March 2004. As discussed at the end of this paper, there are many dimensions to a robust framework for operating a foreign exchange intervention policy aimed at reducing cyclical exchange rate variability. The Bank is confident that this paper and our other background analysis have identified and assessed the key issues. However, there are aspects of some of these issues that need further clarification. As such, further assessment is planned by the Bank before any final recommendations are made to the Minister of Finance for decision.

2. RATIONALE FOR FOREIGN EXCHANGE INTERVENTION

This part of the paper first summarises the sources of exchange rate movements, and the generic options for using foreign exchange market intervention¹ to offset them. A preferred intervention strategy is presented, and its effectiveness is considered. Finally, we evaluate the potential net benefits of such an approach.

Exchange rate dynamics

A floating exchange rate tends to exhibit quite wide cyclical variation over a 3 to 5 year period around a slow moving ‘trend’ which is often quite stable. The slower moving trend component is usually determined by relative inflation rates or purchasing power parity. The cyclical component can also be driven in part by economic “fundamentals”, such as current account balances, structural investment flows, and monetary and fiscal policy settings. In addition to these medium-term variations, exchange rate behaviour exhibits:

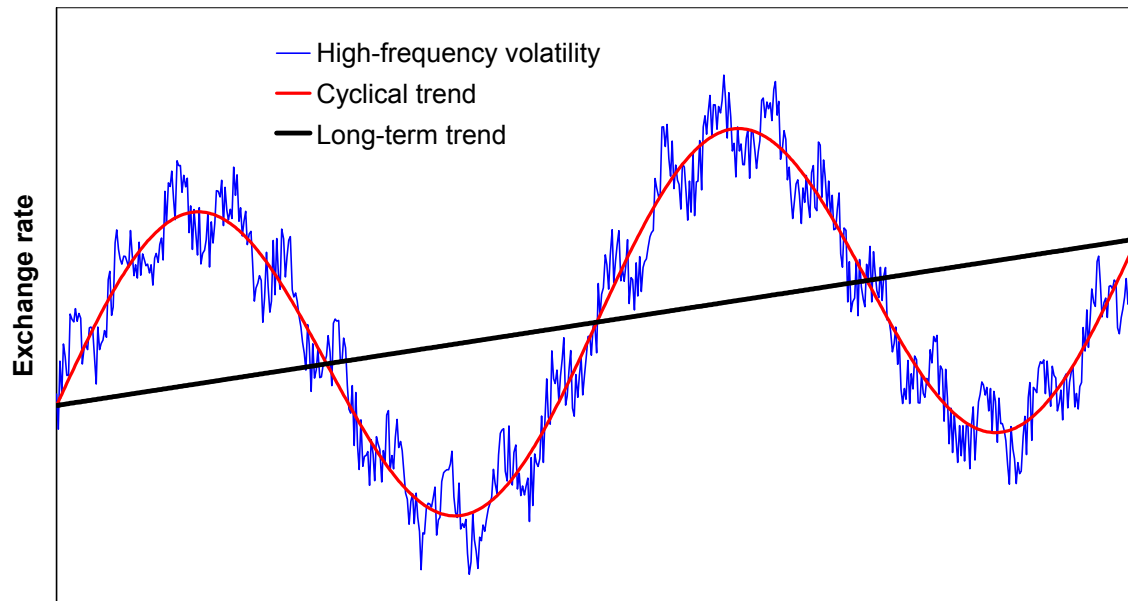
- High frequency volatility e.g. with a life of a week or two;
- Short-term cycles e.g. from a week to several months.

These shorter-term fluctuations may not be significant from an economic perspective, but they can complicate the task of assessing what is happening to the trend and the cycle at any given time.

The following chart illustrates these different sources of movement in a stylised way:

¹ This paper discusses sterilised FX intervention i.e. intervention where the Bank acts, via its open market operations, to maintain an unchanged level of base money or settlement cash balances. Sterilised intervention thus has no impact on either the money supply or interest rates.

Figure 1: Anatomy of exchange rate movements



The uncertainty in deciphering desirable changes in the exchange rate from undesirable, or excessive, changes is due to a lack of full certainty as to what constitutes the fair value level of the exchange rate in the medium-term and how this trend is evolving. In addition, it also comes down to assessing exactly where the economy is in its business cycle, especially relative to another country e.g., the US economy in the case of the NZD/USD exchange rate.

At its extremes, we believe – in common with many other countries – that these cycles have exceeded the variation that we would consider to be consistent with macroeconomic fundamentals. While there could be a number of reasons for this, the most important one is that market imperfections probably give rise to co-ordination failures in markets at times. These coordination failures may mean that exchange rates continue to move on trends not consistent with fundamentals even at times when market participants suspect that the exchange rate is deviating significantly from medium term equilibrium. Put simply, sometimes traders may find it safer to go with the short term trend, even though they don't see the trend as justified in the medium term. These trend-following strategies can amplify the underlying cycle of the exchange rate.

Generic intervention options

Direct government intervention in the foreign exchange market, aimed at influencing a country's exchange rate, is relatively common practice amongst many central banks internationally.

The goals of intervention policy vary, but generally include the aim of enhancing financial and economic stability through reducing 'undesirable' volatility and/or

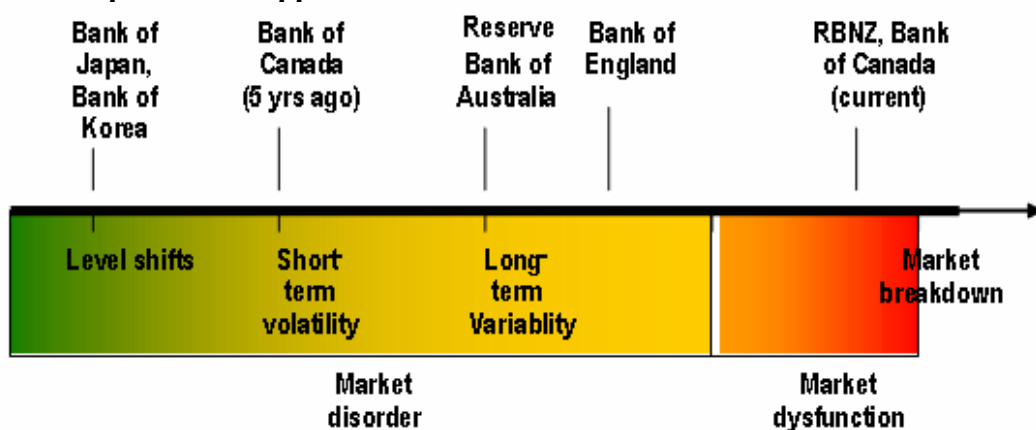
variability in the exchange rate. ‘Undesirable’ shifts in the exchange rate are those which are not attributable to relative economic fundamentals. It is generally accepted that intervention has no place in dealing with exchange rate movements which are driven by fundamental forces, however unwelcome they may be – these can only satisfactorily be dealt with by addressing the fundamentals directly.

Foreign exchange intervention can therefore be aimed at affecting some of the above components of exchange rate determination, with varying degrees of effectiveness. Options include:

- *Leaning against medium-term variations in the exchange rate* in the hope of slowing the movements that would otherwise eventuate, perhaps ultimately reducing the overall magnitude of the cycle.
- *Leaning against shorter-term fluctuations in the exchange rate* in the hope of slowing the established movement in the exchange rate at times when it seems to have especially strong momentum.
- *Leaning against very short term volatility in the exchange rate* in the hope of making the path of the exchange rate smoother or more predictable, and ensuring that the foreign exchange market is liquid.
- *Crisis Management* intervention aimed at preserving the basic liquidity of the market. This is the Reserve Bank’s current intervention policy objective, as well as that of many other central banks.

The following table illustrates how some countries have approached this spectrum of choices:

Figure 2: Spectrum of approaches to central bank intervention

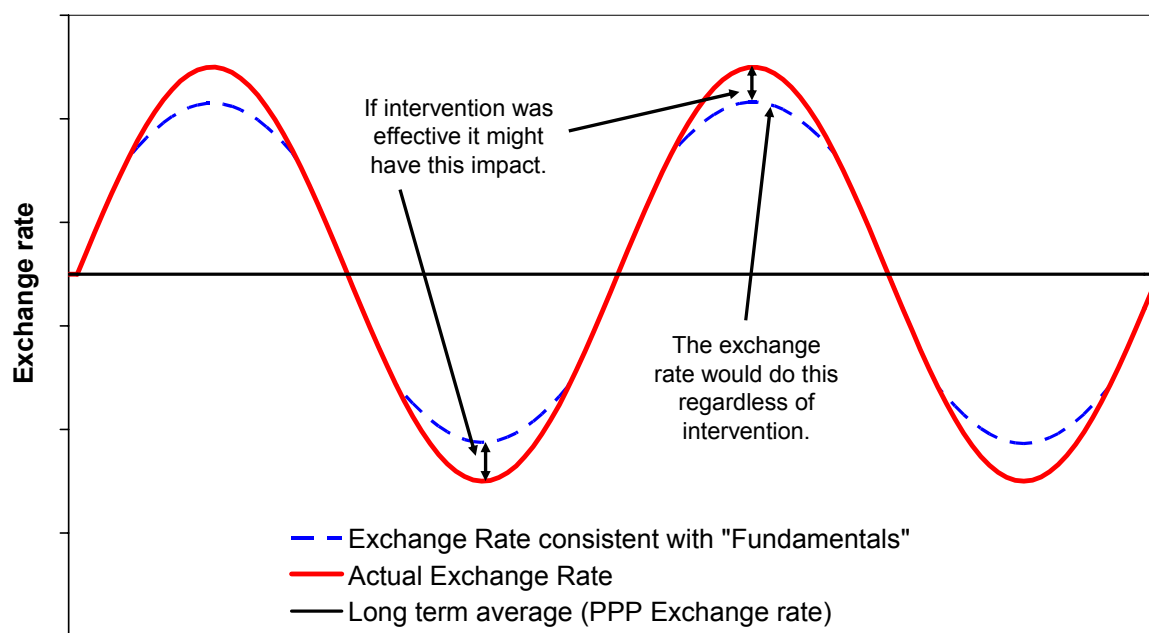


Globally, central banks have tended to intervene less frequently, but in larger amounts in the 1990's as opposed to the 1970's and 80's. This stylised fact is consistent with central

banks increasingly adopting a policy of aiming to reduce the cyclical peaks and troughs (or variability) of the exchange rate over say a 3-5 year cycle. The objective is to intervene when the exchange rate is assessed to have moved beyond any level considered optimal from an economy-wide perspective i.e., beyond a level consistent with the economic fundamentals. Note that this judgement must be made from an economy-wide perspective since importers and exporters, producers and consumers, and policymakers all have a stake in the exchange rate.

The approach can be illustrated as follows:

Figure 3: Cyclical intervention



The reasons why an intervention strategy along these lines is more appealing than those directed at shorter-term fluctuations are:

- Intervention aimed at reducing exchange rate variability at the extremes over a business cycle is the most likely objective to be welfare enhancing since the exchange rate is then most likely to have moved beyond any economy-wide optimal level.
- The effectiveness of foreign exchange intervention, in terms of having an impact on the level of the exchange rate, is also likely to be at its highest at the extremes of an exchange rate cycle given that the exchange rate is no longer being determined predominantly by economic fundamentals.
- Intervening only at the exchange rate's cyclical extremes is also when it is most likely to be consistent with other policy objectives, such as maintaining price and/or

wider financial stability. A foreign exchange intervention strategy is most likely to be effective if it is implemented in a manner *consistent with other policy objectives*, in particular monetary policy. For example, raising interest rates at the same time intervention policy is aimed at reducing the exchange rate (selling the local currency) would create conflicting monetary policy signals and reduce the effectiveness of the intervention strategy in most cases.

- This type of intervention technique, if managed within a sound framework, is the least financially burdensome for the Crown and may even prove financially advantageous over the medium-term. If the timing is right, foreign currency is purchased at opportune times and, given the medium-term investment horizon, can be sold profitably, thus benefiting from the exchange rate cycle. The objective of such an intervention strategy is thus also consistent with rational portfolio adjustments of currency composition in the Crown balance sheet, provided it can be well-executed.

How might intervention work in practice?

An intervention strategy aimed at reducing the cyclical variability in the exchange rate is one designed to take the extreme tops and bottoms off the exchange rate cycle. This is in part the objective of the Reserve Bank of Australia's intervention strategy.

In practice, it would mean that when the NZD was assessed to be at or near its extreme highs (i.e. well beyond its economic fundamentals), the Bank would sell NZD and buy foreign currency. The Bank's intervention would generate a net foreign exchange exposure, or a 'long' foreign currency position, financed by NZD borrowing.

Conversely, when the NZD was at or near its extreme cyclical lows, the Bank would buy NZD and sell foreign currency, financed largely by foreign currency borrowing.

When the exchange rate was in the middle of the cycle and the Bank had no particular concern with, or view on, its level or direction, the Bank would take a neutral foreign exchange position. That is, the Bank's foreign currency assets would be matched by its foreign currency liabilities.

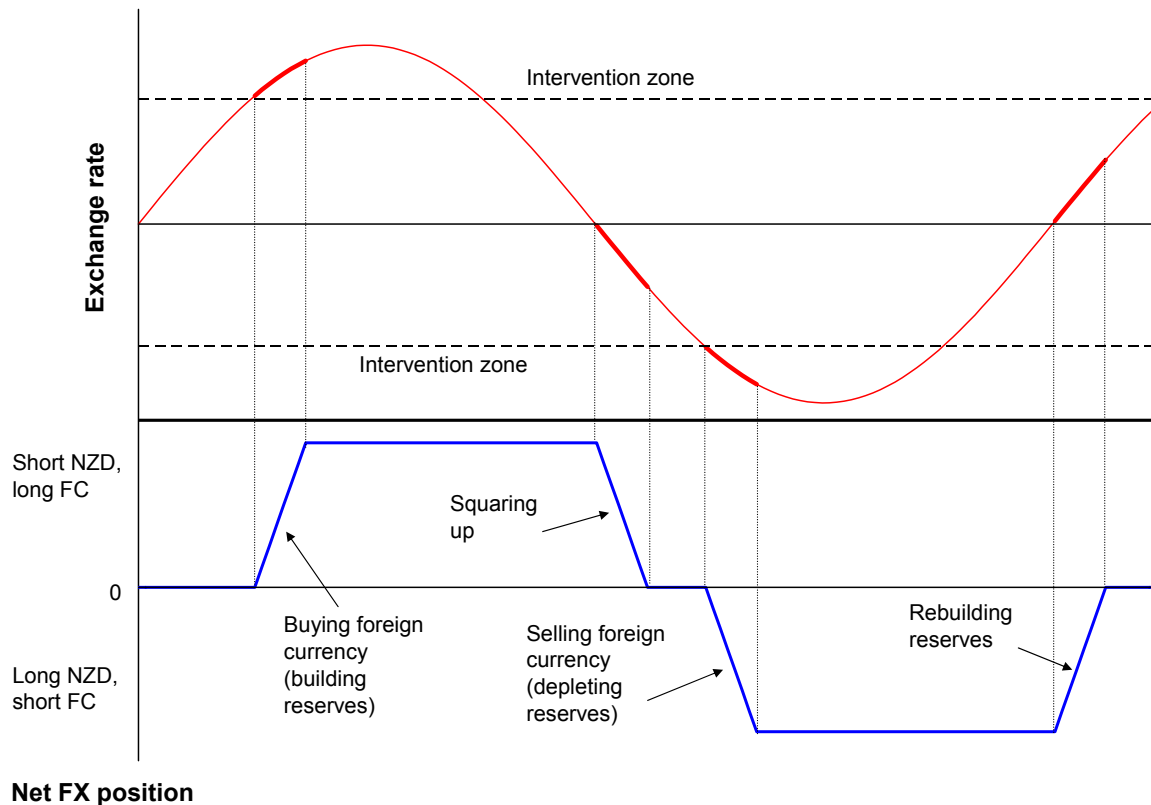
Provided the Bank intervened at, or near, the tops and bottoms of the exchange rate cycle and closed these positions out in the middle of the cycle, the Bank should, on average, experience limited marked-to-market variability in its trading losses and could potentially profit over the medium-term. The difficulty, of course, is being sure of when the extremes have been reached and whether the exchange rate will behave in the future as it has done in the past.

This intervention approach implies that on average the Bank, and hence the Crown, would have no net foreign exchange exposure. However, while the Bank will only generate foreign exchange positions when it assesses that the exchange rate has gone beyond its fundamentals, some of these positions could last for a significant period,

during which risks of capital gains and losses occurring due to an open position will be present.

Figure 4 provides a stylised diagram that relates the trading strategy to exchange movements and the Bank's open foreign exchange position over time. It can be seen that the net foreign exchange position is zero on average over time.

Figure 4: The exchange rate, trading strategy, and open foreign exchange exposure



The Bank intervenes only at extremes in the exchange rate cycle but it does need to transact at other times in the cycle. While the nature of intervention and squaring up transactions are the same (they are all done with the same types of counterparties) the transactions differ in a couple of key respects. Firstly, and most importantly, the objectives of the transactions are quite different, which means that technically they will be transacted in different ways. Intervention transactions occur with the aim of trying to move the exchange rate - either in the opposite direction or at least by slowing the recent trend. Other transactions are aimed at being done at the best possible price and in a manner consistent with affecting the path of the exchange rate by as little as possible. Intervention transactions are timed to occur at times when they will have maximum effect, whereas other transactions are timed to achieve the exact opposite. The key point here is that intervention doesn't work through "the weight of money"; rather it works through the manner in which the transaction is executed.

Appendix 1 of this paper takes the reader through a stylised intervention scenario.

What is the optimal level of disclosure?

The degree of disclosure of intervention activity has two dimensions. The first dimension is around whether the intervention is kept secret or not, and depends on the purpose of the intervention. The second dimension is around information on reserves limits and where the Bank is relative to those limits, and how this information relates to market perceptions about how deep the pockets of the Bank and the Crown are (i.e. the reserve limits). This sort of information affects their willingness to take the authorities on and can also limit the effectiveness of the intervention policy.

This implies that disclosure can be a ‘double edged’ sword – sometimes it can be important to signal strongly that the Bank is intervening (when transacting). However, the Bank also does not necessarily want to ‘give the game away’ by disclosing the level of reserves it has left to continue its intervention operations, and possibly undermine its credibility.

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In general, however, most central banks, [], believe that public interventions usually have a stronger impact on the currency than hidden interventions. There is also some empirical evidence that supports this view. Official interventions are often interpreted as signals of possible changes in the monetary policy stance, or about the central bank’s view on or commitment about the exchange rate dynamics, and can therefore generate significant shifts in the market participants’ expectations about the exchange rate. To fully exploit this signalling channel, interventions should be made public.

The reality is that regular disclosures of the Bank’s and the Crown’s balance sheets imply that the market will be able to discover (or infer) quite a lot of information about intervention actions and intervention capacity within a relatively short time. One means of helping to ensure that the market cannot readily discover the Bank’s (and Crown’s) full capacity to intervene would be to have a contingent liability or “fiscal risk” noted, but not quantified, in the Crown’s accounts.

How effective is foreign exchange intervention at reducing exchange rate cyclical variability?

To be able to assess whether foreign exchange intervention is net welfare enhancing we have to assess how effective it is in altering the course of the exchange rate, and, if so, whether the wider economic benefits resulting from this impact outweigh any costs associated with intervention.

Overall, our general assessment is that foreign exchange intervention aimed at reducing the cyclical variation of an exchange rate is effective, but that this impact is usually small

and possibly temporary. A well conceived and executed intervention strategy can have some impact if it is consistent with the direction of the fundamentals and other relevant policy settings, including monetary policy in particular.

The recent experience of Japan is perhaps an interesting case. The Bank of Japan's interventions in the last year or so have not stopped the Yen from appreciating against the US dollar. However, that rate of appreciation has been slowed in absolute terms at times, and relative to other exchange rates against the generally weak US dollar.

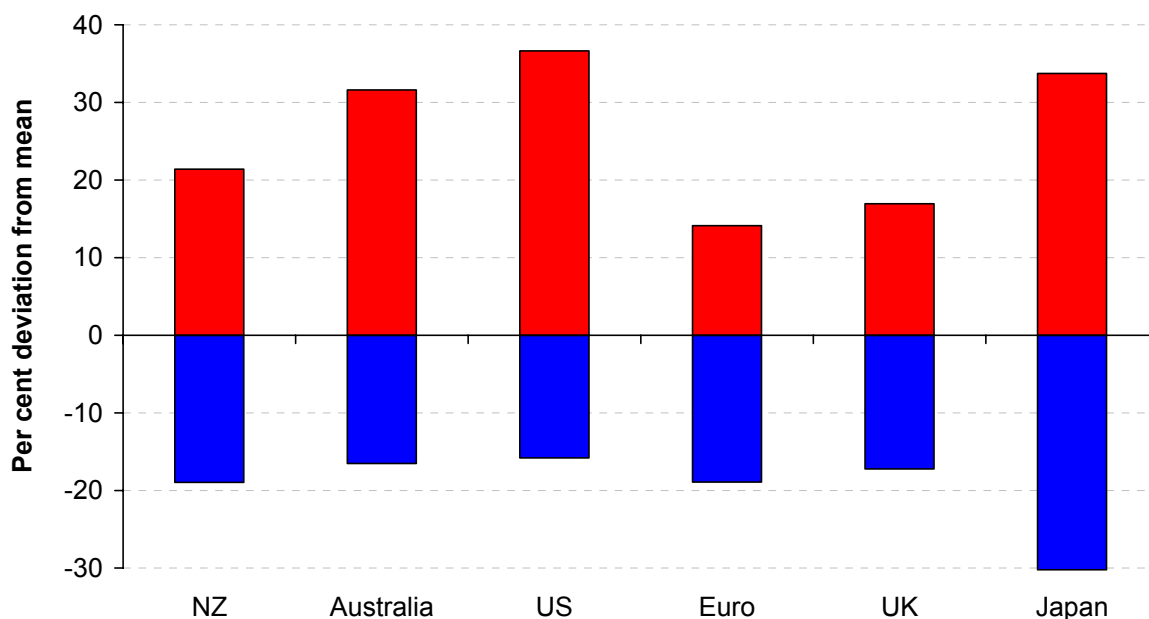
Intervention is thought to impact on the level of the exchange rate through different, and more subtle, channels than the commonly accepted drivers of the exchange rate. This is largely why the impact of intervention is likely to be secondary to the main fundamentals.

Intervention is thought to work in couple of ways. Firstly, intervention may provide market participants with information the central bank has on the future level of the exchange rate and monetary policy settings which markets can use to formulate trading strategies that better align exchange rates to more fundamentally warranted levels. Secondly, intervention is thought to work against co-ordination failures in markets. Co-ordination failures occur when market participants engage in short term trading strategies that might make sense in the short term but actually drive exchange rates even further away from where the exchange rate should be in the medium term. Intervention is thought to work by disrupting the signals traders use to formulate the short term trend following strategies that drive exchange rates away from where they should be.

There are some real difficulties in assessing the short-run effectiveness of exchange rate intervention because of the lack of a counterfactual as to how the exchange rate may have behaved in the absence of intervention. Empirically assessing the longer-run impact of intervention on the level of the exchange rate is also problematic because of the difficulty of identifying these effects independent of all of the subsequent drivers of the exchange rate. However, our reading of the limited evidence that is available is that intervention aimed at dampening exchange rate cycles can be – and on average is – successful, but that the effect is almost always small.

The following chart shows a measure of the amplitude of cyclical exchange rate fluctuations in New Zealand and a number of other countries which have sometimes intervened in their foreign exchange markets. The comparisons do not prove anything convincingly, because the situations faced by each country have differed. But they suggest that the New Zealand exchange rate cycle has been similar to that in countries where intervention has taken place.

Figure 5: Real effective exchange rates: Maximum per cent deviations from peak and trough relative to average – 1985 to 2003



Is intervention welfare enhancing?

It is self-evident that the exchange rate is one of the most important variables in the economy – it has a significant direct or indirect impact on most businesses and individuals. It is therefore particularly important that the exchange rate should be determined as far as possible on the basis of economic fundamentals.

A floating exchange rate has significant advantages in this respect. It allows the exchange rate to vary continually in order to reflect changing demand and supply factors. These factors are the ‘fundamental’ determinants of the level of the exchange rate and include relative (i.e. domestic versus trading partner) inflation and business cycle pressures, productivity shifts, and other supply-side factors that may alter the relative value of New Zealand’s goods and services abroad.

The problem arises when exchange rate determination is taken over by non-fundamental factors, as discussed earlier. If this leads to significant departures of the exchange rate from an equilibrium level, and particularly if these departures last for an extended period, then decision-making throughout the economy will be distorted and sub-optimal resource allocation decisions will be made. In principle, economic agents should be able to “look through” the exchange rate cycle and base their decisions on something closer to an equilibrium rate. While this does happen to some extent, it is easier said than done, and may at times be difficult to sustain.

We cannot quantify the economic costs resulting from these distortions with any precision – the techniques to do so are in their infancy. However we do judge that they can be very material at the extremes of the exchange rate cycle.

Intervention – even if successful – will not eliminate these distortions, it can only ameliorate them to some extent. However, the benefits from doing so may still be considerable.

These benefits need to be weighed against the costs and risks involved in undertaking intervention, which will be discussed in detail later in the paper. However, more work is still required to pin some of these down with the required degree of confidence.

In summary, for foreign exchange intervention to be welfare-enhancing, several conditions have to be satisfied:

- The exchange rate has varied in excess of its relevant economic fundamentals;
- The ‘intervening agent’ has been able to identify this excess variability at the time;
- The intervention has a lasting impact on the level of the exchange rate;
- The gains from that impact are not offset by conflict with other policies, by shifting exchange rate variability elsewhere in the economy where it may be more difficult to adjust, or by inducing poor decision-making by businesses and households; and
- The gains from that impact are in excess of the costs and risks involved in undertaking the intervention.

Our view at this point is that there is likely to be a small net-benefit from intervention aimed at dampening the cycle.

3. THE COSTS AND RISKS OF INTERVENTION – FINANCIAL AND NON-FINANCIAL

The financial costs of intervention

Our analysis suggests that the financial cost of operating an intervention policy *over the medium-term* is reasonably small, and could perhaps even be profitable, for the Crown if well structured. When considering a benefit-cost analysis of a foreign exchange intervention strategy, it is important to remember that any potential medium-term Crown financial gain should only be viewed as side benefit of the intervention strategy, rather than the key driver of the strategy.

A key factor in the overall profitability and effectiveness of an intervention strategy is that the Crown must be making *medium-term* foreign currency investment/divestment decisions. For example, the Reserve Bank when intervening would buy foreign dollars (sell NZD) when the NZD exchange rate is at or near its cyclical high, and aim to sell foreign dollars (buy NZD) when the NZD is near its cyclical trough. This buy low/sell high strategy is profitable over the medium-term as long as the exchange rate continues to show a cyclical pattern, and the Bank is not forced to exit its position prematurely.

Hence, an important factor in the financial success of an intervention strategy is that the policy decisions are *consistent over successive cycles*. Intervention has the best financial and policy outcomes if it is sustained over the medium-term (i.e. over a number of 3-5 year exchange rate cycles). Changing an intervention strategy, or worse, stopping after a short elapsed time, would be likely to increase the financial risk of the policy and reduce the likelihood that it would be effective.

Aside from the NZD capital gains and losses as discussed below, the impact of foreign exchange intervention on the Reserve Bank's (or Crown's) balance sheet is the net funding cost as a result of cross-country interest rate differentials. The net funding cost is the difference between the NZD funding costs (e.g., the yield on NZ government debt) and the return on the investment (e.g., the yield on high quality foreign assets such as US Treasury bills). For example, a NZD Treasury bill yield of 5.5%, and a US Treasury bill yield of 1.5%, implies that investing NZD1 billion worth of borrowings in US Treasury bills into NZD would incur a cost of around NZD40 million per annum, assuming no change in the value of the exchange rate. This would only be a cost when positions were "open" at the top of the cycle. When intervening at the bottom of the cycle, these "carrying costs" would be negative by about the same amount. If the NZD exchange rate appreciated, a marked-to-market profit/loss would be incurred of around NZD14.5 million for every 1 US cent depreciation/appreciation if the intervention occurred at, for example, US70 cents.

While foreign exchange intervention may prove low-cost, or profitable, for the Crown over the medium-term, in the interim unrealised gains and losses in foreign exchange trading can be significant and must be accounted for.

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These tentative results are based on historical data, from a period where no intervention occurred and none was expected in the market. Matters could be a little different if the market had a clear expectation that the Bank was likely to be intervening in certain circumstances – this could, in itself, change market dynamics, but the overall effect is ambiguous and may shift in different circumstances. The prospect (or actuality) of intervention might deter some traders and position-takers from entering the market, which would be consistent with the objectives. However - perversely - it could also encourage some others to enter, because they may think that they can bet against the Bank and win. The main protection against this is to avoid a policy of defending any particular exchange rate “to the death” – this has certainly been a recipe for large losses in some countries.

The fact that the investment (or intervention) strategy must be medium-term and significant swings in marked-to-market gains and losses can occur in the interim suggest that a successful intervention strategy would need to have *operational independence* from political processes and other economic objectives that may be more short-term. This need for operational independence is similar to many investment structures and policies in both the public and private sectors e.g., monetary policy decision-making, the Government Superannuation Fund, or a private sector pension fund’s investment committee. It would also be desirable that any intervention strategy enjoyed multi-party support in Parliament, to minimise the risk that the strategy could be undermined by political developments, as this could cause not only significant financial losses, but also serious damage to institutional credibility. The appropriate institutional arrangements for intervention are discussed further later.

Non-financial risks

There are a number of many other risks that need to be both managed and weighed against the benefits when considering such a strategy. These include, for example:

- Reputation issues can add to the overall risk, and hence cost, of undertaking intervention. These arise in part due to the lack of clear, objective, measures against which the effectiveness of an intervention policy can be benchmarked, such as the counterfactual path for the exchange rate. They could be precipitated if large losses occurred (even if subsequent recovery was expected), or if intervention was ineffective. Reputation and credibility issues could affect the Government and/or the Bank.
- Other policy goals and objectives may become compromised, or appear subordinated, to the goal of intervention. This policy conflict is especially important to manage with regard to monetary policy, as intervention could sometimes appear to be inconsistent with the monetary policy goals embodied in the (PTA). For this reason, we think that it would be very desirable to manage intervention within a

framework which is consistent with the PTA – i.e. to pursue exchange rate stability *while maintaining price stability*. This would not only make the task more manageable from a technical viewpoint, but would also help to minimise the difficult communication issues that could arise if it was thought that the Bank was pursuing multiple objectives.

- It is nevertheless possible that intervention which is successful in stabilising the exchange rate may come at the price of greater instability in other markets, such as domestic prices and interest rates. Again, we think that this risk is best managed by limiting intervention to the extremes of the cycle, and handling it within a framework consistent with the PTA.
- Implementing an intervention strategy has some potential to undermine risk management arrangements in the private sector – why hedge risks if the Bank is going to eliminate them? In practice we do not regard this as a major concern – under the approach suggested, intervention will at best eliminate only a small proportion of the exchange rate cycle, and there will still be significant incentives for economic agents to hedge their exposures. It does suggest, however, that it is important that any communication about an intervention strategy needs to be realistic about what might be achieved.
- Management of the execution of an intervention strategy is likely to be complex and time consuming, and will require considerable senior management judgement and focus over time. It will be necessary to ensure that this does not impact adversely on other priorities.

Clearly, some of these risks are more significant than others, but most cannot be quantified with any precision. While we will be able to quantify financial risks more firmly on the basis of further work, there will always be significant uncertainty around these because of the possibility of changes in market behaviour. In addition, considerable judgement is required to implement a successful intervention strategy. The impact of judgement cannot be quantified formally in advance. With regard to non-financial risks, the detailed design of implementation arrangements needs to embody appropriate arrangements to mitigate these as far as possible, but it will not be possible to eliminate them.

4. THE LEGAL AND INSTITUTIONAL FRAMEWORK FOR INTERVENTION

The Reserve Bank's primary purpose, as set out in Section 8 of the Reserve Bank Act, is to formulate and implement monetary policy directed to maintaining stability in the general level of prices. In addition, the PTA between the Minister and the Governor under Section 9 of the Act includes in clause 4.b the statement: "In pursuing its price stability objective, the Bank shall implement monetary policy in a sustainable, consistent and transparent manner and shall seek to avoid unnecessary instability in output, interest rates and the exchange rate".

Foreign exchange intervention can therefore be viewed as an additional instrument available to the Bank, in certain circumstances, in order to help achieve its monetary policy objectives. Indeed, we think it very desirable that any intervention decisions should be made having close regard to the basic monetary policy framework. The alternative, of treating them as independent instruments, would risk potential policy conflicts and a degree of market confusion.

It appears that intervention could currently be carried out under two existing provisions of the Reserve Bank Act. We discuss the relative merits of these, on the basis that they could be used for intervention of the kind we are contemplating. However, we have not at this point obtained comprehensive legal advice on the scope of these provisions – it would be necessary to do this before taking any decision to proceed.

Section 16

Section 16 of the Act provides for the Bank to deal in foreign exchange at its discretion for the purposes of performing its functions and fulfilling its obligations under the Reserve Bank Act or any other Act, so long as this is done with a proper purpose. The Bank, under Section 16, currently engages in a range of foreign exchange activity relating to the management of the foreign reserves portfolio and liquidity in the banking system.

Interventions carried out under Section 16 would have many of the same characteristics as monetary policy decision-making currently. The Bank would be operationally independent, and the decisions would be made by the Governor. The Bank would (as appropriate in the circumstances) communicate any intervention decisions at the time they were made, and discuss them in its regular monetary policy statements. The performance of the Governor in carrying out intervention operations would be subject to the existing accountability mechanisms, including monitoring by the Bank's Board, the Finance and Expenditure Committee, and the Minister – as well as the spotlight of public scrutiny.

However, since the Bank has not actually intervened in the market since the dollar was floated, it does not currently have the financial capacity to do so on any significant scale. Under Section 16 of the Act the Bank bears the financial risks associated with

intervention (although ultimately it is the Crown's balance sheet). This has implications for the amount of capital the Bank would need to adequately meet its business needs (also discussed later), and also for the Bank's Funding Agreement with the Minister - the Bank would be obliged to renegotiate its Funding Agreement if a significant variation in its business has occurred, and/or the Funding Agreement is no longer suitable to the business.

Section 17

Section 17 provides authority for the Minister of Finance to direct the Reserve Bank to deal in foreign exchange (intervene) for the purpose of influencing the exchange rate. In this case, a written instruction would be required. The construction of the Act is that Section 17 is probably more appropriately thought of as an emergency power than a routine one. Together with its associated provisions, it explicitly contemplates the possibility of over-riding aspects of the Bank's operational independence as well as its monetary policy objectives. Section 17 is available to the Minister at any time, irrespective of whether or not intervention is also carried out under Section 16.

Since Section 17 involves giving directions to the Bank, the section has explicit conflict resolution provisions: the Minister and the Governor would need to discuss whether a change in the PTA would be required. If the Governor considered that any such instruction was inconsistent with the price stability objective itself (Section 8), then it could only be implemented if an Order-in-Council under Section 12 were made, over-riding Section 8 of the Act. To highlight the scope for potential conflict between the Bank's primary policy objectives and any foreign exchange intervention directives from the Minister, Section 21 of the Act ensures that most financial consequences of a Section 17 intervention directive are immediately recorded on the Crown's balance sheet, rather than being borne by the Bank. Specifically, it requires the Crown to reimburse the Bank for foreign exchange losses (but the Bank would incur credit risk, interest rate, settlement risk and so on, on its own account).

The effect of these provisions is that we believe that no additional capital would be required under a Section 17 directive in order for the Bank to intervene. The Crown would be immunising the Bank's balance sheet from a potentially large portion of the financial risk from taking on open foreign exchange positions.

A preferred approach

The relative strengths and weaknesses of using either Section 16 or 17 as a legal basis for foreign exchange intervention need to be assessed in relation to:

- The appropriate location of financial risks;
- Decision-making, accountability and reputational risks; and
- Management of policy conflicts.

In respect of the location of risks, matters seem to be fairly balanced. In both cases, the Crown has to provide the financial capacity for intervention, and ultimately bears the

financial risks. However, under Section 16, where the Governor is the decision maker, the risks are carried by the Bank, and would be reported as such, in the first instance. Under Section 17, where the Minister is the primary decision-maker, the main risks would be borne directly by the Crown. These arrangements seem logical.

With respect to decision-making and accountability, there may be some preference for operating under Section 16, because the accountability arrangements around the Bank's monetary policy function are well developed. The Bank would also hold some accountability for operations under Section 17, but the scope of this is less clear.

With regard to the management of policy conflicts, we believe that use of Section 16 should be preferred in most circumstances. The primary reason is that it could co-exist well with monetary policy objectives (as embodied in the PTA), and the Bank's financial stability objectives. Section 16 is essentially a 'business as usual' provision, in so far as that business is compatible with the Bank's range of policy obligations. In our view, the availability of an additional instrument that might allow us to influence the balance between interest rates and the exchange rate, while still maintaining price stability, would be fully compatible with the Bank's policy obligations.

The alternative, Section 17, is designed more to fit with circumstances in which exchange rate intervention could conflict materially with other objectives, and where there may be a need to signal clearly that it is no longer "business as usual". It might be possible to construct a standing directive under Section 17 that minimises the potential for conflict, and maximises operational independence. On balance, however, we believe that operating under Section 16 is more naturally consistent with the PTA, and more likely to be sustainable. And it does not preclude the Minister resorting to Section 17 if this proves to be necessary.

Choice of intervention "agent"

The above discussion presupposes that the Bank would be the intervention agency, rather than, say, the Debt Management Office of the Treasury. We have not carried out a detailed comparative institutional analysis in respect of this choice. However, assuming that the key goal would be to reduce the cyclical variation in the exchange rate, we consider that there may be a number of reasons for thinking that the Bank is best placed to carry out this role, including:

- The Reserve Bank's primary function is monetary policy directed at a stable price level, but it also focuses on minimising unnecessary instability in output, interest rates and the exchange rate, and promoting a sound and efficient financial system. These objectives would necessitate a high level of coordination between the implementation of monetary policy and any medium-term foreign exchange intervention.
- The Bank is quite well placed in terms of resources to carry out the function. The Bank already contains the decision-making capacity, systems, and relationships

necessary to manage an intervention strategy. Decisions about when to invest in, or divest out of, a foreign currency necessitate almost real-time understanding of the drivers of exchange rates. The Bank already devotes considerable energy and resource into analysing developments in the foreign exchange market in order to best meet its monetary policy, monetary policy implementation, and financial stability objectives.

- A close understanding of expected future monetary policy actions would be important to the success of an intervention strategy.
- The Bank currently manages the Crown's foreign reserves portfolio in order to be able to execute the current foreign exchange intervention objective when financial stability is threatened (most likely through a currency crisis or a banking crisis, or both). As a result, the Bank has considerable experience in, and technical capacity to deal with, foreign exchange market risk including an established middle and back-office reporting system and financial risk management framework.

This is not to say that it would be simple for the Bank to succeed with an intervention strategy. A high level of professional judgement would be needed, using senior level resources.

Making intervention operational

Sections 16 or 17 of the Act could best be made operational for foreign exchange intervention purposes by outlining publicly the objectives of the intervention strategy in a Memorandum of Understanding (MoU), jointly signed by the Governor and the Minister of Finance.

Note that an existing MoU signed between the Governor and the Minister in 1990 sets out the current foreign exchange intervention policy and guidelines, including the circumstances and extent to which the Governor can authorise intervention without the explicit prior approval of the Minister. The current MoU contemplates intervention only in circumstances of extreme market dysfunction. Changes to this intervention policy would require an update of the MoU. This would also help to ensure that the objectives of any new policy are clear and that the Bank's mandate and financial delegation are able to support it.

An MoU covering any new approach would have benefits similar to the PTA, which outlines the goals of monetary policy implementation and provides context and accountability to the operational independence of the Bank in this area.

However, a significant difference between an MoU and the PTA is that the Bank's operational independence for the primary purpose of achieving and maintaining price stability is a cornerstone of the Reserve Bank Act 1989. Foreign exchange intervention would not be a substitute for this rather it should be viewed as another instrument,

together with interest rates, that the Bank could use to achieve its price stability and market stability goals.

A new MoU would therefore:

- Seek direct consistency with the PTA;
- Parallel the PTA in broad approach, with a focus on the objective of dampening cyclical exchange rate variability;
- Enunciate an agreement that in practice the objective means intervening only at extremes;
- Leave the Bank with independence on operational matters; and
- Provide for agreed arrangements for reporting, accountability and disclosure.

A draft Memorandum of Understanding is attached in Appendix 2 of this paper. Such a memorandum could also form the basis of any communication strategy, both in the commencement of such a policy and during its ongoing implementation.

5. FINANCIAL IMPLICATIONS AND DISCLOSURE

What scale of intervention might be needed?

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What level of capital would be needed?

If the Bank is undertaking intervention under Section 16 of the Act, then it must be able to absorb any short-term marked-to-market losses from its intervention strategy on its balance sheet, without appearing to jeopardise its solvency.² It is thus the expected size of these (likely temporary) marked-to-market loss situations which best determines the level of capital needed to be invested in the business.

[] then a capital injection of around NZD1 billion is prudent.

A further point to note is that when intervening near the trough of an exchange rate cycle (i.e., buying NZDs and selling foreign currency), the Bank's foreign currency liabilities would exceed its foreign currency assets. At an extreme, this could cause a perception problem as to the size of the Bank's net reserves and hence its capacity to intervene. However, the Bank's intervention capacity is ultimately measured by the liquidity of the reserve assets (which are highly liquid), less liabilities maturing within the next few months. Provided the Bank continues to manage these matters prudently, then running a negative net foreign currency position at the bottom of the NZD cycle is unlikely to be a significant issue.

What are the implications for the Reserve Bank and Crown balance sheets?

The Reserve Bank's truncated balance sheet structure is outlined in Figure 6. The key feature with regard to foreign exchange intervention is the level of foreign currency assets and how these are funded through a mixture of foreign and domestic currency loans.

² Of course, the actual risk of the Bank becoming 'insolvent' due to foreign exchange intervention is negligible for several reasons: it is the Crown's balance sheet that ultimately 'underwrites' the activities of the Reserve Bank; some of the Bank's major liabilities are also unlikely to be called upon under urgency; and *in extremis* the Bank could meet its obligations with the proceeds from 'currency in circulation' (of approximately NZD3 billion).

If the Bank's foreign currency assets are fully matched by foreign currency liabilities, then there is no net foreign exchange exposure. This is the Bank's current position, with highly liquid and rated foreign reserves assets for intervention purposes fully matched by long-term foreign currency liabilities to the Crown.

Figure 6: The Reserve Bank's balance sheet

Stylised RBNZ Balance Sheet

Assets	Liabilities
Foreign Reserves - Foreign currency assets	Loans for Foreign Reserves - Foreign Currency loans
RBNZ Investment Portfolio	Currency in circulation
RBNZ Liquidity Management Assets - Reverse Repos (NZD)	Crown Settlement Account
	RBNZ Equity

If the Bank were to intervene near the top of the exchange rate cycle (i.e. sell NZD and buy foreign currency), this would imply either:

- The currency composition of the Bank's liabilities changing from being all foreign currency liabilities to being a mixture of domestic and foreign currency liabilities, or
- The Bank acquiring additional foreign currency assets financed by domestic currency liabilities.

Either of these approaches means the Bank's foreign currency assets would exceed its foreign currency liabilities.

If the Bank wished to return to a zero net foreign currency exposure [] then the Bank could either:

- Exchange its NZD liabilities for foreign currency liabilities until they again matched, or
- Sell foreign currency assets and repay the domestic currency loans that had financed them.

If the Bank's intervention strategy is symmetric, then the Bank would also intervene to support the NZD at its cyclical lows. This necessitates a negative net foreign asset exposure. That is, the Bank's net foreign liabilities would have to exceed its foreign currency assets. This can only be achieved by running up a portfolio of domestic currency assets financed by foreign currency loans.

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Figure 7: The Reserve Bank's balance sheet assuming intervention

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The Governor's letter dated February 9th 2004 advised the Minister of Finance that a preferred level of foreign currency assets to meet the Bank's current intervention objective was about the equivalent to NZD7 billion. The make up of these assets are as described in Figure 8 below.

The Bank's current foreign assets are NZD3.7bn.³ The Bank recommended increasing these to NZD7 billion through:

- Allocating the current IMF quota and DMO's foreign exchange holdings for their unambiguous use as foreign reserves assets when needed (totalling NZD1.4 billion); and,
- The Crown providing an additional NZD1.9 billion in the form of a foreign currency loan to the Bank.

³ Our reserve asset holdings are held in foreign currency (SDR) terms. For simplicity, we discuss the current NZ dollar equivalent, based on an NZ dollar-SDR exchange rate of 0.4630.

Figure 8: Make up of current and recommended level of foreign currency assets

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The Reserve Bank stands by this advice, with the implication that the Bank believes that its foreign reserve asset holdings should not fall below the equivalent of NZD 7 billion (i.e. including the assets held on Treasury's balance sheet) under any intervention scenario other than for its current objective of avoiding and combating a dysfunctional foreign exchange market.

[] Gross public debt would also rise to the extent that the aggregate Crown debt programme is increased.

The increase in reserves would be required in addition to the NZD1 billion capital injection assuming the intervention is carried out under Section 16 of the Act. However, the NZD1 billion capital injection would have no implications for gross public debt unless it was allocated to cover for any realised losses from the foreign exchange intervention activities.

Figure 9: Additional capital and gross public debt requirements

	NZD bn	Impact on gross public debt	Intervention Purpose
Foreign currency assets	1.9	↑NZD 1.9 bn	Dysfunctional market
Intervention financing	[]	[]	Intervention at extremes
Increase in capital	0.6-1.0	-	Intervention at extremes

Funding strategies

The Bank advised the Minister in its February 9th letter that additional foreign reserves, and hence gross public debt, would be desirable in the next few years regardless of whether it is decided to augment the intervention strategy. The Bank’s earlier advice that such an increase in reserves could be implemented over the next few years as the Crown’s debt programme allowed.

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A more active intervention strategy also implies that at times the Bank would need to hold reserve assets in excess of the recommended minimum NZD7 billion required for crisis management purposes. []

However, it is likely that these additional resources will be required only in some situations, in particular, when the Bank is intervening at the bottom of the exchange rate cycle and when alternative intervention financing strategies that would otherwise obviate the need to increase Gross public debt are not available.⁴

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Accounting Issues

Foreign exchange intervention will require additional funding as discussed above. Where additional foreign reserve assets are financed by new debt provided by Treasury, both Bank and Crown assets and liabilities will increase.

⁴ One such intervention financing approach commonly used by central banks to finance intervention is the use of FX swaps (off balance sheet instruments). An alternative is for the DMO to use the NZD generated through intervention at the bottom of the exchange rate cycle to finance some of the projects the domestic debt programme was already earmarked to finance. When the Bank intervenes, and buys NZD in the FX market, it needs to invest the NZD somewhere. In practice, these NZD will be invested in NZ Government papers, with the DMO, which in principle allows the DMO to reduce the size of its domestic debt programme relative to what might have been expected without intervention.

In addition, intervention has implications for the level of Bank capital and the Funding Agreement depending on the legal basis for intervention.

Section 16

If intervention is undertaken pursuant to Section 16 the “business as usual” model, the Bank would incur all the gains and losses arising from intervention. The Bank does not have the financial capacity to absorb the foreign exchange losses from intervention – the Bank will require additional capital of around NZD 1 billion to absorb these losses and maintain its operational and financial independence. The additional Bank capital would eliminate on consolidation and is expected to have no impact on the Crown balance sheet.⁵

Intervention under Section 16 would also require a change to the Funding Agreement because gains and losses from intervention would be regarded as Bank revenue and expenditure. There are two alternatives to reviewing the Funding Agreement. Under the first option, the agreement would include all revenue and expenditure but only cap the Bank’s overhead expenditure - income and expenditure arising from foreign exchange or interest rate movements would be uncapped, but included in the Agreement for completeness.

The other alternative is to exclude from the Funding Agreement all income and expenditure arising from intervention pursuant to Section 16.

Section 17

If intervention is undertaken pursuant to Section 17 “Ministerial directed intervention”, the Bank would not require additional capital. Section 21 of the Act requires the Crown to reimburse the Bank for foreign exchange losses incurred from intervention undertaken pursuant to Section 17. The Bank would retain losses from all other risks – e.g., credit risk, interest rate risk, under Section 17 intervention. The losses from these other risks can be absorbed by the Bank’s existing capital structure.

Section 17 intervention may have implications for the Funding Agreement. Under section 17 intervention, the Bank would recognise the foreign exchange gains or losses from intervention and simultaneously recognise offsetting accounts payable or receivable from the Crown, leaving the Bank’s profits and loss substantially unaffected by intervention.

However, we need to seek legal advice as to whether the Funding Agreement would allow the Bank to recognise the foreign exchange gains or losses, net of compensating Crown receipts or payments.

⁵ There may be an impact on the Crown’s balance sheet if DMO decide to fund the Bank’s capital requirements with external borrowing. However, we believe this will be unnecessary as the Bank will be investing the proceeds of the capital injection in NZ Government debt which would probably obviate the need for external borrowing.

The Bank is still working through the details of required changes to the Funding Agreement, under Section 16 and 17 intervention and has not yet obtained external legal advice.

6. SUMMARY AND NEXT STEPS

The analysis presented in this paper leads us to conclude that there is likely to be a small net welfare gain from implementing and operating a well designed foreign exchange intervention policy aimed at reducing the cyclical variation in the exchange rate.

Such an intervention strategy is consistent with Section 8 of the Act, which requires the Bank to conduct monetary policy for price stability purposes. It is also consistent with the Bank's obligations under the PTA, in particular with respect to avoiding unnecessary instability in the exchange rate.

In order to maximise the impact and manage the risks associated with foreign exchange intervention, in this paper we have identified a preferred framework, including legal grounds, financing, and other operational aspects.

A key feature of the Bank's preferred intervention framework is its durability through time. This has led the Bank to prefer an intervention strategy for the purposes of Section 8 of the Bank's Act to utilise the powers of Section 16 of the Act. The analysis suggests that this better imbeds intervention as business as usual for the Bank. However, the powers in Section 16 also bring consequential Funding Agreement alterations, a capital injection requirement, and a Memorandum of Understanding to be signed by the Governor and the Minister of Finance.

In terms of financing the increase in foreign reserves under our current objective and the additional intervention strategy considered, we estimate that [] of foreign currency reserves (and hence gross public debt) would be necessary.

Not all of these reserves would be required immediately however. The Bank's total funding requirement from the Crown to implement such an intervention framework could be summarised as:

- a. NZD1.9 billion to increase foreign currency reserves to the new NZD7 billion minimum level recommended in the Bank's letter to the Minister of Finance of 9 February 2004. []
- b. []
- c. Up to NZD1.0 billion of additional capital. The Bank would need this additional capital from the commencement of any intervention.

As can be seen from this paper, there are many dimensions to a robust framework for operating a foreign exchange intervention policy aimed at reducing cyclical exchange rate variability. These dimensions include designing and operating a sound intervention strategy, having a clear legal purpose, being adequately resourced, and being accountable both in terms of the effectiveness of the policy and the financial outcomes.

Communication issues are also important, as is wide policy support to ensure its durability.

The analysis provided has identified and assessed all of these issues. While we are confident in our assessment of the preferred intervention strategy and its likelihood of success (i.e., being net welfare enhancing), there are aspects of these issues that need further clarification. For example, the legal purpose for such an intervention strategy needs to be confirmed by our legal advisers. The optimal level of the capital injection for intervention purposes needs to be refined, necessitating further analysis. A revised Funding Agreement needs to be considered that is consistent with intervention under either Section 16 or Section 17 of the Act. The Bank needs to work with the DMO to develop an appropriate framework for transferring the cost of financing intervention between the Bank and the Crown. And significant communication and operational capacity issues need to be considered more thoroughly.

Hence, while the Bank is fit for intervention purposes under its current policy objective, there are many issues that need to be stress-tested and further analysed before this objective is augmented. Such stress-testing and quality assessment would take until at least the end of March 2004 before sufficient confidence is gained with regard to the optimal intervention strategy, and funding and operating techniques.

APPENDIX 1: “RBA STYLE” INTERVENTION – A STYLISTED EXAMPLE

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APPENDIX 2: DRAFT MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING BETWEEN THE MINISTER OF FINANCE AND THE GOVERNOR OF THE RBNZ

FOREIGN EXCHANGE MARKET INTERVENTION POLICY AND OPERATING GUIDELINES

This agreement between the Minister of Finance (the Minister) and the Governor of the Reserve Bank of New Zealand (the Bank) defines the foreign exchange market intervention policies and operating guidelines that the Bank shall operate under.

The proper purpose for foreign exchange intervention that underlies this agreement is provided for in the Reserve Bank of New Zealand Act 1989 (the Act), and is twofold:

- First, Section 7 requires the Bank to act as the central bank of New Zealand.
- Second, Section 8 requires the Bank to formulate and implement monetary policy as a primary function. Pursuant to this, Section 9 requires a Policy Targets Agreement between the Minister and the Governor. In the Policy Targets Agreement, Section 4.b states “In pursuing its price stability objective, the Bank shall implement monetary policy in a sustainable, consistent and transparent manner and shall seek to avoid unnecessary instability in output, interest rates and the exchange rate”.

The Minister and the Governor agree as follows:

1. Objectives of foreign exchange market intervention policy

The two broad objectives of the Bank’s intervention policy are:

- a) *To seek to minimise the time and magnitude that the exchange rate departs from levels that appear consistent with its economic fundamentals.* The Bank would intervene at levels of the exchange rate that the Bank considers extreme i.e. when, we believe the exchange rate has reached levels that are inconsistent with the direction of economic fundamentals.
- b) *To avoid dysfunction in the foreign exchange market.* In a situation where some extreme shock or event impacted the New Zealand foreign exchange market to the extent that liquidity was seriously eroded, and a dysfunctional market resulted, we would intervene to maintain liquidity, and to restrict extreme movements in exchange rates that flow from such liquidity problems. This situation is expected to arise only infrequently.

In operating intervention policy, the Bank seeks to maintain, on average, a net zero open foreign exchange exposure position. In practice, this means that from time to time there will be market transactions that rebalance our open foreign exchange exposure position.

2. Operating guidelines

This agreement confirms the guidelines the Bank will operate under, in discharging its obligations under the Act.

Under Section 16 of the Act the Bank has the authority to deal in foreign exchange for the “purposes of performing its functions and fulfilling its obligations under this Act or any other Act”. Section 17 gives the Minister the power to direct the Bank to deal in foreign exchange. None of the following delegated authorities derogate from the Minister’s powers under Section 17 of the Act.

2.1 Section 16 operating guidelines

- a) In the normal course of events, the Bank will operate its intervention policy under Section 16 of the Act. The delegated authorities from the Minister to the Governor of the Bank allow the Bank to undertake intervention that seeks to limit the duration and extent of departures from levels of the exchange rate that appear consistent with fundamentals (objective 1.a above).
- b) All intervention actions and judgements executed under Section 16 of the Act shall be consistent with the Bank’s policy obligation of price stability, and our financial stability objectives.
- c) The maximum and minimum limits on the net open foreign exchange exposure that the Bank is able to operate to under its delegated authority shall be determined under Section 39 (e) of the Act. These limits define the net foreign exchange exposure limit at the peak of our intervention cycle.
- d) The Bank shall be adequately capitalised, and the level of capitalisation shall be consistent with the delegated authority on the net open foreign exchange exposure.
- e) The Bank will seek to maintain a net zero foreign exchange exposure position, on average over time, and as such will periodically undertake foreign exchange transactions to rebalance the foreign exchange exposure position.
- f) In addition, the Bank shall maintain a minimum target level of reserves of SDR 2.45 billion to intervene under intervention objective 1.b (above) at all times, unless directed otherwise by the Minister under Section 24 of the Act.

2.2 Section 17 operating guidelines

- a) In unusual situations it will be desirable for the Minister to direct the Bank to intervene in the foreign exchange market, such as when there is a crisis, or when Bank balance sheet considerations require Ministerial decisions, or when foreign exchange intervention could conflict with our policy objectives.
- b) On such occasions, the Minister should usually authorise direct intervention. However, there may be urgent situations that require rapid action before the Minister is able to be contacted. Consequently, the Bank has the authority to intervene in the foreign exchange market to meet the objectives of 1.b (above) up to a limit of SDR175 million (approximately USD260 million).
- c) If the Bank is directed to intervene to avoid dysfunctional financial markets then the level of reserves held for this purpose will decline. Notwithstanding this situation, at all other times the Bank shall maintain a minimum target level of reserves of SDR 2.45 billion to intervene under intervention objective 1.b, unless directed otherwise by the Minister under Section 24 of the Act.
- d) If the directions by the Minister call into question the ability of the Bank to achieve the policy targets or the objectives of monetary policy, then Section 19 and Section 20 of the Act provide mechanisms for resolution.

3. Reporting and accountability

3.1 Section 16 reporting and accountability

- a) Gains and losses from foreign exchange intervention or transactions under Section 16 accrue to, or are borne by, the Bank.
- b) The Funding Agreement shall be consistent with the delegated authorities under Section 16.
- c) Intervention and transactions activity undertaken under Section 16 shall be reported under existing conventions.
- d) The Bank shall be fully accountable for its judgements and actions in implementing intervention policy under Section 16.

3.1 Section 17 reporting and accountability

- a) Gains and losses from foreign exchange intervention or transactions under Section 17 accrue to, or are borne by, the Crown.
- b) The Funding Agreement shall be consistent with the delegated authorities under Section 17.
- c) Intervention activity undertaken under Section 17 shall be reported under existing conventions and Section 21 of the Act.
- d) The Bank shall be fully accountable for its advice and actions in implementing intervention policy under Section 17.

Hon Dr Michael Cullen
Minister of Finance

Dr Alan Bollard
Governor
Reserve Bank of New Zealand

Dated 2004