

~~CONFIDENTIAL~~

19/06/2007

Minister of Finance

## **EXECUTIVE SUMMARY**

This report describes a new operating regime the Bank proposes to use to manage the foreign exchange risk on foreign reserves. The new regime proposes that the Bank:

- Moves to holding a portion of its foreign reserves on an un-hedged basis as opposed to the Bank's historical approach of holding foreign reserves fully hedged (This will be achieved by funding part of the Bank's foreign reserves using NZD liabilities rather than foreign currency denominated loans).
- Is given the flexibility to adjust the level of un-hedged reserves around a long run benchmark level in support of its policy objectives.

The new regime requires us to enter into a new Memorandum of Understanding (MOU) regarding the level of foreign reserves and the Open Foreign Exchange (Open FX) position of the Bank. A proposed new MOU is attached in the Annex.

While no immediate changes to the Reserve Bank Act are required to facilitate the new operating regime, we anticipate it will be desirable to make changes to Section 24 (level of foreign reserves) and Sections 158 and/or 162 (specification of the Bank's annual dividend to the Crown) to better manage the implementation of the new regime on an ongoing basis and resolve other technical problems with those provisions. You should **note** that the Bank will be recommending changes to these sections of the Act in the future.

## **BACKGROUND AND MAIN ISSUES**

This year one of my priorities for the Bank has been to review the structure and management of the Bank's balance sheet to ensure that it is consistent with helping the Bank better meet its statutory objectives.

To date we have adopted an approach of financing foreign reserves by borrowing the foreign currencies required from the New Zealand Debt Management Office as opposed to using the Bank's own pools of liabilities (in the form of currency in circulation and settlement account balances held by commercial banks here at the Bank) to fund reserves. After analyzing this issue the Bank decided to move to using its own financing sources to complete the growth in reserves you approved in 2003 as opposed to drawing down further foreign currency loans from NZDMO. In addition, we decided to continue using our internal financing sources to refinance maturing NZDMO foreign currency loans as opposed to drawing down replacement NZDMO loans. The internal financing of foreign currency loans is achieved by turning the Bank's NZD denominated liabilities into long term foreign currency denominated liabilities using long term currency and interest rate (basis) swaps.

By adopting this new approach we are now able to more flexibly manage the growth and maintenance of the Bank's intervention capacity while also helping to constrain the expansion of the Bank's and Crown's balance sheets.

The remaining issues to be examined in the balance sheet review are the Bank's approach to managing foreign exchange rate risk and the Bank's dividend policy given the overall outcomes of the balance sheet review. This memorandum deals with these issues.

Our current, fully hedged, FX management policy implies that we maintain a very low ongoing exposure to FX risk in normal times. We do have scope to alter the Bank's exposure to FX risk in normal times by virtue of the Bank's monetary policy intervention capacity that you supported in 2004. This policy means that the Bank can buy or sell up to [ ] against foreign currencies when the Bank's intervention criteria have been met. The objective of intervention in these circumstances is to lean against extreme movements in the exchange rate that are proving to be unhelpful to the Bank in meeting its obligations under the Policy Targets Agreement.

An issue with the current regime is that maintaining hedged reserves leaves the Bank and the Crown with low a FX exposure in normal times that grows considerably in a crisis. This is because in a crisis the Bank would sell reserves to finance crisis intervention and be left with foreign currency liabilities that will need to be repaid at some point. If the exchange rate falls significantly for a long period after the crisis then the Bank and the Crown may be forced to realize significant FX losses on crisis intervention. Most central banks hold reserves on an un-hedged basis to manage this risk – i.e. foreign reserves are financed with local currency liabilities so if intervention is required, the central bank's FX risks are actually reduced by intervention. If it is assumed that the exchange rate weakens in a crisis, then profits will also be realised under this approach.

Another issue is that the Bank's FX intervention regime is relatively conservative and inflexible in that we require all of our intervention criteria to be met before changing the Bank's Open FX position via intervention. In this scenario the current policy has a relatively high hurdle for intervention and has a high profile when it does take place – as seen recently. The proposed alternative approach offers a wider range of graduated intervention options. Under this approach, the balance sheet is used to give signals regarding the appropriateness of the exchange rate by opening up an FX position and increasing the level of un-hedged foreign reserves when the exchange rate is high and running down the level of un-hedged reserves when the exchange rate is lower. Such operations may be active or passive depending on the nature of the signal being sent. The operations will underscore the signal the central bank is sending about the exchange rate while also generally adding value to the foreign reserves as FX profits should be realised on average over the medium to long term. This approach is very similar to that used by the Reserve Bank of Australia. [ ]

## PROPOSED OPERATING REGIME

### *Main features*

We are proposing a new operating regime comprising:

- A benchmark long foreign currency/short NZD Open FX position of [     ]
- With discretion to move away from the benchmark position such that the Bank could have:
  - a maximum long foreign currency/short NZD position of [     ]
  - a minimum Open FX position of [     ]
- Movements away from the benchmark position will be for the purpose of leaning against extreme movements in the exchange rate, thereby helping the Bank achieve its Monetary Policy (i.e. clause 4(b) of the current PTA) or broader macro financial stability objectives.
- The Bank will use the existing FX intervention criteria to guide its assessment of when a movement away from the benchmark FX position is appropriate – i.e. the exchange rate must be some combination of:
  - Exceptionally high or low relative to average
  - Unjustified by fundamentals
  - Movements away from the benchmark FX position should be consistent with the Bank achieving its statutory objectives
  - In the case of overt FX intervention, market conditions should be such that it is opportune for intervention to have an impact on the exchange rate
- In general we will require at least the exceptional and unjustified criteria to be met before moving the Bank's Open FX position away from benchmark (e.g. as a signal of the Bank's view on the exchange rate). More overt FX intervention aimed explicitly at moving the exchange rate will require more of the intervention criteria to be met. We expect that for much of the exchange rate cycle the Bank's Open FX position will be close to the benchmark level and that actual overt intervention operations will continue to be relatively rare events (although the Bank will likely be passively transacting in the FX market regularly).

### *Pros and Cons*

The new benchmark long foreign currency/short NZ dollar Open FX position will help manage the Bank's and Crown's FX risks in the (relatively unlikely) event that the Bank needs to liquidate its foreign reserves for crisis FX intervention. The un-hedged portion of the reserves will act as a "first line of defence" where intervention will occur and the Bank will be reducing its FX exposures and be realizing FX gains that can be used to offset any losses that accrue from using the Bank's hedged reserves for the balance of intervention required.

The drawbacks of maintaining this benchmark long FX position are that the ongoing carrying costs of reserves will be higher as the NZD denominated portion of foreign reserves liabilities will attract higher NZ interest rates relative to the interest rates that we earn on the foreign

reserves. These higher carrying costs will reduce the Bank's annual dividend to the Crown on average over time of an amount in the order of [ ] per annum. In addition, the higher ongoing Open FX position will see the Bank subject to fluctuations in the value of its equity (by virtue of changing mark to market values of FX reserves) as the NZ dollar rises and falls over the cycle.

The benefits of increasing the flexibility the Bank has in adjusting its Open FX position will be increased opportunities to more aggressively signal attitudes to the exchange rate with the potential that some of the more excessive extremes in the exchange rate may be avoided. In addition, a spin-off benefit will likely be a reduction in the cost of holding reserves over the medium term by virtue of realized FX gains on movements around the long term benchmark position.

## **RBNZ Balance Sheet Implications**

### *Currency composition of reserves funding*

The proposal implies that the Bank will finance some of its foreign reserves [ ] with NZD denominated loans (funded internally via the issue of currency in circulation or commercial bank settlement account balances) as opposed to funding foreign reserves entirely with foreign currency liabilities.

The level of un-hedged reserves, and thus NZD denominated liabilities, could rise as high as [ ] at the top end of the exchange rate cycle and may fall to as low [ ] when the exchange rate is relatively low. The total level of reserves would not necessarily change through the exchange rate cycle – this would be at the discretion of the Bank, within the defined limits.

### *RBNZ income and equity impacts*

The Bank's annual income will become significantly more variable than has historically been the case, reflecting the mismatch between currency denominations of the Bank's assets and liabilities. When the exchange rate rises the Bank will record mark to market losses on its Open FX position and gains when the exchange rate falls. These fluctuations in income will be reflected in changes in the value of the Bank's equity. It is impossible to predict for certain the future path of the exchange rate and hence the maximum possible mark to market losses with the new regime. However some estimates of peak mark to market losses based on historical data suggest that peak losses of [ ] would be possible with a level of un-hedged reserves at [ ] (the maximum level).

We assess that the Bank's existing capital is sufficient to manage the increased financial risks associated with the new operating regime – although we will be using our existing capital more intensively than in the past.

The Bank's dividend will not be directly affected by these mark to market gains and losses (further explanation on this below) although as carrying costs on reserves will be higher than in the past (as some reserves will be funded at higher NZ interest rates) the Bank's dividend will be reduced by around [ ] per annum on average and by up to [ ] at the peak of the exchange rate cycle.

### *Aggregate impact of the Balance Sheet Review on the Bank's balance sheet*

The impact of the balance sheet review is shown in the stylized balance sheets below. Key assumptions are:

- The level of foreign reserves is set at SDR 2450 m (NZD 5000 m) as per your decision in 2004
- The settlement cash level remains around current levels (NZD 8500 m)
- Currency in circulation is around current levels (NZD 3500 m)
- The Crown Settlement Account balance remains around NZD 2000 m

The impact of the balance sheet review is that:

- The Bank gradually runs down foreign currency loans from NZDMO
- Holdings of NZ government bonds reduces
- The Bank maintains un-hedged reserves at an average of SDR [ ] (NZD [ ])

<b>Pre Balance Sheet Review</b>				<b>Post Balance Sheet Review (long term)</b>					
<b>Assets</b>		<b>(NZD m)</b>	<b>Liabilities</b>		<b>Assets</b>		<b>(NZD m)</b>	<b>Liabilities</b>	
<u>Foreign reserves</u> (Foreign assets)	5000		<u>NZDMO Loans</u> (Foreign currency)	5000	<u>Foreign reserves</u> (Foreign assets)	5000	<u>NZDMO loans</u> (Foreign currency)	0	
<u>Liquidity management investments</u> (Foreign assets)	10500		<u>Settlement cash balances</u>	8500	<u>Liquidity management investments</u> (Foreign assets)	8900	<u>Settlement cash balances</u>	8500	
			<u>Crown Settlement Account</u>	2000			<u>Crown Settlement Account</u>	2000	
<u>Investment Portfolio</u> (Govt bonds)	4900		<u>Currency on issue</u>	3500	<u>Investment Portfolio</u> (Govt bonds)	1500	<u>Currency on issue</u>	3500	
			<u>Equity</u>	1400			<u>Equity</u>	1400	
	20400			20400		15400		15400	
<u>Memo item:</u>			<u>Off balance sheet items</u>		<u>Memo item:</u>		<u>Off balance sheet items</u>		
Open FX Position	0		Long term basis swaps	[ ]	Open FX Position	[ ]	Long term basis swaps	[ ]	
			FX swaps	[ ]			FX Swaps	[ ]	

Comparing the post-review balance sheet with the current balance sheet, there are a number of key differences:

- A reduction in the size of the balance sheet by about NZD5000m (all else equal).
- Foreign assets held for the purpose of Liquidity management continue to be fully hedged (effectively converted to NZD assets) using FX swaps, but the volume of such assets is reduced by about NZD1500m. This will reduce the size of the overall Crown balance sheet (all else equal).
- The hedging of foreign reserves via DMO loans in the current regime is replaced by long term basis swap (FX and interest rate swap) hedging under the new regime.
- An open FX position is created in the post-review balance sheet, equal to the amount of foreign reserves less the volume of long term basis swaps [ ]

*Specification of the level of reserves*

Recently the Bank has received legal advice suggesting an issue with Section 24 of the Reserve Bank Act and the total level of foreign currency assets the Bank holds. Section 24 of the Act says that the Minister shall determine the level of foreign reserves the Bank holds. Historically the Bank has interpreted this to refer to the intervention capacity the Bank holds for crisis intervention purposes and has sought various Ministers' agreement to hold intervention reserves within various ranges since 1989. Current legal advice has clarified that the level of reserves approved by you should include all foreign currency assets held by the Bank as "foreign reserves" means all foreign currency assets irrespective of the purpose for which they are held. This encompasses not just intervention assets but also foreign currency assets held for other parts of the Bank's operations – most notably domestic liquidity management.

A new Memorandum of Understanding (MOU) between yourself and the Bank will be needed to operationalise the new FX management regime and adjust the range for foreign reserves to a level consistent with the Bank's total and potential future foreign currency asset holdings. The revised range of SDR [ ] m is significantly wider than the previous range agreed, reflecting the significant level and variability of foreign assets held via FX swaps for domestic liquidity management purposes. Annex two provides more detail on the contributions to the proposed new range for foreign reserves.

Longer term, we think it appropriate that section 24 of the Act be adjusted to better reflect the intent of the legislation – i.e. to determine the level of intervention capacity the Bank should hold. We will suggest some appropriate changes to the Act in due course.

### **RBNZ Dividend Implications**

The Bank's annual dividend has become much more volatile in the last few years. This is because changes to the Act in 2003 to cater for the Bank's new monetary policy FX intervention policy had the unexpected effect of creating volatility in the calculation of the Bank's notional surplus income and thus the annual dividend to the Crown. The reason for the volatility is that section 162 of the Act includes only realized gains and losses in the calculation of income available for distribution to the Crown. However in an accounting sense there can be some significant fluctuations in unrealized versus realized foreign exchange gains as the Bank's assets are generally short term and thus realized regularly whereas the Bank's liabilities are long term and are thus realized irregularly. This means that exchange rate changes can lead to significant volatility in realized reported net income even if there are no economic FX gains/losses.

Looking ahead, we anticipate that the Bank's annual dividend will become smoother as current legal advice suggests that all gains and losses (whether realized or not) from FX transactions should be treated as occurring under section 16 of the Reserve Bank Act which is the section that gives the Bank wide powers to deal in FX. Gains and losses that accumulate under section 16 of the Act are explicitly excluded from the calculation of the annual dividend in the Act. These will be added to/deducted from the Bank's equity, leaving the Crown's dividend unaffected.

An issue is that the Act does not easily allow for the payment of special dividends to the Crown in the event that significant gains are realized from the Bank's new FX operating regime. This is unsatisfactory as such gains should ultimately accrue to the Crown subject to the Bank's capital needs being met. In the short term, an amendment to the Funding

Agreement can be negotiated that will allow for special dividends to be paid should the Bank realize gains. Longer term we think it better that an adjustment be made to Sections 158 and/or 162 of the Act to allow for a more regular (and less formulaic) dividend policy. We will be suggesting some appropriate changes to the Act in due course.

### **Communications Strategy**

The Bank will continue with its routine policy of not offering comment outside of formal press releases/Bank publications on the Bank's FX operations including FX intervention and adjustments to the Bank's Open FX position. Also we will continue to publish the Bank's Open FX position on the website each month as well as the Bank's Risk Management Document (which will include details of the currency composition of reserves).

The Bank will not publicly disclose the details of any internal limits/benchmarks regarding Open FX positions as these will be market sensitive. The Bank may disclose a range for the Bank's long term benchmark Open FX position.

The Bank recommends publishing the new MOU covering the level of reserves as well as this memorandum, excluding the recommended Open FX limits.

### **Recommendations**

It is recommended that you:

- **Note** that the Bank will likely be seeking changes to the Reserve Bank Act to better specify the level of reserves to be approved by the Minister of Finance and the dividend payable to the Crown
- **Sign** the attached Memorandum of Understanding covering the level of reserves and the Bank's FX intervention activities
- **Agree** to public release of these materials excluding the recommended Open FX limits and benchmarks.

Alan Bollard  
Governor

**Annex: New Memorandum of Understanding****Memorandum to the Minister of Finance****~~Commercial: Sensitive~~****19 June 2007****Memorandum to the Minister of Finance****Level of Foreign Reserves****Introduction**

Further to the Reserve Bank of New Zealand's memorandum to you of 19 June 2007, this memorandum seeks your agreement to a new range within which the Reserve Bank may hold foreign reserves in order to carry out its statutory policy responsibilities. This memorandum replaces our earlier Memorandum of 25 March 2004 to which you previously agreed.

**Recommendations**

I recommend that you:

- a) **Agree**, pursuant to section 24 of the Act that the Bank holds a minimum of SDR [ ] m of foreign reserve assets for the purpose of carrying out its statutory policy functions.
- b) **Agree**, pursuant to section 24 of the Act that the Bank holds a maximum of SDR [ ] m of foreign reserve assets for the purpose of carrying out its statutory policy functions.
- c) **Note**, that the Bank will maintain some portion of its foreign reserves on an un-hedged basis. [ ]
- d) **Note**, that the Bank will vary the level of un-hedged foreign reserves in support of its policy functions, with its Open FX position proposed to vary within the range of [ ]

Alan Bollard  
Governor

Recommendations agreed/disagreed

Hon Dr Michael Cullen  
Minister of Finance

**Annex two: Calculation of new foreign reserves range**

**All amounts are expressed in SDR billions**

[ ]