

## OPERATIONS IN FINANCIAL MARKETS

### MONETARY POLICY OPERATIONS

Most of the operations the RBA undertakes in financial markets are for the purpose of implementing monetary policy. Monetary policy changes are announced in terms of a target for the cash rate - the interest rate on overnight interbank loans in the money market - and domestic money market operations are undertaken each day to maintain the cash rate around the target level. The cash rate target was increased four times in 1999/2000, from 4.75 per cent to 6.0 per cent, and again to 6.25 per cent in August 2000.

### MOVEMENTS IN THE TARGET CASH RATE

|                   | CHANGE<br>(PERCENTAGE POINTS) | NEW LEVEL<br>(PER CENT) |
|-------------------|-------------------------------|-------------------------|
| <b>3 Nov 1999</b> | +0.25                         | 5.00                    |
| <b>2 Feb 2000</b> | +0.50                         | 5.50                    |
| <b>5 Apr 2000</b> | +0.25                         | 5.75                    |
| <b>3 May 2000</b> | +0.25                         | 6.00                    |
| <b>2 Aug 2000</b> | +0.25                         | 6.25                    |

The cash rate is determined in the market each day by the interaction of the demand for and supply of Exchange Settlement (ES) funds - the funds banks use to settle transactions with each other and with the RBA. The RBA's ability to influence this rate rests on the fact that it is the sole supplier of these funds. It can increase or decrease the supply of ES funds by undertaking domestic market operations.

Banks' demand for ES funds is transactions based - i.e. their demand is determined by their settlement obligations with each other and with the RBA. As was discussed in last year's

Annual Report, the RTGS system for interbank settlement introduced in June 1998 has enabled banks to manage their liquidity more efficiently than in the past. Accordingly, the average level of ES funds remained low last year at about \$1.2 billion, about half pre-RTGS holdings. Holdings of ES funds were, however, quite volatile in the first half of the year as banks prepared to make large payments associated with settlement of the sale of the second tranche of Telstra and as they prepared for Y2K (discussed more fully below).

The operating procedures that have been put in place over recent years have proved effective in terms of achieving the cash rate objective, as the actual cash rate is routinely maintained close to the target. Daily variation between the two averaged about two basis points in the past year.

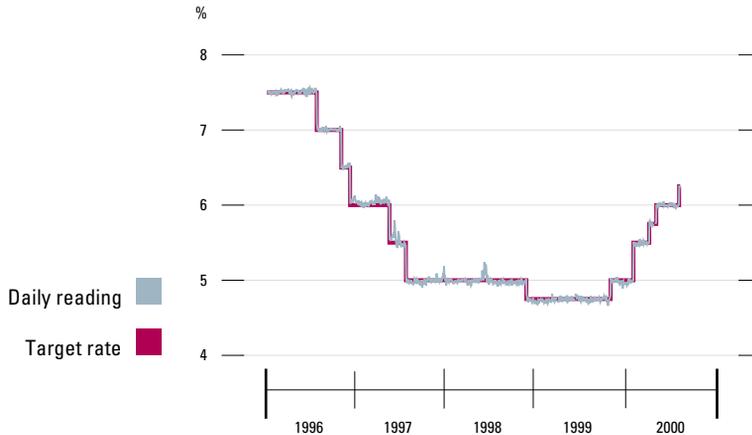
In pursuing the cash rate objective, the RBA faced two main challenges during the year. The first was the constraint imposed by the falling supply of Commonwealth Government securities (CGS), the main instrument used in market operations. The second, and less significant of the two, was the liquidity preparation for Y2K.

Y2K began to become an issue in financial markets around the middle of 1999, as market participants started to prepare for the potential withdrawal of liquidity around year end. As well as needing to fund withdrawals of deposits by customers as the latter increased their holdings of currency, banks had to allow for the possibility that market conditions might be disrupted, making it difficult to raise funds. These concerns were common to banks around the world.

The RBA felt that it had a responsibility to ensure that market confidence was maintained.



## CASH RATE



As well as liaising with banks about their overall Y2K preparations (see chapter on "Financial System Stability"), a number of measures were announced in mid 1999 to assist banks in their liquidity management. These included an offer to extend the term of repurchase agreements<sup>1</sup> (repos) undertaken with market participants to span the date change and to provide a fixed deposit facility for holders of Exchange Settlement accounts. The RBA also announced that it would supplement its dealings in government securities with foreign exchange swaps and repurchase agreements in bank bills and CDs, if necessary.

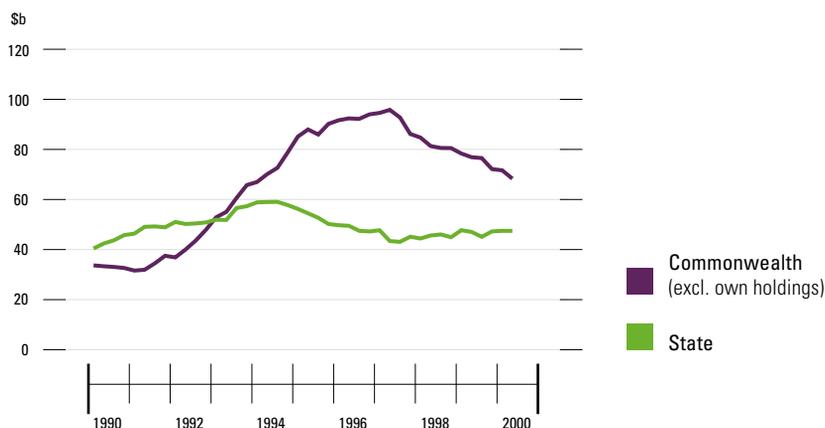
In the event, Y2K was handled without market disruption. The RBA's counterparties availed themselves of the longer-term repos and the fixed deposit facility to a moderate extent, and use of foreign exchange swaps was expanded (see below). The RBA did not, however, need to extend its operations to include bank paper.

The declining supply of CGS was a more difficult problem, and one that will be longer-lasting. These securities have been the basis of domestic market operations for many years. In theory, operations could be carried out in any type of instrument, but CGS have been favoured because they carry no credit risk and the market for them has tended to be very deep and liquid, thereby facilitating the large transactions volumes the RBA needs to undertake.

<sup>1</sup> Repurchase agreements (or repos) involve a purchase or sale of securities with a simultaneous agreement between the parties to reverse the transaction at an agreed price and date in the future. A foreign exchange swap is essentially a repurchase agreement, with Australian dollars exchanged for foreign exchange rather than securities.

### SUPPLY OF GOVERNMENT BONDS

End quarter



Three years ago, in response to emerging supply shortages in CGS, repo operations were expanded to include securities issued in Australia by State authorities. This provided a one-off boost to the pool of securities available for repos, but did not add to supply on an ongoing basis as the States, like the Commonwealth, are running balanced or surplus budgets and thereby reducing, rather than increasing, their overall debt on issue.

In the past year, the declining supply of government securities caused the RBA again to look at alternatives. It decided that, for the immediate future, the most attractive alternative was to expand its use of foreign exchange swaps.

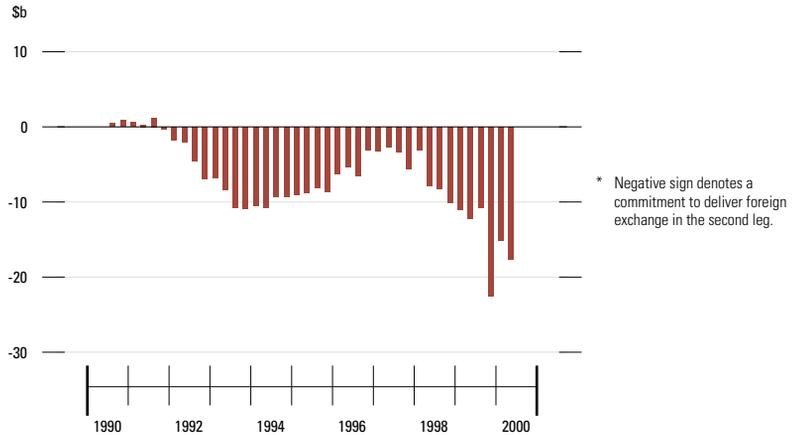
The RBA, like other central banks, has been using foreign exchange swaps for some years now. In Australia's case, their use has tended to be directed at managing financial flows at times when large-scale intervention has been undertaken in the foreign exchange market.

Swaps are particularly efficient at such times because they avoid the need to undertake what would otherwise be a series of transactions in both foreign and domestic holdings of bonds to achieve the same purpose. The main change in the past year was that much more significant use was made of swaps purely for domestic liquidity management - i.e. in situations where no outright foreign exchange transactions had been undertaken.

The first step-up in use of foreign exchange swaps for liquidity management was in October 1999, when investors paid for the first instalment of their subscriptions to the privatisation of the second tranche of Telstra. The resulting flows saw almost \$10 billion transferred from banks' ES balances to the Commonwealth's account at the RBA. This drain in banking sector liquidity was accommodated to a large degree by buying foreign exchange from banks (in exchange for



### RBA's SWAPS OUTSTANDING\*



Australian dollars) under swap agreements. Further heavy use of swaps was undertaken towards the end of 1999 to boost banking sector liquidity in preparation for Y2K.

In total over the year, \$67 billion of foreign exchange swaps (including roll-overs) were undertaken, accounting for about 20 per cent of all liquidity management operations. At their peak in late 1999, the amount outstanding in foreign exchange swaps reached \$23 billion, though, by the end of the year, this had fallen back to about \$18 billion.

To the extent that the RBA buys foreign currencies under these swaps, its holdings of foreign exchange rise, as do its forward commitments to deliver foreign exchange. There is, therefore, no effect on its *net* foreign reserve position, and no change in its exposure to foreign exchange risk. Also, because the swap agreement consists of a spot transaction and an offsetting forward transaction, there are

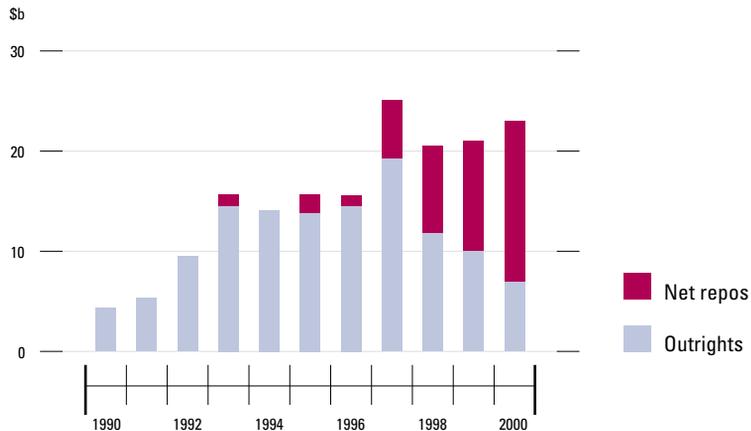
no net changes in demand for either currency and thus no effect on the exchange rate.

The increased use of swaps took some of the pressure off operations in domestic securities, though the domestic repo book nonetheless rose to a new high. The amount of repos outstanding was \$16 billion at the end of the year, up from about \$11 billion the year before. Securities held under repo now account for a large share (70 per cent) of the RBA's total holdings of domestic securities. Early in the 1990s, this share was around 5 per cent.

Despite the rise in repos outstanding, within-year turnover in repos fell for the first time in several years as the average maturity of repos was lengthened. The lengthening in maturity was partly a reflection of steps taken in preparation for Y2K, but was also aimed at trying to reduce the roll-over task involved in a large repo book.

**RBA'S HOLDINGS OF DOMESTIC SECURITIES**

As at 30 June

**MARKET OPERATIONS FOR LIQUIDITY MANAGEMENT PURPOSES**  
(\$ billion)

|                                  | 1996/97 | 1997/98 | 1998/99 | 1999/2000 |
|----------------------------------|---------|---------|---------|-----------|
| <b>Repurchase agreements*</b>    |         |         |         |           |
| -Purchases                       | 201     | 275     | 300     | 244       |
| -Sales                           | 9       | 8       | 13      | 14        |
| <b>Short-term CGS</b>            |         |         |         |           |
| -Purchases                       | 23      | 26      | 21      | 9         |
| -Sales                           | 1       | 0       | 0       | 0         |
| <b>Total domestic operations</b> | 234     | 309     | 334     | 267       |
| <b>Foreign exchange swaps*</b>   | 35      | 33      | 52      | 67        |

\* First leg of transaction

The RBA's demand for securities was boosted during the year by the decision of the Commonwealth Government to invest some of its funds arising from the budget surplus in fixed deposits with the Bank. These deposits stood at \$9.2 billion at the end of the financial year, up from \$2 billion a year earlier.

One moderating influence on the RBA's demand for government securities was the abolition, effective 1 July 1999, of the requirement that banks hold one per cent of assets as non-callable deposits with it. The return of these funds provided banks with additional liquidity of around \$5 billion, which was offset



on the day by sales of government securities. By and large, this operation went smoothly and has had no ongoing implications other than permanently to lower the RBA's holdings of securities (and its ongoing earnings) relative to levels that otherwise would have prevailed. The counterpart to this contraction in bond holdings was the reduction in the RBA's deposit liabilities to the banks.

Events over the past year have demonstrated that foreign exchange swaps can be an effective instrument of domestic operations. Use of swaps will most likely continue to grow. It is intended to use them to provide large medium-term injections of cash rather than as a normal part of day-to-day domestic operations. They are less suited to this latter role as settlement arrangements are more complicated than for domestic securities, due to the fact that they involve transactions in different time zones. For this reason, the RBA has not ruled out other innovations to its domestic market operations and is keeping abreast of thinking of central banks in other countries which are starting to face similar shortages of government securities.

#### **FOREIGN EXCHANGE INTERVENTION**

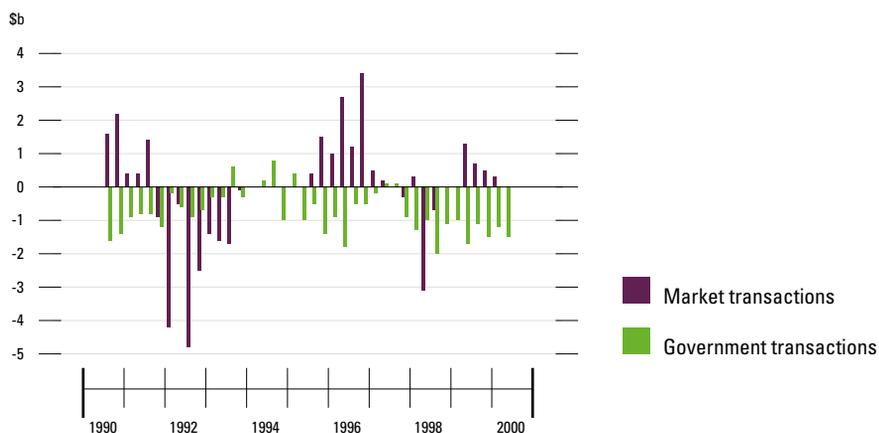
Australia has had a floating exchange rate regime since 1983, with the Australian dollar rising and falling with changes in the demand for, and supply of, currency in the market. This regime has proved beneficial for Australia as the fluctuations in the exchange rate, which can at times be quite wide, act to cushion the effect on the domestic economy of external economic disturbances such as changes in the terms of trade.

As has been explained in previous Annual Reports, this does not mean, however, that the RBA can be totally indifferent to movements in the exchange rate. The exchange rate is a component of the inflation-targeting regime, and so can have implications for monetary policy. In addition, exchange markets are capable in some circumstances of "overshooting", or moving temporarily by more than can be explained by changes in underlying economic and financial conditions. When these events occur, they can have adverse effects on the economy both at the macro level - by affecting confidence and inflation expectations - and at the micro level - by affecting resource allocation and investment decisions. The RBA is prepared to use foreign exchange intervention if it believes it is facing a serious overshoot in the exchange rate in either direction.

Circumstances which give rise to overshooting occur only infrequently, and so intervention is similarly infrequent. The RBA intervened to support the Australian dollar in a substantial way on several occasions in 1998; prior to that, the most recent substantial support was in 1993. In these episodes, there were some sales of foreign currency assets to buy Australian dollars. Between such episodes, the RBA takes opportunities provided by strength in the exchange rate to rebuild its holdings of foreign currency assets.

### RBA'S PURCHASES AND SALES OF FOREIGN EXCHANGE

Quarterly total, sales are shown as a negative



During the past year, the RBA did not seek to influence the exchange rate through market intervention. On some occasions, such as in April/May 2000, it did have sufficient concerns about the possibility of overshooting that it undertook some preparations for intervening, but in the event no outright purchases of the currency were undertaken. Through this period, however, the RBA did provide some support for the Australian dollar through its handling of Government foreign exchange transactions (see below).

#### CUSTOMER-BASED OPERATIONS

The RBA undertakes substantial operations in both domestic and foreign exchange markets on behalf of its customers, mainly the Commonwealth Government.

During the past year, the main operation in government securities on behalf of the Commonwealth was, as in the previous year, to

assist with government debt retirement. The Commonwealth's ability to retire debt early reflected ongoing underlying budget surpluses, and some major privatisations. The RBA sold almost \$8 billion of CGS to the Commonwealth Government during the year, with around \$5 billion of these securities coming directly from the RBA's books and the rest purchased from the market at opportune times in the course of liquidity management operations.

Operations on behalf of customers are conceptually quite separate from those associated with the implementation of monetary policy and liquidity management. However, the RBA is able to take advantage of customer flows to help in its policy operations. For example, the Commonwealth's willingness to retire debt early was used to help smooth the potentially large injections of liquidity into the market that would have been concentrated on the days on which CGS would otherwise have



matured. This in turn assists the Commonwealth to manage its own cash flows.

The Commonwealth Government has a substantial need for foreign exchange each year, mostly to cover payments for defence equipment, embassies and aid. These needs are met through the RBA to ensure that government foreign exchange activities, which can be very large, do not conflict with the RBA's own foreign exchange operations. All transactions are at market prices.

In normal times, sales of foreign exchange to the Government are passed more or less simultaneously into the market by buying foreign exchange from market counterparties, so that they do not use up foreign exchange reserves. At other times, when the RBA may be considering or undertaking intervention in the market, such as where the exchange rate is falling and significantly below its long-run average level, any passing through of Government transactions may exacerbate exchange rate pressures or even undo some of the stabilising effect of intervention. At such times, the Government's needs are met initially from the RBA's portfolio, and passed through to the market (thus replenishing reserves) when market conditions are more favourable. In the past year, the RBA has sold \$4.9 billion in foreign currencies to the Government and passed \$1.6 billion of this through to the market. In the second half of the year, when the exchange rate had fallen to low levels, none was passed through.

## STOCK LENDING

One activity in domestic financial markets that falls halfway between a policy and a client transaction is stock lending. This activity involves lending of domestic government securities to market participants in order to alleviate temporary market shortages of specific lines of stock. Typically, these shortages arise as a result of settlement failures or difficulties in accessing stock held by offshore investors. There is a strong demand from market participants for this service. From the RBA's perspective the service is a useful one because it helps in the efficient working of the market; it also earns a small amount of income.

An active stock-lending market exists between market participants themselves, so the RBA is careful not to discourage such activity. It prices its stock lending so that it would be the least attractive counterparty for anyone seeking particular stock.

### STOCK LENDING BY THE RBA

|                  | NUMBER OF<br>TRANSACTIONS | AMOUNT LENT<br>(FACE VALUE,<br>\$ BILLION) | INCOME<br>(\$ MILLION) |
|------------------|---------------------------|--|------------------------|
| <b>1995/96</b>   | 485                       | 16.9                                       | 0.7                    |
| <b>1996/97</b>   | 540                       | 11.9                                       | 0.7                    |
| <b>1997/98</b>   | 935                       | 16.7                                       | 1.1                    |
| <b>1998/99</b>   | 805                       | 14.6                                       | 0.9                    |
| <b>1999/2000</b> | 510                       | 8.9  | 0.6                    |

**BALANCE SHEET MANAGEMENT****RISK ANALYSIS**

In order to be able to undertake transactions in financial markets, the RBA needs to maintain a portfolio of financial assets in which it deals. The main assets are domestic and foreign government securities and foreign currency deposits with overseas banks and central banks. These assets are balanced by liabilities, consisting mainly of notes on issue, deposits by governments and commercial banks, and capital.

As with any entity holding substantial financial assets and liabilities, the RBA is thereby exposed to financial risks, either from adverse changes in interest rates or exchange rates, or default by those with whom it has deposited funds or transacted.

The credit risk faced is limited because the RBA holds only securities of government issuers with a high credit standing and deals only with highly rated counterparties. All securities held are issued by Australian governments or central governments (and their agencies) of the three major industrial countries. Part of foreign currency investments is also held as deposits with commercial banks. Exposure is limited to banks rated AA- or above.

Interest rate risk and exchange rate risk cannot be avoided or minimised in the same way that credit risk has been. The RBA is exposed to risk of significant loss from a rise in the general level of interest rates because it holds substantial amounts of fixed-interest assets, which suffer a fall in capital value when interest rates rise. There is no offsetting gain on the liability side of the balance sheet as liabilities are predominantly interest-free or floating-rate, which do not change in capital

value when interest rates change.

Exposure to interest rate risk could be eliminated by holding only floating-rate assets and liabilities, but to do so would be impractical as it would be difficult to carry out monetary policy functions effectively using only these instruments. Moreover, to do so would reduce the long-run average interest income because interest rates tend to be lower on floating-rate instruments than on longer-term fixed-rate securities. Over a long period of time, the RBA is rewarded in the form of higher average interest earnings for accepting its exposure to the risk of short-term capital losses.

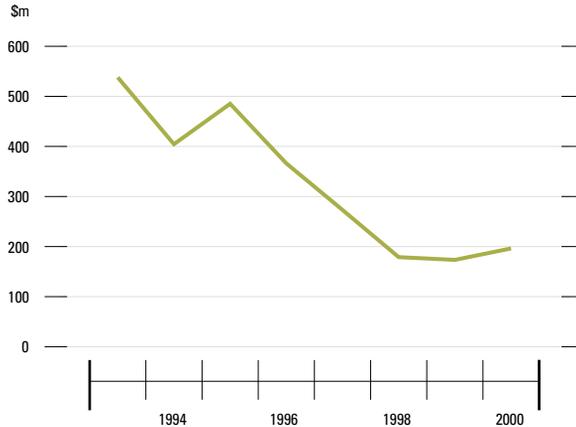
It should also be recognised that the RBA cannot be an active manager of its domestic interest rate risk. Given its monetary policy responsibilities, any actions by the RBA to increase or decrease its level of risk would be interpreted by other market participants as a change in its view about the future direction of interest rates. Also the large size of the RBA's domestic asset portfolio would mean that any attempt at risk management would be quite disruptive to the market.

For these reasons, the RBA accepts interest rate risk on its domestic portfolio as being an unavoidable consequence of its policy operations. Based on the average size of the domestic portfolio over the past year, the effect of a rise in the general level of Australian interest rates of one percentage point (other things equal) would be to cause a loss of about \$200 million. This is less than was the case some years ago, as the relatively higher proportion of securities held under repo has had the side-effect of reducing risks.



### INTEREST RATE RISK OF RBA'S DOMESTIC SECURITIES PORTFOLIO

For a one percentage point change in yields, as at 30 June



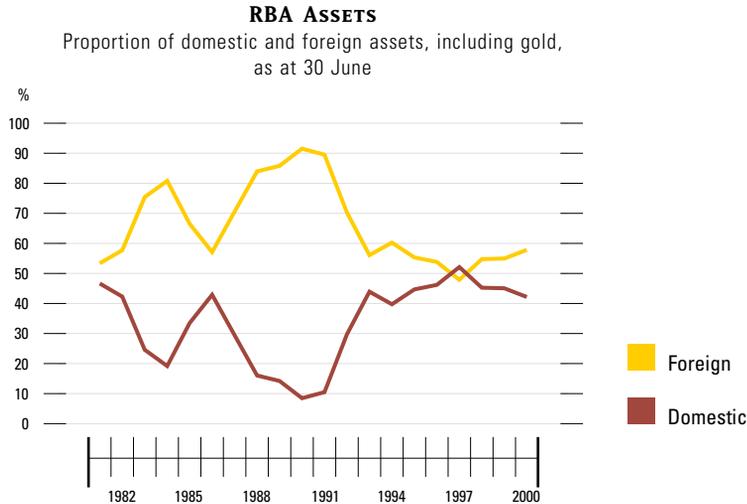
The RBA has, however, taken a more active approach to management of interest rate risk on its foreign securities portfolio. Here, it is just another player; its actions have no policy significance, nor are they big enough relative to the markets in question to be disruptive. The framework for this management is described in the section on reserves management below.

Exchange rate risk for the RBA arises because it holds a substantial proportion of its assets in foreign currencies, while its liabilities are in Australian dollars. It needs to hold a portfolio of foreign currency assets to fund its intervention operations. A rise in the exchange rate causes a capital loss, measured in Australian dollars, on the foreign currency assets (i.e. a given amount of foreign currency is worth less in Australian dollars); a fall in the exchange rate causes a capital gain. The size of the loss or gain would depend on the level and composition of reserves at the time and the

sizes of the moves in the exchange rate against each of the currencies represented in reserves. Based on the average level of reserves during the past year, a uniform one per cent appreciation of the Australian dollar would result in a loss of about \$120 million. This is lower than in recent years because holdings of foreign currencies have been reduced following earlier intervention. On average over the exchange rate cycle, the risk factor would typically be about twice that noted above.

The RBA must hold a long open position in foreign exchange if reserves are to be available for intervention. There is no scope for direct management of exchange rate risk (including hedging) as foreign exchange holdings are determined by intervention operations. They tend to rise and fall over the exchange rate cycle as currencies are bought and sold.

In sum, while the RBA faces a number of risks similar to other financial entities, it differs



from these in that it must give prominence in its operations to its policy objectives; management of risks and returns are, of necessity, secondary considerations. Only *within* the foreign currency portfolio does it have discretion to manage the composition of assets in keeping with its risk/return objectives. These activities are usually referred to as "reserves management". Details of reserves management operations during the past year are discussed in the remaining part of this chapter.

#### RESERVES MANAGEMENT OPERATIONS

Assets in foreign currencies are managed to achieve the highest return within defined risk parameters, taking into account the need to ensure funds are available at short notice when required for intervention.

The task of managing the foreign exchange reserves is assigned to an internal team of portfolio managers. They work to a benchmark portfolio which has been determined by taking into account the need for liquidity and security and the past patterns of risk and return in the major world markets.

The benchmark portfolio, which was put in place in the early 1990s, has three main parts. The first is the allocation of assets across the different world markets in which the RBA invests. This allocation has 40 per cent of assets in the United States and 30 per cent in each of Japan and Europe. The second is currency allocation, for which the benchmark is the same as for assets: 40 per cent to the US dollar, and 30 per cent each to the yen and the euro. The third is the duration of assets in each market; this specifies that duration in each market should be 30 months, with a maximum maturity for any one security of 10.5 years.

**COMPOSITION OF THE  
BENCHMARK PORTFOLIO**

|                            |          | US | JAPAN | EUROPE |
|----------------------------|----------|----|-------|--------|
| <b>Asset allocation</b>    | (%)      | 40 | 30    | 30     |
| <b>Currency allocation</b> | (%)      | 40 | 30    | 30     |
| <b>Duration</b>            | (months) | 30 | 30    | 30     |

The portfolio managers are guided by the benchmark portfolio in making their investments, though they can make changes to asset and currency allocations, and the duration of investments, within limits approved by the Governor, to take account of market circumstances. A middle office, independent of the portfolio managers, monitors their compliance with these limits and measures their investment performance in comparison with the benchmark.

The market background against which foreign currency reserves were invested in 1999/2000 was dominated by the continued strong performance of the US economy and US financial markets and the maintenance of Japan's exceptional "zero interest rate" monetary policy. The low level of official interest rates in Japan meant that long bond yields fell to 0.7 per cent in mid 1997, a level unprecedented in the recorded history of any country. Yields have since risen to between 1.5 per cent and 2 per cent, still an unusually low level.

The low level of yields in Japan has complicated the task of investment management. As well as providing very low ongoing interest income, such low levels of yields expose the investor to the risk of significant capital losses in the event that yields were to rise to more normal levels. Against this background, the RBA has felt it prudent to maintain the

duration of its Japanese bond portfolio below benchmark in recent years. This has led to some underperformance relative to the benchmark as, with an upward-sloping yield curve, there was some sacrifice of interest income. In the past year the Japanese portfolio returned 0.4 per cent, whereas the return on the benchmark was 1.0 per cent.

In the US and European bond portfolios, duration was kept close to benchmark during the year. The uncertainty surrounding bond yields due to the conjuncture of rising official interest rates and volatility in share markets meant that only small, and short-term, trading positions were undertaken in these markets. Returns on both the US and European portfolios were slightly in excess of their benchmarks for the year. In the case of the US portfolio, the respective returns were 5.0 per cent and 4.6 per cent, and in the European portfolio, 1.9 per cent and 1.7 per cent.

Currency allocation to the euro was progressively increased in the second half of 1999, building on a position initially established towards the end of the previous financial year. This reflected a view by the portfolio managers that the euro was at an unusually low level and that it was likely to appreciate over the medium term. In the event, the overwhelming strength of the US economy meant that markets remained biased in favour of the US dollar. The euro depreciated by 8 per cent against the US dollar during the year and the portfolio therefore underperformed relative to the benchmark.

The overall return on the foreign currency portfolio was 2.8 per cent (measured against the Special Drawing Right as a numeraire) against the benchmark return of 3.8 per cent. Most of this underperformance was attributable to the over-weight position in the euro.

A longer run of returns is shown in the table below. Over the nine years during which an active approach to reserves management has been followed, the compound return was 6.1 per cent, a little above the return on the benchmark portfolio, of 5.9 per cent. Returns relative to benchmark have fluctuated from year to year, but in recent years have tended to be below benchmark.

#### ACTUAL AND BENCHMARK RETURNS

|           | RATES OF RETURN<br>(PER CENT) |           | VALUE OF<br>DIFFERENCE<br>(A\$ MILLION) |
|-----------|-------------------------------|-----------|---|
|           | ACTUAL                        | BENCHMARK |   |
| 1991/92   | 9.8                           | 8.9       | 165                                     |
| 1992/93   | 16.3                          | 11.6      | 420                                     |
| 1993/94   | 4.0                           | 3.8       | 31                                      |
| 1994/95   | 5.2                           | 7.4       | -331                                    |
| 1995/96   | 4.0                           | 3.7       | 40                                      |
| 1996/97   | 4.5                           | 4.2       | 34                                      |
| 1997/98   | 4.5                           | 4.6       | -19                                     |
| 1998/99   | 4.9                           | 5.1       | -26                                     |
| 1999/2000 | 2.8                           | 3.8       | -202                                    |
|           | 6.1                           | 5.9       | 112                                     |

Analysis of the factors contributing to returns shows that the recent underperformance relative to benchmark has resulted from investment positions which had been taken in anticipation of medium-term macroeconomic developments - e.g. the short duration position in Japanese bonds which has been held for a number of years and the recent long position in the euro. In contrast, short-term investment positions designed to take advantage of anomalies in the market have more consistently made a positive contribution to returns, albeit relatively small.

After reviewing the experience over the past nine years, it has been decided that the low average return to active management and the relatively high variability of returns do not warrant continuing to take investment positions of either the size or frequency of the past. The investment approach is therefore moving to one which seeks to maintain the portfolio close to benchmark.

This revised approach also sits better with the RBA's increasing role in international financial policy discussions (see the chapter on "International Financial Co-operation" for details). It will help to avoid any perceptions of possible conflict of interest which might have arisen between participation in these discussions and the RBA's role as an active investor in the main global markets.



In addition to investments in foreign currencies, the RBA also holds about 80 tonnes of gold, currently valued at \$1.2 billion. No outright transactions in gold were undertaken during the year, but an active gold loan program, involving virtually all gold holdings, was maintained. The average maturity of loans outstanding is six months, with the longest maturity at a little over one year. Total returns for gold-lending operations for the year were \$21 million, a little higher than in the previous year.

At the end of the year, responsibility for gold lending was transferred from the Business Services area of the Bank to Financial Markets, in order to take advantage of synergies with other financial market operations.