Operations in Financial Markets

The Reserve Bank operates in financial markets to fulfil its monetary policy obligations. Although changes to monetary policy are infrequent, the Bank needs to transact in the money market on a daily basis to ensure that conditions do not depart too far from those consistent with the desired stance of monetary policy. The bulk of its market transactions consists of purchases and sales of domestic government securities to implement monetary policy. The Bank also undertakes some transactions in foreign exchange for policy purposes – namely intervention to influence the exchange rate – though there are long periods when no transactions occur for this purpose.

A description of these operations and the market background against which they were conducted is given in the first part of this chapter. The second part goes on to outline other market operations the Bank undertakes. These are directed either at meeting the needs of clients (mainly the Commonwealth Government, overseas central banks and official international institutions) or managing the Bank's own balance sheet.

Operations for Policy Purposes

The market background[1]

A key feature of the last financial year was the marked contrast in financial market behaviour between the first and second halves, not only in Australia, but worldwide. The first half was a very turbulent period in financial markets. It saw the final throes of the Asian financial crisis which began in mid 1997, the Russian moratorium on foreign debt repayments in August and the spread of the crisis to Latin America. It was marked by an extraordinary degree of overshooting in both currency and share markets. Even leaving aside the extreme movements in Indonesia, falls in currencies and share markets by 50 per cent from pre-crisis levels were not unusual. Australia was not directly part of this crisis but it was affected indirectly, mainly through pressure on the exchange rate, which, by August 1998, had reached an historical low against the US dollar of US55.3 cents, 25 per cent below its level a year earlier.

The problems were not confined to the smaller countries of the region. The exchange rate of the Japanese yen, which at the start of the Asian crisis in mid 1997 was trading at 115 against the US dollar, fell to 148 by August 1998.

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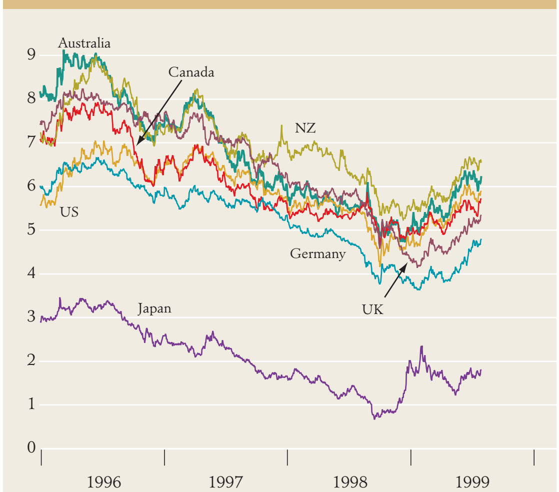
1 A detailed analysis of financial market conditions over the past year, both in Australia and overseas markets, is provided in the Bank's *Semi-Annual Statement on Monetary Policy* released in November 1998 and May 1999.

The turmoil in financial markets seemed to be much greater than would have been expected on the basis of changes in the underlying economic conditions. There was clear evidence that highly leveraged positions were being built up during the first half of 1998 and unwound about three-quarters of the way through the year. Although many types of financial institutions were involved, hedge funds were prominent, both in their own right, and through their capacity to influence market opinion.

Exchange rates against the US dollar

* Implied rate before January 1999

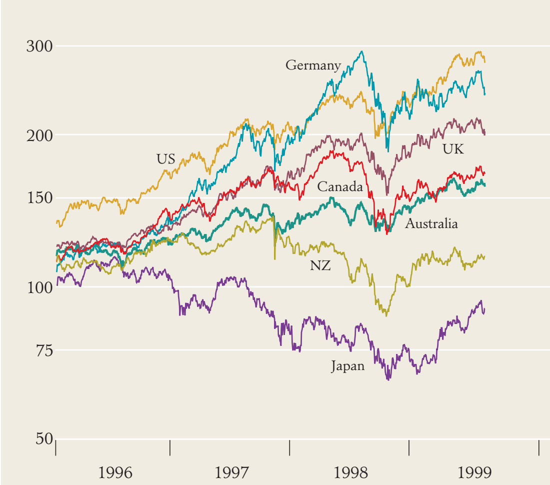
Ten-year bond yields



It was notable that the factor that eventually caused markets to correct was the near-collapse of a major US hedge fund, Long-Term Capital Management. This triggered a sharp contraction in bank funding of all hedge funds, forcing them to liquidate their short positions and allowing a rapid recovery in these markets. In Australia, the exchange rate of the Australian dollar rose sharply over September and October to around US65 cents – similar to its early 1998 level – as speculators reversed their short positions in the currency. The Japanese yen also strengthened markedly at the same time (including a rise of 15 per cent in the space of 30 hours) as did the exchange rates of most other Asian currencies. In the case of share markets, the biggest initial rise was in Hong Kong, where the earlier speculative selling had been very strong.

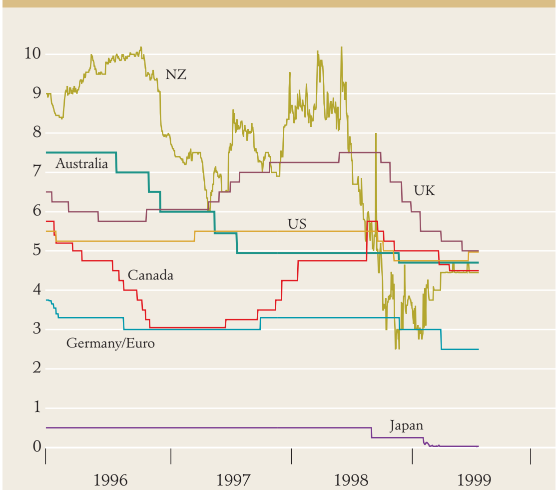
It was also notable that while these events allowed Asian markets to begin recovering in late 1998, they had a negative impact on markets in the major centres, particularly the US. These markets were suddenly disrupted by concerns

Share price indices – Log scale*
Index



* 31 December 1994 = 100

Cash rates
%



about credit exposures to highly leveraged institutions; credit spreads in bond markets rose and the volume of financing fell. Share prices of financial institutions were also marked sharply lower. More generally, the seizing-up of credit markets led to widespread concerns that the world economy might head into a deflationary phase, a factor which led the US Federal Reserve to ease monetary policy on three occasions, by a total of 0.75 of a percentage point, between late September and early November.

The combination of easier monetary policy in the US and reduced speculative activity by highly leveraged institutions saw much more settled conditions in financial markets around the world in the second half of the financial year. By March 1999, markets had become quite buoyant. Share prices in many industrial countries reached new peaks, and those in Asian markets went a long way to recovering their pre-crisis levels. The Australian dollar continued to rise, though at a more gradual pace, in line with the improving outlook for the world economy and commodity prices.

As it became clear that the market disruptions that had caused the US Federal Reserve to ease had largely disappeared, and as prospects for the world economy continued to improve, the market focus moved to the likelihood that the Federal Reserve would reverse at least some of the easing it had implemented in late 1998. The prospect of higher US interest rates dampened some of the buoyancy in markets over the last two months of the financial year, particularly share markets in developed countries, and there was a noticeable rise in longer-term interest rates which took them back to around their levels in mid 1998. Once the Federal Reserve decision was announced at end June – a 25 basis points rise in the Federal Funds rate, to 5.0 per cent – markets absorbed the news calmly.

Changes in exchange rates and share markets in the Asia/Pacific region

Exchange rates against US$	Change from July 1997 to trough (per cent)	Change from July 1997 to current (per cent)
Australia	-25	-14
Hong Kong	0	0
Indonesia	-85	-65
Japan	-22	0
Korea	-55	-26
Malaysia	-48	-34
Singapore	-20	-15
Taiwan	-20	-14
Thailand	-56	-34
Share markets		
Australia	-16	10
Hong Kong	-56	-13
Indonesia	-65	-19
Japan	-36	-12
Korea	-63	27
Malaysia	-76	-32
Singapore	-60	7
Taiwan	-39	-20
Thailand	-61	-14

Overall, markets ended the year on a fairly confident note. The Asian crisis, at least as far as it affected financial markets, seemed to have largely passed, economic prospects for Japan and Europe were improving and there was optimism that the US authorities would be able to engineer a “soft landing” of the US economy. These developments meant that the general assessment of world economic and financial prospects was much more positive than it had been for the previous couple of years, providing a benign backdrop for Australian markets.

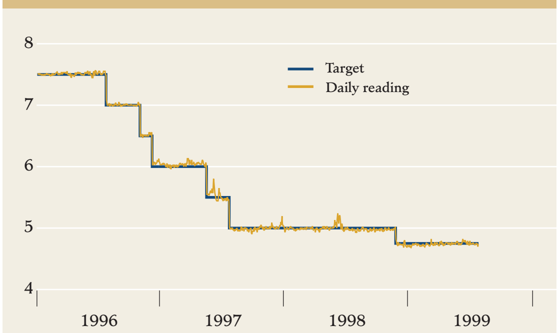
Policy implementation

Domestic operations

In Australia, as in most developed countries, the stance of monetary policy is expressed in terms of an operating target for the cash rate – the interest rate on overnight interbank loans in the money market. There was only one change in this rate in the past year – a reduction from 5.0 per cent to 4.75 per cent in early December 1998 which was made possible by the continuing good inflation performance of the economy (see the Reserve Bank's media release of 2 December 1998 and the *Bulletin* article "The Economy and Financial Markets" released in February 1999 for a detailed explanation of the circumstances underlying this policy change).

The cash rate is determined by the interplay of the daily supply of and demand for Exchange Settlement (ES) funds – the funds banks use to settle transactions with each other and with the Reserve Bank[2]. The Reserve Bank's domestic market operations – purchases and sales of securities either outright or under repurchase agreements – are used to adjust the supply of ES funds so as to maintain the cash rate close to the target.

Cash rate
%

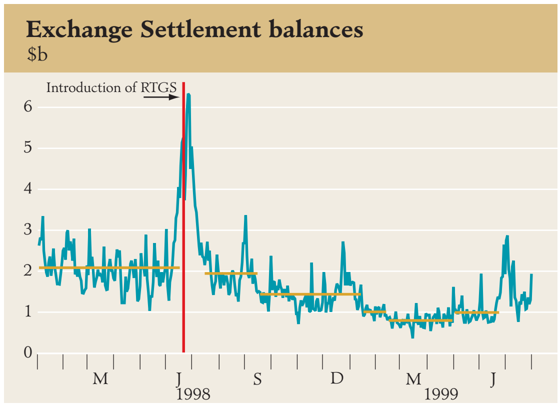


While domestic market operations are largely routine and carried out on a day-to-day basis, their execution can be affected by institutional changes to the money markets. Over the past year, the main change of this nature was the introduction in June 1998 of the real-time gross settlement (RTGS) system. Details of this settlement system were outlined in last year's Annual Report, but essentially it involves the settlement of high-value interbank transactions on a continuous and gross basis through the day, rather than on a net basis the following day as was the case under previous settlement arrangements. The Reserve Bank's domestic operations aimed to ensure that the transition to the new system proceeded as smoothly as possible, so that market conditions remained consistent with monetary policy objectives.

A central part of this task was to meet changes in banks' demand for ES funds arising from the RTGS system. Demand for ES balances had been running at a little over $2 billion in the period before the introduction of RTGS, but rose

2 ES funds take their name from the Exchange Settlement accounts at the Reserve Bank, in which these funds are held.

sharply in June 1998 to around $6 billion. Some of the rise was a response to the shocks in global markets at that time and the normal seasonal demand around financial-year end, but it mainly reflected banks wanting to hold larger precautionary balances as the new system came into operation.



As these influences passed and banks became accustomed to operating under RTGS, demand for ES balances began to fall sharply. In order to maintain the cash rate at its target, the Reserve Bank responded by reducing the supply of balances correspondingly. ES balances soon returned to around the level prevailing prior to the introduction of the RTGS system, and then continued to decline as banks took advantage of the new system's features which enabled them to manage liquidity more efficiently than had been possible in the past. Balances eventually fell to an average of about $0.75 billion in March 1999, before increasing again over the June quarter and into early July. ES balances peaked early in July, following the release of banks' non-callable deposits (NCDs) of $5.25 billion; NCDs were held under the previous prudential regime which involved the Reserve Bank in supervising banks. As banks invested these funds in other assets, the level of ES balances declined to around $1.25 billion.

While RTGS allows banks to operate with lower ES balances, these holdings are still the critical buffer to system liquidity. It is, therefore, important that all banks should have adequate liquidity to meet unforeseen calls on them. While it appears that current levels of ES funds are comfortable, the need for banks to hold liquid assets might increase as the Reserve Bank's ability to forecast liquidity flows accurately may be reduced by recent changes to banking arrangements of the Commonwealth Government (see "Customer Services").

One of the facilities put in place by the Reserve Bank to help banks manage their liquidity under RTGS is an end-of-day borrowing facility based on repurchase agreements.[3] The facility is designed to provide some measure of certainty to individual ES account holders that there would always be scope to meet unexpected outflows from their accounts late in the day, albeit at an above-market cost of overnight funds (the rate charged on this facility is 25 basis points above the cash rate target). In 1998/99, there were 32 drawings on this facility,

3 Further details are contained in the box on 'Reserve Bank Dealing Operations under RTGS' in last year's Annual Report.

on 24 different days – i.e. on most days when it has been used, only one bank has done so. The average amount borrowed by individual banks under the facility was about $60 million.

There was some indication early in the year that some banks were reluctant to avail themselves of this facility, even if it meant having to pay a higher cost for funds elsewhere. It seemed that they were concerned that use of the facility might be seen as a sign of weakness or inadequate liquidity management on their part. The Reserve Bank made clear its views that the facility is an important part of the RTGS framework and it would be normal for banks over time to access the facility occasionally. The Reserve Bank would be concerned about use of the facility only if there were continual recourse to it by one bank. To date, there has been no evidence of this.

In the lead-up to RTGS, the Bank also foreshadowed that it would be prepared to deal a second time during the day to address system liquidity problems arising from significant and unforeseen changes in demand for liquidity, major liquidity forecasting errors or system problems. Because liquidity flows are less predictable under RTGS, it was expected that such operations might be required more often than in the past. Experience, however, is that recourse to second rounds of dealing has been limited. Additional rounds of dealing have been required on eight occasions in the past year.

Overall, the first year of operating in the cash market under RTGS has gone smoothly. Aside from the advantages in terms of reduced payments risks, banks have found that they can operate with less liquidity than required under previous arrangements. In terms of meeting the Bank's monetary policy objectives, the cash rate has remained stable around the target level. In 1998/99, the daily volatility of the cash rate averaged 3 basis points around the target, little different from previous years.

Over the course of the financial year, the Bank undertook domestic market operations amounting to around $334 billion, about 8 per cent more than in the previous year. Repurchase agreements remain the work-horse of the Bank's domestic market operations. However, with the continued contraction in the stock of Commonwealth Government securities (CGS) on issue – which fell from $92 billion to about $84 billion over the year, due to the Commonwealth's surplus – collateral for repurchase agreements has moved increasingly away from CGS to State government securities. By end June 1999, State government stock represented around 70 per cent of the collateral underpinning the Reserve Bank's repurchase operations.

Market operations for liquidity management purposes
($ billion)

	1995/96	1996/97	1997/98	1998/99
Repurchase agreements*				
– Purchases	74	201	275	300
– Sales	14	9	8	13
Short-term CGS				
– Purchases	25	23	26	21
– Sales	2	1	0	0
Total domestic operations	115	234	309	334

* First leg of transaction

As in earlier years, the Reserve Bank also made some use of foreign exchange swaps to help in liquidity management. Foreign exchange swaps work like a repurchase agreement in government securities, with the difference being that, rather than exchanging Australian dollars for government securities, the Australian dollars are exchanged for foreign currency. Over the year the amount of foreign exchange swaps the Reserve Bank had outstanding increased by $4 billion.

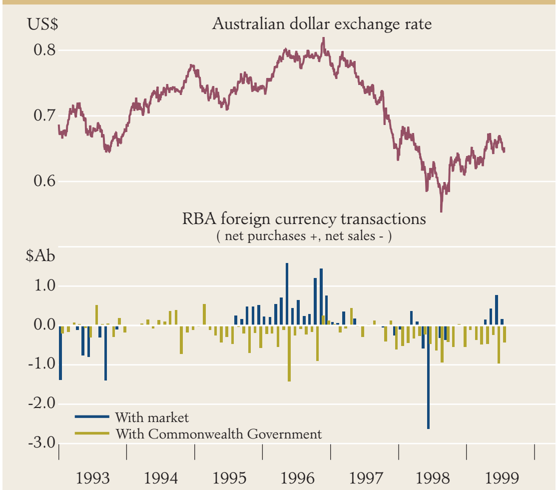
Towards the end of the financial year, the Reserve Bank announced a couple of variations to its dealing arrangements to assist banks in their preparations for the Year 2000. These are discussed in "The Reserve Bank's Role in Preparations for the Year 2000".

Foreign exchange intervention

The arrangements regarding the exchange rate of the Australian dollar and the Bank's approach to intervention have been outlined in past Annual Reports. Essentially, the exchange rate moves up and down in response to changes in the demand for and supply of the currency. Australia has a floating exchange rate regime in which the currency has been allowed to move over a wide range, an arrangement which has proved beneficial to the economy because of its capacity to cushion the impact on the economy of external shocks.

That said, the Bank intervenes in the market occasionally to moderate movements that seem excessive relative to changes in economic or financial conditions. In extreme cases, such instances of "overshooting", which are exhibited by most floating exchange rates, can become self-sustaining and have adverse impacts on business and consumer sentiment and on inflationary expectations.

Australian dollar and RBA foreign exchange operations



The circumstances that give rise to intervention tend to occur infrequently, but during 1998 the Bank intervened on several occasions in support of the Australian dollar. This intervention began after the exchange rate had fallen against the US dollar for about a year, and by more than 15 per cent in total. As noted in last year's Annual Report, the scale of the Bank's interventions in early 1998 had been small but, in June, when speculative selling of the Australian dollar on a large scale commenced, the Bank responded with intervention in significant amounts, buying about $A2.6 billion in the spot market.

Although the Australian dollar recovered from that episode by mid July, it again came under very heavy speculative selling in late August following the Russian crisis and the resulting turmoil in markets. With "herd" behaviour prevalent, and the exchange rate against the US dollar having fallen by about 25 per cent to record lows, the Bank decided to intervene again in the market to support the currency. Instead of relying simply on outright purchases of the currency, as it had done in the past, the Bank also purchased call options on the Australian dollar – i.e. the right to buy Australian dollars at a predetermined price. This permitted the Bank, for a limited outlay, to stimulate significant market demand for the currency, triggered initially by the dealers who had sold the options, as they sought to hedge against the possibility that the options would be exercised. In the event, the overshooting of the exchange rate was quickly reversed, and the Bank resold the options (which were by then in profit) once it judged the danger period had passed.

Such techniques increase the flexibility with which the Bank can intervene in the foreign exchange market. The purchase of call options involves very low risk to the Bank: it has no obligation to exercise the option, but if it does so the overall effect on its assets would be the same as if it had purchased the currency in the spot market (though the purchase prices may be different). Overall, intervention in 1998/99 amounted to $665 million, all of it occurring in late August/early September 1998.

Neil Mackrell (left rear), Chief Representative, New York and staff of the New York Representative Office receive Assistant Governor (Financial Markets), Ric Battellino (right rear).

Other Operations

Transactions for the Commonwealth Government

The Reserve Bank undertakes operations in both government securities and foreign exchange on behalf of the Commonwealth Government.

In the case of the former, the main task during the past year was to assist the Commonwealth to repurchase some of its debt from the market. The background to this was that a Budget surplus, coupled with the Government's commitment to maintain an issuance program to underpin certain "benchmark" lines of stock, meant that the Commonwealth had surplus cash over the year. This was used to buy back selected lines of stock both from the market and from the Reserve Bank. Purchases by the Commonwealth from the market totalled $0.9 billion (face value). The Reserve Bank undertook these transactions on the Commonwealth's behalf. In addition, the Commonwealth purchased $3.3 billion of short-dated stock directly from the Reserve Bank, of which $0.8 billion was due to mature in 1998/99 and which the Bank had acquired as a part of its daily liquidity operations.

As a further measure to help the Commonwealth manage its surplus cash, the Bank also introduced a term deposit facility for the Commonwealth. The Commonwealth used this facility on several occasions during the year to invest funds temporarily surplus to its needs. As at 30 June 1999, the Commonwealth had $2 billion on term deposit with the Bank. A market interest rate is paid on the facility.

The Commonwealth Government typically has a large volume of foreign exchange transactions each year, mostly reflecting foreign currency payments associated with purchases of defence equipment and expenses involved in maintaining embassies etc. The Bank undertakes these transactions for the Commonwealth Government and its agencies. They are all carried out at market prices. In 1998/99, the Bank bought $A1.4 billion from the Government and sold $A7.0 billion to it; net sales were $A5.6 billion, a little higher than the average in recent years.

Normally, these transactions with the Government are passed more or less directly through to the market, so that they do not act as a drain on (or a source of augmentation for) foreign reserves. However, at times when the exchange rate is under downward pressure and well below its long-run average, such as in 1998, the Bank usually refrains from passing the transactions through to the market, to avoid exacerbating market pressures. These transactions are initially met from the Bank's holdings of foreign exchange and put through the market at a later time, when the exchange rate is more favourable. In the past year, the Bank met sales to the Government between July and mid April from its own foreign exchange holdings, but later it fed Government transactions into the market.

Stock lending

The Reserve Bank maintains a large portfolio of domestic government securities, and for some years it has also been willing to lend this stock to the market to alleviate temporary shortages in specific lines of stock. Such shortages typically arise as a result of settlement failures or difficulties in accessing stock held by offshore investors. It is quite likely that such liquidity problems will become more prevalent as the amount of CGS on issue continues to decline.

Stock loans are structured using repurchase agreements, the effect being that the securities in demand are exchanged for other securities. As a result, this activity has no impact on the level of cash in the system.

In operating its stock lending facility, the Reserve Bank has always been sensitive to the need to minimise its presence in the market so as not to discourage the development of the private sector stock lending market. To this end, a number of changes were made to the facility towards the end of 1997 – lending charges became market-based but incorporated a penalty element, and allocation limits were imposed to prevent any one counterparty from accessing too much of the Bank's stock.

Stock lending by the RBA

	Number of transactions	Amount lent (face value, $ billion)	Income ($ million)
1994/95	350	12.1	0.6
1995/96	485	16.9	0.7
1996/97	540	11.9	0.7
1997/98	935	16.7	1.1
1998/99	805	14.6	0.9

As in previous years, the lines of stock in greatest demand were those included in the 3 and 10-year futures baskets for the contracts traded on the Sydney Futures Exchange.

Reserves management

Foreign currency investments, which form Australia's international reserves, comprise a substantial part (on average about half) of the Bank's assets. They are held primarily for the purpose of permitting intervention in the foreign exchange market. Hence, the Bank invests them in such a way as to give priority to security and liquidity, because the reserves must be available at short notice to meet intervention needs. Subject to these considerations, the Bank seeks to earn the highest possible return on these assets.

The Bank's objectives and the past patterns of return and risk in the major world markets are reflected in a benchmark portfolio, against which the actual performance in managing the portfolio is assessed. This benchmark, which has been in place since the early 1990s, has three main parts. The first is the allocation of investments among the three countries in which assets are mainly held: the United States, Japan and Germany. The distribution is 40 per cent in US assets, and 30 per cent each in Japan and Germany. Recognising that it is possible to separate the exposure to assets from the exposure to currencies, the currency distribution of the portfolio is managed independently, though the benchmark allocation is the same as that for assets – namely 40 per cent US dollars, and 30 per cent each in yen and euro[4]. The other aspect of the benchmark is the maturity of assets or, more precisely, their duration. The maximum maturity of assets (most of which are government securities) is 10 years, with the duration of the overall portfolio having a benchmark of 30 months.

Composition of the benchmark portfolio

	United States	Japan	Germany
Asset allocation (per cent)	40	30	30
Currency allocation (per cent)	40	30	30
Duration (months)	30	30	30

The investment of the reserves portfolio is undertaken by a team of portfolio managers in International Department, who can make changes to the currency and asset allocations, and the duration of investments, within parameters approved by the Governor.

The market background to investment decisions over the past year was particularly turbulent:

- in the United States, bond yields fell to very low levels in the September and December quarters of 1998, as various market crises raised concerns that the world economy might move into a deflationary phase;
- at about the same time, bond yields fell to extremely low levels in Japan, with 10-year bond yields falling from 1.7 per cent at the start of the year to a low of about 0.7 per cent in September, before ending the year around where they started. Short-term interest rates in Japan, already low at the start of the year, were reduced progressively by the Bank of Japan until they reached an effective level of zero in January 1999, where they have remained since;

4 With the introduction of the euro at the start of 1999, the part of the benchmark portfolio allocated to Germany was re-denominated from German marks to euros. No other changes were made; until the passage of time permits a review of the risk/return performance of euro-based investments, it will not be possible to make informed decisions about the impact of the euro's introduction on the characteristics of the benchmark portfolio.

- the Japanese yen fluctuated between 108 and 148 against the US dollar, apparently driven more by large-scale speculative players than by underlying economic events; and
- the euro, which emerged strongly in January 1999, depreciated quickly during its first six months.

Consistent with the approach in previous years, the Bank throughout the year maintained an exposure to the Japanese market which was less than benchmark. The low level of yields made it difficult to justify holding substantial long-term investments in that country. In the event, with yields showing little net change over the year, returns on this portfolio were broadly in line with benchmark.

Exposure to the US market was also maintained, on average, at less than benchmark, given the possibility that yields would rise and result in capital losses. This “underweight” position was partly offset by a larger-than-benchmark exposure to the German market. With the economic cycle in Europe lagging well behind that in the US, the risk of rises in interest rates (and therefore of capital losses) was seen as lower. This allocation of the portfolio contributed prominently to returns for the year.

Towards the end of the year, with the euro falling to quite low levels against the US dollar, the Bank began to increase the share of the portfolio in euros. But, with the exchange rate of the euro continuing to fall into the end of the year, the average rate at which those purchases were made was higher than the rate at which the position was revalued at the end of the year, leading to an underperformance relative to benchmark.

The overall return on the portfolio, using the Special Drawing Right (SDR) as a numeraire, was 4.9 per cent, a little higher than in the previous three years, but below the benchmark return of 5.1 per cent. The underperformance relative to the benchmark was equivalent to about $26 million. Details are shown in the table.

Actual and benchmark returns

	Rates of return (per cent)		Value of difference ($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

Over the eight years in which the Bank has been managing reserves against the benchmark, returns have exceeded benchmark levels in five years and fallen short in three. In net terms there has been an outperformance of a little over $300 million over the eight years.

In addition to foreign currency assets, the Bank also holds a small part of its assets – approximately 80 tonnes, or about $A1.0 billion – in gold. This asset continued to show poor returns, its value falling by about 12 per cent (measured in SDRs) over the year. Since the Bank's decision to sell two-thirds of its gold in early 1997, the price of gold has fallen by about 21 per cent and the cumulative effect of the sale and the reinvestment of proceeds in other reserve assets has been to increase the Bank's income to date by about $795 million.

Most of the Bank's gold is on loan. This returned about $18 million over the year, compared with $21 million in the previous year. The gold loan market was very active over the past year. Poor sentiment towards gold meant that there was heavy selling by speculators and producers, creating a strong demand for gold loans to fund delivery of those sales. Normally, this would have been expected to put upward pressure on loan rates, but this did not happen. Loan rates for short-term loans averaged about 0.5 per cent over the year, less than in the previous year. Loan rates were held down by the substantial increase in the amount of gold loans on offer, as some large European central banks entered the market as lenders. Gold on loan from central banks is estimated to have broadly doubled over the past five years, to over 4 500 tonnes. This is equivalent to about 1½ years of annual world production.