

# THE EXCHANGE RATE, MONETARY POLICY AND INTERVENTION

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*Talk by the Deputy Governor, I. J. Macfarlane, to the Economic Society of Australia's Conference 'A Decade of Floating the Exchange Rate: Looking Back and Looking Forward', Sydney, 3 December 1993.*

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## Introduction

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Having just completed ten years with a floating exchange rate, it is a good time to look back at what we have learned. In 1983, we were one of the few OECD countries clinging to a managed exchange rate. It seems strange now, with the benefit of hindsight, that we were one of the last to float. Given the advantages that we now perceive a floating exchange rate has to offer a country in Australia's international position, why did we spend so long experimenting with variants of a fixed or managed system<sup>1</sup> before finally taking the decision to float?

The other irony is that when we finally made the break, the rest of the world – or a large part of it – started going the other way. By this I mean that a number of countries that had previously floated began to fix their

exchange rates as part of the Exchange Rate Mechanism (ERM) of the European Monetary System. Others shadowed it as they waited for admission. By the early 1990s, countries with a floating exchange rate had again become the minority in the OECD area.

With departures from the ERM following the two crises in 1992 and 1993, the numbers are now more evenly balanced. It is clear that in the world of international finance, there have been enormous changes in institutional framework and intellectual fashion over the past decade or two. In what follows, I will attempt to explain what we have learned over that time about exchange rate systems, and their relationship with monetary policy and foreign exchange intervention.

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## The Present System

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I think it is true to say that Australia is comfortable with a floating exchange rate. I know of no significant public or private body that has seriously proposed an alternative. From time to time, some individuals have canvassed fixed rate options, but our experience at the Reserve Bank is that we are

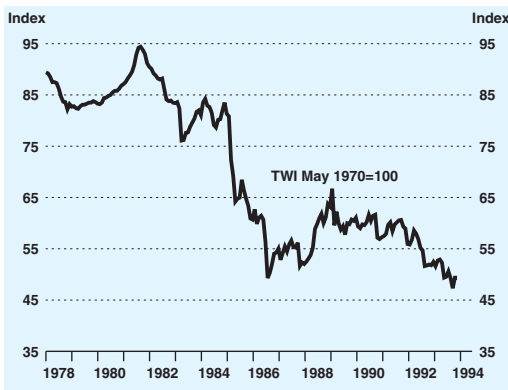
1. For those who have forgotten, the history is as follows: the Australian pound/dollar was fixed to the pound sterling until December 1971; fixed to the US dollar until September 1974; fixed to the trade-weighted basket until November 1976; on a variable peg against the trade-weighted basket until December 1983, then floated on 12 December 1983.

more likely to be criticised for not letting it float enough, particularly when it is tending downwards.

The truth is that the value of the Australian dollar has varied over a wide range since it was floated. It is possible to conceive of the world's currencies being on a spectrum from fixed at one end to floating at the other. None could be classed as irrevocably fixed and none as freely floating (in that they were never the object of domestic policies). But there would still be a large spread from relatively fixed to largely floating. By any reasonable measure, the Australian dollar would have to be classified as very near the floating end of the spectrum, because it has been allowed to vary over a wide range.

Graph 1

**AUSTRALIAN DOLLAR**  
Monthly



In the first year of the float (1984) the currency was relatively steady (Graph 1). From December 1984 to August 1986, however, the TWI fell by 38 per cent (on an average-of-month basis). This appears to have been a downward structural shift related principally to the recognition that the Australian medium-term current account position was worse than formerly thought. Since 1986, the Australian dollar has shown a good deal of variability, but around a basically flat trend. It had risen at one stage by over 20 per cent from its 1986 low point,

and has fallen over the past two years by a similar amount.

Floating exchange rates should exhibit more variability than fixed ones. Table 1 ranks countries by the degree of variability in their effective exchange rates (TWIs),<sup>2</sup> where variability is measured as deviation from trend. Not surprisingly, it shows the Australian dollar as being the most variable, and the three ERM currencies as being the least variable.

**Table 1: Variability of Effective Exchange Rate 1983-1993**

*Average percentage deviation from 25-month moving average trend*

Australian dollar	3.6
New Zealand dollar	3.6
US dollar	3.0
Japanese yen	2.9
Pound sterling	2.9
Canadian dollar	1.4
Deutschemark	1.2
French franc	1.2
Dutch guilder	1.0

Why is it that we are happy with a floating exchange rate, and why is it that it has been allowed to move through such a wide range? The short answer to this is that we recognise that Australia is subject to quite large real shocks and a floating exchange rate is well suited to this situation. It has been well documented that the most important real shock in Australia's case is a change in the terms of trade. Any attempt to hold a relatively fixed exchange rate in the face of these large real shocks would be costly and involve extreme movements in domestic policy.

The Europeans were worried about a different issue, namely *monetary* shocks. Their particular concern was their inability to run sufficiently firm anti-inflationary monetary policy. A fixed exchange rate to the Deutschemark was the path chosen to overcome this monetary deficiency. In the end,

2. Variability attempts to measure the medium-term range through which a currency moves, as opposed to volatility which measures the day-to-day changes (standard deviation of daily movements).

of course, they under-estimated the force of a real shock – German unification – and many of them had to revert to some form of floating.

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## **The Role of Policy**

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In terms of practical day-to-day administration, a floating exchange rate regime is much easier to operate than a fixed one. The central bank does not need to engage in foreign exchange transactions on a daily basis, it does not need to maintain the prop of exchange controls, and the size of its international reserves becomes much less critical. There can be quite long periods when the exchange rate is pushed into the background, if not ignored.

Having said that, however, it does not follow that because we are floating we can afford the luxury of not caring what happens to the exchange rate. Every country of which I am aware is in a similar position – they cannot ignore their exchange rate if they are serious about achieving medium-term objectives for non-inflationary growth. While it is possible to be unconcerned about it most of the time, there are some extreme values which would clearly conflict with more fundamental economic objectives. At some point, all countries will say ‘that’s enough’. The only country I am aware of that made a virtue of its indifference to the level of its exchange rate was the United States. In the mid 1970s, Michael Blumenthal, President Carter’s Treasury Secretary, pursued the policy of ‘benign neglect’ before he was forced to reverse by a plunging dollar. There was still an echo of this in the first Reagan Administration, but not the second. Since the mid 1980s, the United States has fallen into line with the view of other countries that their exchange rates cannot be ignored.

Sometimes, when the exchange rate takes an extreme value, it is because there is something wrong with domestic policy. In this case, the domestic policy deficiency should be corrected. A second cause may be because a fundamental factor has changed, for example, a sustained change in the Terms of Trade. In this case, a large part of the exchange rate change may have to be accepted. There is a third category, however, where the movement in the exchange rate is difficult to explain in terms of objective considerations such as policy imbalances or fundamental factors. There is ample evidence that the foreign exchange market does not always throw up a path for the exchange rate that is tightly defined by such objective factors. The exchange rate is partly a function of objective factors and partly a result of the accidental accumulation of information, impressions and expectations. Sometimes these expectations can be extrapolative and hence overshooting<sup>3</sup> will occur; at other times expectations may reflect an overreaction to a piece of genuine news that is difficult to interpret. In this third category, the diagnosis and policy response is more difficult, but the need for action may be just as strong.

The issue is not whether the authorities should take a totally ‘hands off’ approach to their exchange rates, but what methods should be used to influence it when the need arises, as it inevitably will. The two standard methods are through monetary policy or foreign exchange intervention.<sup>4</sup> The first could be viewed as the ‘big stick’ and the second as the ‘little stick’.

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## **Monetary Policy**

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There is no disputing that monetary policy can influence the level of the exchange rate.

3. Overshooting is used here in its general sense of ‘going too far’, not in the specialised sense used by Dornbusch (1976).

4. Throughout this paper, foreign exchange intervention refers to sterilised intervention because central banks tend to run systems that automatically sterilise their foreign exchange transactions. On the rare occasions that they do not sterilise, they would regard the result as a change in monetary policy.

It is a rather blunt instrument, but it will do the job if applied with sufficient vigour. If a country wishes to confine the variability in its exchange rate to a relatively narrow range, it will need to make frequent use of monetary policy for this purpose. If it is prepared to let the exchange rate vary through a wider range, it may rarely need to turn to monetary policy for external purposes.

In Australia's recent history, there have been occasions when the setting of monetary policy was mainly determined by exchange rate considerations, but these have been rare. The most clear-cut case was in July 1986, although it was also the case in November 1985 and January 1987. In the July 1986 case, the exchange rate had already fallen by 38 per cent in the previous eighteen months, and was threatening to fall further. This would have placed too big a strain on our wage and price setting mechanisms and risked returning us to 1970s-style inflation. A large, but relatively short-lived, tightening of monetary policy was considered a reasonable price to pay in order to prevent this eventuality.

There have been other occasions when the exchange rate exerted a subsidiary influence or was a constraint on the setting of monetary policy, but not its main determinant. For example, from about March to September 1987, one of the several reasons for the large easing in monetary policy was that the exchange rate no longer needed support as it was rising quite strongly. Similarly, there is no doubt that the exchange rate, at times, exerted a constraint on the speed with which monetary policy was eased over the past four years.

The past eighteen months have provided an interesting period to observe how various countries have seen the relationship between monetary policy and their exchange rates. During this period, most of the European currencies, plus the Australian, Canadian and New Zealand dollars, came under downward pressure. The European countries raised interest rates in order to remain within the ERM. Both Canada (in September 1992) and New Zealand (in January 1993) also raised interest rates in order to protect their

currencies. In the latter case, the Central Bank also let the market know the critical level of the TWI below which it would not let the New Zealand dollar fall. During this period, Australia was in the very small group of OECD countries (along with the G3) that did not tighten monetary policy for exchange rate purposes.

We did not rule it out, and clearly there were circumstances under which we would have had to resort to it (see our 1992/93 Annual Report). The problem with using monetary policy for exchange rate purposes, however, is that it often conflicts with the domestic needs of the economy. If an economy is in recession, or in the first tentative stages of recovery, a tightening of monetary policy will make the domestic situation worse. International markets know this, and assume that any tightening will soon be reversed. Thus a modest increase in interest rates, that is intended to be short-lived, will often fail to provide support to a falling currency. We saw from the Canadian and New Zealand examples that short-term interest rates had to be raised by more than 2 percentage points, and they had to be held up for quite a while (it was six to nine months before they were back to where they had come from). This capacity of international markets to call the bluff of domestic monetary authorities increases the tendency of monetary policy to be a 'blunt instrument'. It also raises the question of whether there is some other way of influencing the exchange rate which might be less blunt.

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## Foreign Exchange Intervention

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When we first floated, the general intellectual climate was very purist. Foreign exchange intervention was frowned upon, the determination of the exchange rate was to be left entirely to the market, and some even suggested that international reserves could be dispensed with. There was frequent use of the terms clean and dirty float, with the clear

message that the former was good and the latter bad.

The Reserve Bank shared some of these purist tendencies, but from the outset we saw at least a limited role for intervention. The word itself was studiously avoided, and replaced with the term ‘testing and smoothing’, which implied that our market transactions would be very light. This was the initial intention, although as time went on our intervention became heavier. This was not just true of Australia but of the world generally. Countries have tended to make more use of intervention, including co-ordinated intervention,<sup>5</sup> from the mid 1980s than they did in the previous ten years. At the same time, academic thinking on how asset prices are determined in free markets underwent a transformation away from its earlier purist position to one in which there was a role for intervention.

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## Reasons for Intervention

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We have said on a number of occasions that we do not use intervention to set out to achieve a particular exchange rate, or to defend a particular level. That statement is still true; we would regard it as unwise to nominate an exchange rate in advance (publicly or privately) and expect to be able to achieve it. The main reason is that we do not know in advance what the fundamentals, such as world growth or commodity prices, are going to do. What then is the role of foreign exchange intervention?

The answer is that it is a modest one – it is to make some contribution towards reducing the extent and duration of overshooting and to bring a little more short-term stability when markets threaten to overreact to news. In terms of the three situations described earlier where the exchange rate is causing a problem, it is only the third that is amenable to

intervention. We would not wish to use intervention to correct a monetary policy imbalance, or to resist changing fundamentals. We would only use it on a substantial scale where we thought:

- a medium-term movement based on fundamentals was going too far, ie. overshooting; or
- there was a short-term overreaction to a piece of news that is intrinsically difficult to interpret.

By their nature, overshootings are not going to occur very often. There are only two periods that clearly fit that description; it is possible to say this because these cases have become clearer with hindsight. The first of these was in mid 1986 when we felt the currency had fallen too far, and the second encompassed a number of occasions between 1989 and 1991 when it either rose too far or rose in the face of fundamentals which were pointing to a fall. There are also episodes during the recent (1992 and 1993) fall in the exchange rate where the Bank intervened because overshooting threatened. The part played by intervention in these episodes is explained in more detail in the Appendix.

It is normal for prices in an asset market to change upon the receipt of new information, and it would be unwise to use intervention routinely to resist such changes. There are, however, occasions when the market appears to overreact as it struggles to interpret a major piece of information. If the Central Bank has good reasons to think that an overreaction is occurring which might jeopardise medium-term objectives, there is a legitimate case for intervention. The two best examples of this are the sharp falls in the Australian dollar associated with an EMS realignment in January 1987, and with the fall in world stock markets in October 1987. A more recent example was the fall in the exchange rate in September 1993 associated with the Budget’s difficulties in the Senate. These are also detailed in the Appendix.

Intervention on a reasonably large scale would probably come under one of the two

5. The best-known examples of which were the Plaza Agreement of 1985 and the Louvre Accord of 1987.



headings given above. There are also a number of occasions, however, when relatively small-scale intervention is warranted. The most obvious is where international reserves have to be replenished from low levels. The Bank was a frequent buyer of foreign currency between 1987 and 1990 for this purpose. In addition, we still perform a short-term smoothing role if we think it is appropriate, eg. if a large transaction hits the market when it is vulnerable and there are few, if any, transactors on the other side of the market.

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## The Effectiveness of Intervention

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Proving the effectiveness or otherwise of intervention is fraught with difficulties. For our part, we believe we can point to a number of occasions when it has been effective, and there is no doubt that market participants believe that intervention has an effect. Intervention works through two channels: the first is by affecting the supply and demand of the national currency; the second is through changing people's expectations of future movements in the currency. While the former can make a useful contribution, it is limited and often barely noticeable. The latter, however, can at times be very important, particularly if the method of intervention is relatively blunt, or accompanied by supporting public announcement, and so clearly signals resolve on behalf of the authorities. The most effective pieces of intervention would fit into this category (see Appendix).

There was until recently, however, a strong presumption among academic economists that intervention was ineffective. There were two main planks to this argument. First, there was the view that the market would get it right without our help, and so we could only make things worse. Second, there was the view that central banks usually lose money through intervention and therefore their efforts must

have been destabilising. I will deal with each of these in turn.

The first view derives from the Efficient Markets Hypothesis (EMH). This holds that the price in an asset market is always at a uniquely-determined equilibrium defined by the available information on fundamentals, and agents' common view of what fundamentals imply. This proposition has had to undergo considerable revision in recent years, partly because of events, but partly because there has also been a conceptual reassessment. Two key events were the 20 per cent rise in the US dollar in the eight months to February 1985, even though all the important fundamentals were moving in the opposite direction, and the 20 per cent fall in the US stock market on 19 October 1987, which occurred in the absence of any significant new information. These, and some other events, shook the faith of the EMH adherents, and encouraged them to look at more complicated models of market behaviour.

Since the mid 1980s, there has been a growing literature dealing with bubbles, overshootings, positive feedback, extrapolative expectations and destabilising speculation.<sup>6</sup> A lot of this applies to stock markets, but most of it is more general and applies to all financial markets where prices are freely determined. It attempts to analyse more rigorously some of the aberrant movements in prices that are popularly described as due to 'psychological factors'. The existence of this sort of market behaviour increases the scope for intervention as a means of influencing expectations.

Even though I have emphasised some of the unconventional, and at times irritating, behaviour of asset markets, I do not wish to imply that it is a major problem, or a reason to turn away from a floating system. Nor do I wish to imply that our markets are disorderly compared with those in other countries. That is certainly not the case. I merely wish to be realistic, and to see the system 'warts and all' rather than to look at an idealised model.

6. See Shiller (1989), Blanchard and Fischer (1989), De Long, Shleifer, Summers and Waldmann (1990a, 1990b) and Gennotte and Leland (1990).

As a result of this change of view, there has been a gradual reassessment of foreign exchange intervention which has run in parallel with the increased use of intervention by major countries. Earlier on, an influential work was the Jurgensen Report,<sup>7</sup> which is widely cited as being opposed to intervention, but if re-read is remarkably open-minded. More recently, there have been a number of empirical studies which have found evidence in favour of the effectiveness of intervention.<sup>8</sup>

I am pleased to see that academics are doing empirical research in this area, and am encouraged to see that most of them are finding results that accord with my predilections. Even so, I am somewhat surprised that statistically significant results have been achieved. One of the difficulties for researchers is that empirical economics has produced no satisfactory explanation or forecast of weekly or even monthly movements in exchange rates. If we cannot statistically explain what the normal movement in the exchange rate should be, how are we to judge whether it has moved differently because of intervention? My other reservation is that the quantity of intervention is often unrelated to its effectiveness. I can remember occasions when large volumes seemed to achieve little, but smaller, carefully-targeted volumes were effective.<sup>9</sup>

The other argument against intervention – the profits argument – stems from Friedman’s classic article of 1953. He pointed out that in order to have a stabilising influence on the exchange rate, a market participant should buy low and sell high. If this was the case, they would also make a trading profit. Thus, profits equate with a stabilising influence and losses with a destabilising influence.

It was widely believed the central banks made losses through intervention and traders made profits. This may have been true under fixed, but occasionally adjusted, exchange rate systems. We know that the unsuccessful defence of a fixed exchange rate is extremely expensive, and we were reminded again by the losses suffered by European central banks in the recent ERM crises. However, it is altogether a different matter in a floating rate system, where there is no need to defend the indefensible.<sup>10</sup> The exchange rate can do most of the adjustment, and intervention only be brought into play once it has moved into a zone of uncertainty – that is where it is a two-way bet. In fact, the defence of a fixed rate hardly merits the term intervention at all – it really amounts to handing over all your reserves at a fixed price to people who are taking advantage of a one-way bet.

The general experience of floating rate countries is that intervention is moderately profitable.<sup>11</sup> That is also our experience as explained by the Governor in his speech last year.<sup>12</sup> Of course, profitability does not prove that intervention was effective, but it is still a much stronger position from which to argue.

Not everyone doubts the efficacy of intervention. There is another school of thought that criticises the Bank for having been too effective in its intervention, and thereby holding the exchange rate above its natural level. My first response to that is that you should judge countries by the combined effect of their monetary policy and intervention, not by the latter alone. If you do this, as is done in the early part of this paper, it is clear that Australia has permitted more adjustment in its exchange rate than most other countries. Secondly, even if we confine ourselves to intervention, our record shows

7. Jurgensen (1983).

8. Catte, Galli and Rebecchini (1992), Dominguez and Frankel (1993a, 1993b) and Edison (1993).

9. For example, the effectiveness of the late-August 1986 intervention was due to the fact that we dealt in larger units than were normal market practice (but not a large volume overall). In a later episode when we were trying to lower the exchange rate, the effectiveness was due to the fact that, having produced an initial fall, we continued to sell into a falling market. Again, the overall volume was not large, but expectations were certainly affected.

10. See IMF (1993).

11. Leahy (1989) and Murray et. al. (1990).

12. Fraser (1992).

that we have been approximately as active as sellers of the Australian dollar as we have as buyers (although we never got any complaints during 1987 to 1991 when we were sellers). We may have trimmed off the top and the bottom of the exchange rate range, but we have not used intervention to lift it onto a higher average level.

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## Conclusion

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Not every aspect of the economic and financial deregulation of the 1980s has met with universal acclaim. There were two changes, however, which I believe have come reasonably close. The first was the move to fully funding the budget deficit by tendering

debt to the public. The second was the floating of the exchange rate.

In our view, a floating exchange rate is the best system on offer for a country like Australia, and it seems to have found widespread acceptance and support. There is no textbook model of how to run such a system, but we believe that in Australia policy has been conducted in the spirit of a floating rate system. This does not mean that we can be indifferent to where the exchange rate ends up and sometimes monetary policy or foreign exchange intervention must be brought into play. We have been less inclined than most other countries to direct monetary policy at the exchange rate, but have used intervention quite often. We see no need to be defensive about the use of intervention, as it has probably had a stabilising influence and been moderately profitable.

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## APPENDIX

This appendix provides more details on the episodes referred to in the body of the paper. The episodes are divided into two categories – those where intervention was directed against an apparent overshooting and those where it was directed against what we regarded as an overreaction to a piece of information. It is much easier to evaluate episodes which have been completed than those that are still unfolding. As a result, most of the examples are drawn from the 1985-91 period.

(a) By *July and August 1986*, the Australian dollar had depreciated by nearly 40 per cent and was heading lower. Monetary policy was tightened at end July, but the currency remained at its lows through most of August. The scale of intervention was increased markedly at this time,<sup>13</sup> as there was evidence that the market was pushing the dollar lower than warranted by fundamentals. Market participants had become extremely pessimistic, fundamentals were being ignored, extrapolative forecasts by chartists were

holding sway, and objectively good information (such as the 1986 Budget) was being ignored or interpreted in a gloomy light. In these circumstances, it was felt that some vigorous intervention would signal the authorities' resolve and their view that at US60 cents the Australian dollar had overshot. In the event, the dollar rallied in late August after some intervention during which the Bank put bids into the brokers in unusually large units.

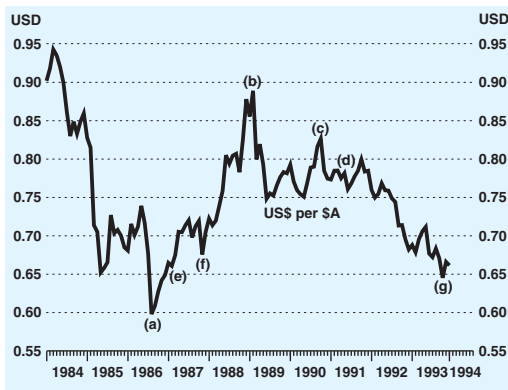
(b) The clearest case of an overshoot in the other direction was in *February 1989*. Having recovered from US60 cents in mid 1986, the Australian dollar was nearly US90 cents two and a half years later. While some recovery was clearly in order, the turnaround seemed excessive, even allowing for rising commodity prices and interest rates. It raised the Australian dollar back to 1984 levels and, in that sense, seemed to be inconsistent with fundamentals. Some heavy Reserve Bank sales of Australian dollars in mid month pushed the

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13. During the eighteen-month decline of the Australian dollar, RBA purchases of the Australian dollar averaged about \$100 million per month. In July and August 1986 they averaged \$850 million per month; this was the first period of heavy intervention since the float.



Graph 2

AUSTRALIAN DOLLAR  
Monthly

dollar down, and this was assisted by a statement from the Treasurer. By end month, the Australian dollar was down to US80 cents, and at times the fall was so sharp that the Bank was also a buyer of Australian dollars.

Later, in (c) *October 1990* and (d) *May 1991*, there were similar episodes. Despite reductions in domestic interest rates, falling commodity prices and a weakening domestic economy, the Australian dollar went through a couple of phases where it rose strongly. On these occasions, intervention was co-ordinated with easings of monetary policy and supported by comments from the Governor. On both occasions the currency fell, but the fall was not as pronounced as in February 1989.

The two occasions that best illustrate overreactions to information were in 1987 – the first at the time of the EMS realignment and the second at the time of the worldwide fall in stock markets. A third example is more recent.

(e) On *12 January 1987* the ERM was realigned, with the Deutschemerk and Dutch guilder rising against the French franc. For a variety of reasons, this realignment allowed the ERM currencies to appreciate against the

weakening US dollar. There was no prima facie case why the Australian dollar should have been affected but it was. It fell from a TWI of 54.6 to 51.7 in two days. This was at a time when the Australian dollar had barely risen from its mid-1986 low point in terms of the TWI and another large fall could have returned us to those unfortunate circumstances. Cash rates were raised by about 2 percentage points, and heavy intervention was used to support the currency. Purchases of \$1.9 billion were made in three days, by far the heaviest intervention to that date. The currency quickly recovered, but since both monetary policy and intervention were used, it is not clear what credit should be given to the latter for the dollar's recovery.

(f) In *October 1987*, after world stock markets fell, the Australian dollar was subject to heavy selling by people anticipating weaker economic activity and falling commodity prices. It fell from a TWI of 55.8 on 19 October to 50.7 on 29 October (9 per cent). The fall was concentrated over the three days from 27 to 29 October. No change was made to monetary policy (the cash rate), but bill and bond rates rose. The Bank made heavy purchases of Australian dollars (a new high of \$A2.6 billion in three days). By December, the Australian dollar had risen back to its pre-crash level. On this occasion, it seems likely that the intervention did reduce the size and the duration of the fall in the exchange rate.

(g) In *September 1993*, it became apparent that the Budget was going to have difficulty passing through the Senate unless modified. When this news was first received, there was speculation that it might alter the direction of fiscal policy or force an election. The Australian dollar fell sharply at the beginning of the month, then again in the middle (reaching a low of 47.1 on the TWI). On both occasions, the Bank made heavy purchases of Australian dollars.

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