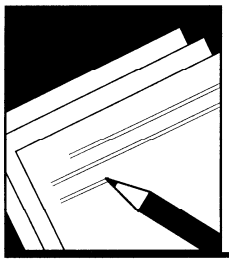
PDP/07/2



IMF Policy Discussion Paper

Conquering Fear of Floating—Australia's Successful Adaptation to a Flexible Exchange Rate

Craig Beaumont and Li Cui

INTERNATIONAL MONETARY FUND

 PDP/07/2

IMF Policy Discussion Paper

Asia and Pacific Department

Conquering Fear of Floating—Australia's Successful Adaptation to a Flexible Exchange Rate

Prepared by Craig Beaumont and Li Cui[1]

July 2007

Abstract

Australia has enjoyed fifteen years of uninterrupted economic expansion since 1992 despite shocks such as the Asian crisis in 1997-98 and the information technology bust in 2000-01. This resilient economic performance owes much to wide-ranging structural reforms and the improved frameworks for monetary and fiscal policies that were implemented after the Australian dollar was floated in 1983. In addition to gaining the expected macroeconomic benefits from exchange rate flexibility, the float appeared to help motivate and facilitate the subsequent reforms. Australia's experience with adapting to a floating currency may therefore be of broader interest.

JEL Classification Numbers: E32, E42, E52, E62, F31

Keywords: Floating, Flexible, Exchange Rate, Monetary, Fiscal, Structural Reform, Macroeconomic Stability

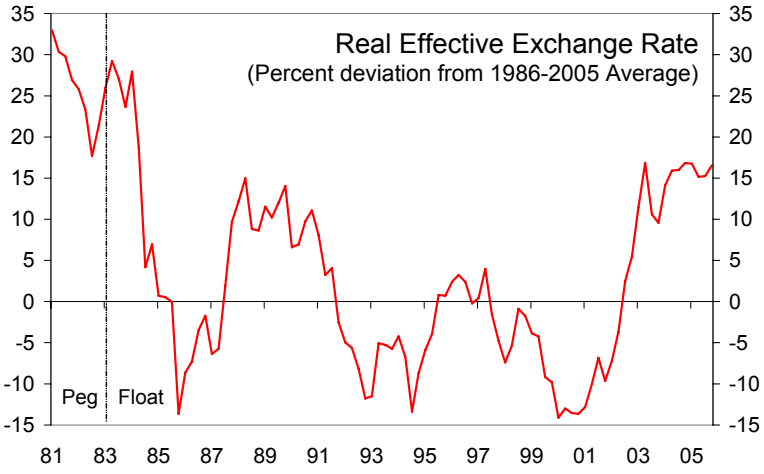
Author's E-Mail Address: cbeaumont@imf.org and lcui@imf.org

[1] Without implication, we thank David Coe, Guy Debelle, and attendees at a seminar in the Australian Treasury for helpful comments on an earlier draft.

"Fear of floating—or more generally, fear of large currency swings—is pervasive..."
(Calvo and Reinhart, 2002)

A. Introduction

1. **Australia floated its exchange rate in December 1983.** The Australian dollar (A$) has fluctuated widely, with peak-to-trough swings as large as 30 percent since 1985. Nonetheless, the float is generally perceived in Australia as one of the most significant economic decisions in that country's history. As predicted by textbooks, macroeconomic stability has been enhanced by the Reserve Bank of Australia's (RBA) ability to pursue an independent monetary policy and also by exchange rate adjustments which have tended to cushion the impact of major external shocks. But the float is also significant because it marked the beginning of a broader reform process that has underpinned a turnaround in Australia's economic performance. Australia's experience with adapting to a flexible exchange rate may therefore be of broader interest. While the float itself went smoothly, there were challenges in the lead up to the float and in the early years of floating, as outlined in the next three sections of the paper. The process of adaptation to the float, including improvements in macroeconomic policy frameworks and the implementation of wide-ranging structural reforms, is highlighted in the fifth section of the paper. The paper concludes by discussing the combined effects of these developments on Australia's macroeconomic performance in the past fifteen years.

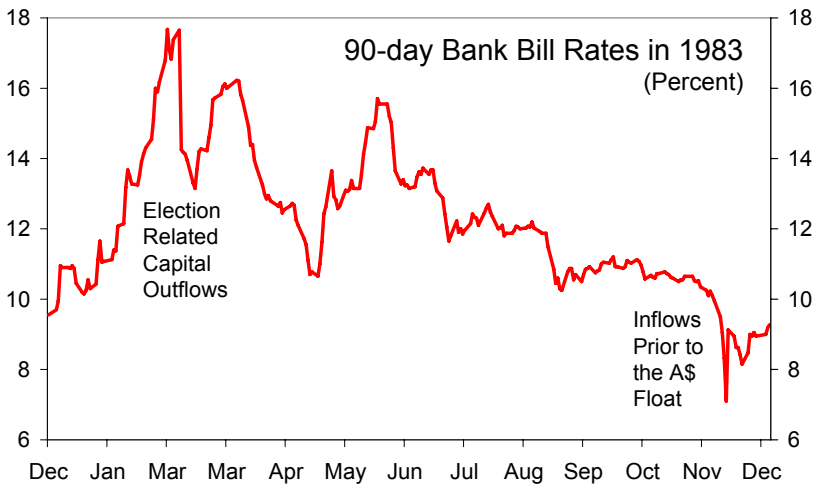


Source: Reserve Bank of Australia

B. Prelude to Floating

2. **In the postwar period Australia had a variety of exchange rate regimes, effectively trying everything except allowing the currency to float.** The A$ was fixed to the U.K. pound sterling up to November 1971; to the U.S. dollar up to September 1974; and then to the RBA's trade-weighted exchange rate index. From November 1976 to December 1983 a "crawling peg" to the trade-weighted index was used to set the A$ exchange rate. Frequent adjustments in capital controls were needed to preserve some scope for the RBA to manage domestic monetary conditions (Debelle and Plumb, 2006).

3. **Volatile capital flows increasingly compromised the ability of monetary policy to promote macroeconomic stability.** Extensive regulation of the banking system led to an expanding role for nonbank financial institutions such as merchant banks. Together with the growing skill of exporters and importers at managing the timing of international payments, the ability of merchant banks to access funds from their overseas parents helped make capital flows increasingly volatile and sensitive to interest rates and exchange rate expectations. Particularly heavy capital outflows during the March 1983 general elections reduced foreign reserves and pushed interest rates sharply upward. The newly elected government soon devalued the A$ by 10 percent.



Source: Reserve Bank of Australia

4. **Floating the exchange rate—which had been debated for some time—gained support from a major public inquiry into the Australian financial system.** The 1981 Campbell Committee of Inquiry advocated financial sector liberalization—such as by removing ceilings on bank deposit rates and eliminating restrictions on entry of foreign banks—in order to allocate savings more efficiently and to foster financial development. A progressive deregulation the financial system followed during the mid-1980s. The Campbell report also supported floating the A$ and abolishing exchange controls so as to allow the RBA to conduct an independent monetary policy.

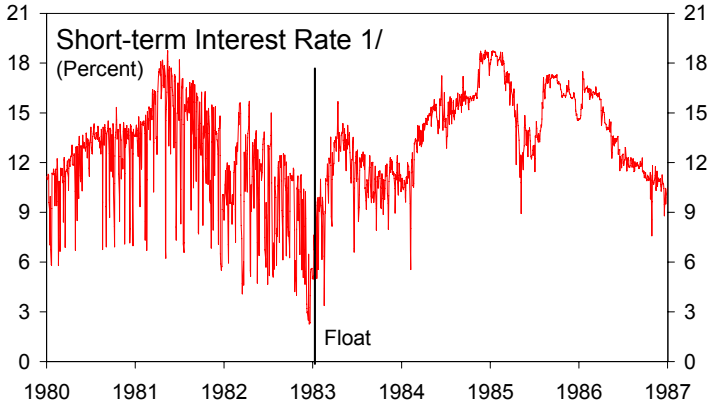
C. Taking an Upward Exit

5. **Rather than exiting the peg during a currency crisis, the authorities chose to float the exchange rate when it faced upward pressure in late 1983.** Capital inflows pushed interest rates to very low levels by early December 1983, with financial markets generally expecting a revaluation of the peg. Instead, after suspending trading on Friday the 9th of December 1983, the government announced that it would float the exchange rate on Monday the 12th, allowing financial markets and the RBA to prepare over the weekend.[2] The A$ appreciated from 90¼ U.S. cents to 91 cents on the day of the float, although it displayed significant intraday volatility, reaching as high as 92.6 cents.

6. **Interest rate volatility declined significantly after the float.** With the RBA no longer required to inject or withdraw liquidity to clear the foreign exchange market, short-term domestic interest rates came under RBA control. The earlier establishment of

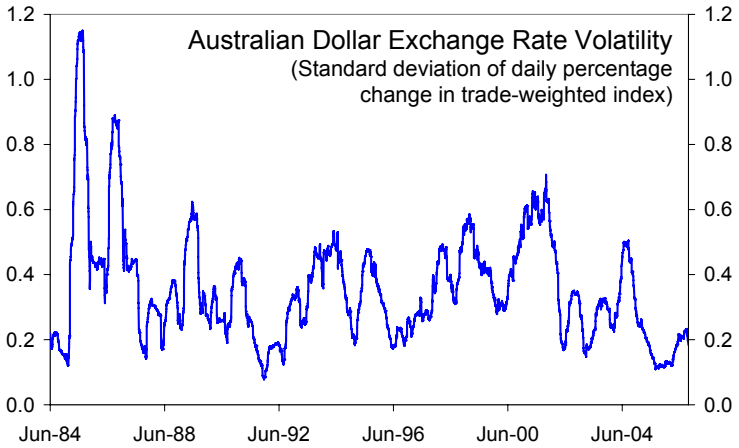
[2] Restrictions on trading in the deliverable forward market were eased in October 1983, which helped to deepen trading in advance of the float.

primary markets for Treasury securities, with the introduction of tender systems for issuing Treasury notes in 1980 and Treasury bonds in 1982, also contributed to improved domestic monetary control by eliminating the RBA's responsibility for covering shortfalls in government debt issuance.



Source: Reserve Bank of Australia
1/ Weighted average of overnight and call funds rate.

7. **The Australian dollar quickly became one of the most liquid currencies in the world.** The foundations for a well functioning foreign exchange market were provided by the development of domestic money markets that was made possible by the earlier establishment of the Treasury securities market, together with the liberalization of foreign portfolio investment in 1980. A non-deliverable forward market active since the late 1970s also aided the switch to a float (Debelle, Gyntelberg and Plumb, 2006). While some exchange rate volatility was experienced in the early years of the float, the market soon matured (Fraser, 1992). Indeed, by 1989 the A$ was the sixth most traded currency in the world, well ahead of Australia's ranking as the twelfth largest economy at the time (Battelino, 1999).

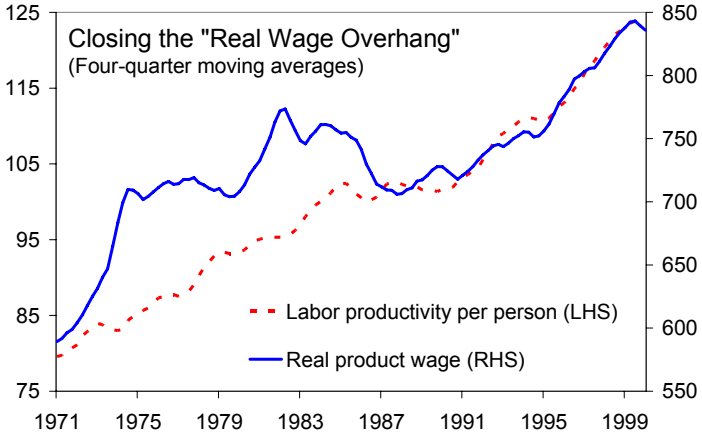


Source: Reserve Bank of Australia and staff calculations.

D. Overcoming Initial Challenges

8. **Australia faced a number of economic challenges in the early years of the float.** The main challenges included: achieving a lasting improvement in competitiveness in order to support sustainable growth; coping with the macroeconomic side effects of financial liberalization; and recovering from a sharp recession in the early 1990s.

9. **Inadequate competitiveness impaired macroeconomic performance in the decade prior to the float.** Real wages had risen substantially in response to a terms of trade boom in the early 1970s. However, owing to labor market rigidities, real wages remained high relative to labor productivity even after the terms of trade fell in the mid-1970s.[3] The resulting "real wage overhang" contributed to Australia's track record of uneven economic growth from the mid-1970s, with unemployment rising at the same time as inflation became entrenched at low double digit rates. Recognizing these problems, the authorities adopted an incomes policy in the form of an "Accord" with the unions in 1983, which exchanged agreement on wage moderation for changes in health, education, and tax policies.[4]

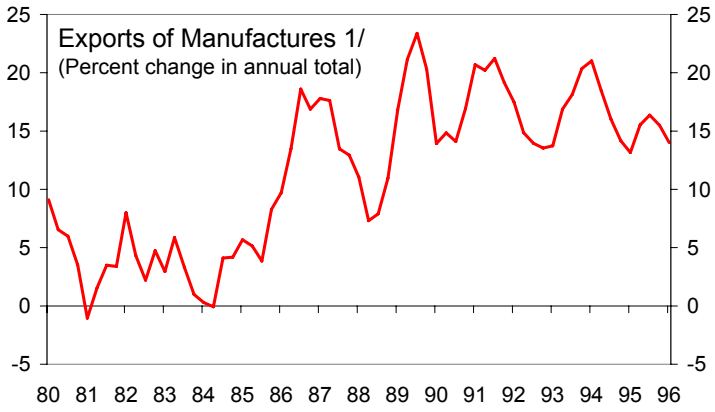


Source: Australian Treasury, Unit Labor Costs, March 2005.

[3] Arbitration between unions and employers by a specialized judicial body, the Australian Industrial Relations Commission, played an important role in setting wages. This "award system" tended to reduce flexibility in real wages and also in relative wages across industries.

[4] Felman, Brooks, and Callen (1998) discuss the operation of the Accord process, which dominated the industrial relations climate from 1983 to 1996.

10. **Aided by the Accord, the floating exchange rate facilitated a lasting improvement in competitiveness.** After remaining steady during the first year of the float, the exchange rate began to decline in 1985, falling by almost 40 percent on a trade-weighted basis from the end of 1984 until August 1986. This drop was triggered by a 15 percent fall in the terms of trade, but was intensified by Treasurer Paul Keating's public comment in May 1986 that Australia risked becoming a "banana republic," which crystallized public concerns about the external current account deficit and rising external debt. Nonetheless, most of this exchange rate adjustment proved to be structural, with the average real exchange rate in the next two decades being almost 30 percent below its 1984 average. Strong export growth soon followed, especially in manufacturing. The Accord helped make these competitiveness gains lasting by containing the development of a renewed wage-price spiral.

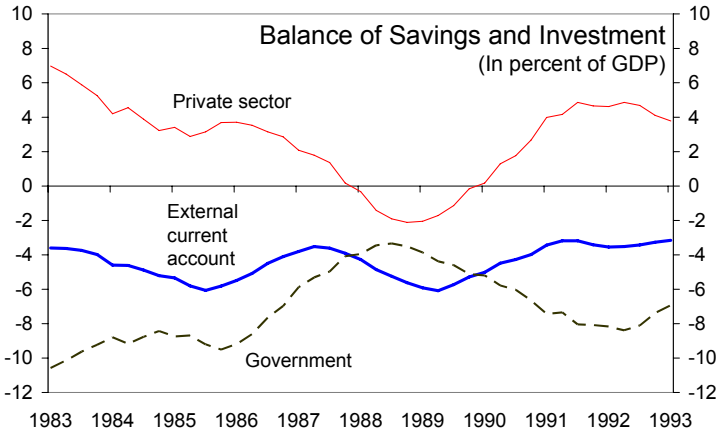


Source: Australian Bureau of Statistics
1/ Excludes transport equpment.

11. **However, the sharp fall in the A$ highlighted some weaknesses in private sector risk management and it also delayed progress with lowering inflation.** Unhedged borrowing in low-yielding foreign currencies such as the Swiss franc became popular in the first half of the 1980s, especially among farmers and small businesses, with domestic financial institutions being the main lenders. Some of these borrowers went out of business owing to large losses when the exchange rate fell in 1985–86. The associated loan defaults and court actions against lenders soon deterred further foreign currency loans. Inflation had

declined to 3 percent in 1984, but it went back up to 8–10 percent following the large depreciation of the A$. In this early experience of a large depreciation the RBA tightened monetary policy substantially to limit the risk of second-round inflation effects.[5]

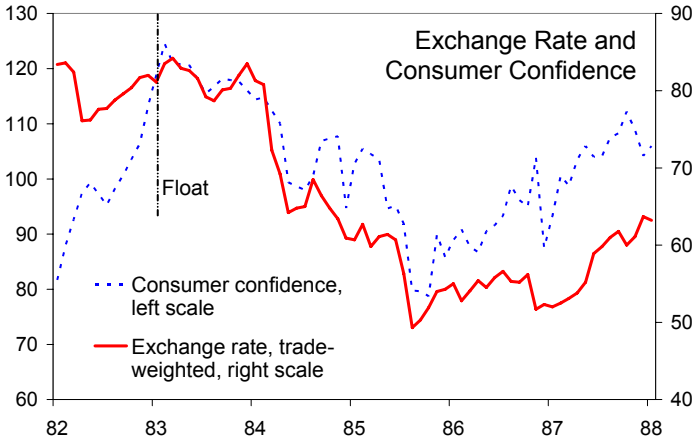
12. **Financial deregulation prompted a vigorous expansion of the financial sector, with significant macroeconomic side effects.** From 1983 to 1988, the amount of capital in the financial sector more than quadrupled as the number of banking groups rose from 15 to 34 and the number of merchant banks from 48 to 111. However, as in a number of other industrial countries that undertook financial liberalization, increased financial competition and innovation was associated with a credit boom. Indeed, credit rose by almost 150 percent during these years, which was reflected in a notable rise in corporate gearing during a wave of leveraged corporate takeovers in 1984–87 and in a property boom after 1987. The associated boom in private investment, especially in commercial building, was coupled with declining household savings. Despite a large rise in government saving, the external current account deficit rose to an average of 5 percent of GDP in 1985-89, compared with 3¼ percent in the previous decade. Net foreign debt doubled in only two years to 31 percent of GDP by mid-1986, with valuation losses due to the sharp A$ depreciation adding to the effects of higher current account deficits.



Source: Australian Bureau of Statistics

[5] The 90 day bank bill rate averaged 16¼ percent in 1985-86, compared with 12 percent in 1984.

13. **Public concern about the deteriorating external position was evident.** Exchange rate developments appear to have had a significant impact on indicators of consumer confidence during the first five years of the float. Public economic debate also tended to focus on the current account deficit and external debt.

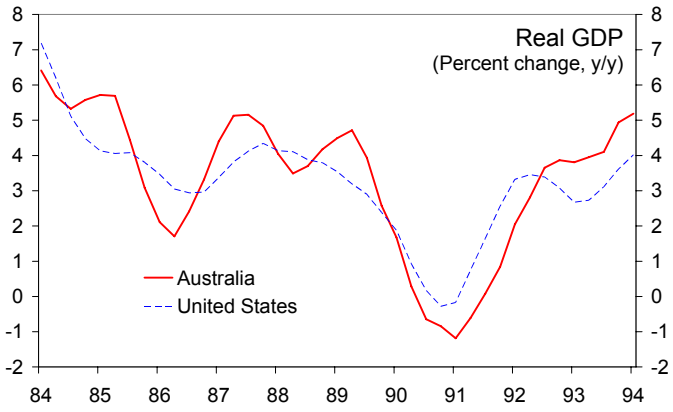


Sources: Reserve Bank of Australia and Melbourne Institute

14. **In this environment, the floating exchange rate played a key role in disciplining economic policy and galvanizing the implementation of reforms.** Political support for reforms could be mobilized on the grounds that they would enhance competitiveness or increase savings, thereby strengthening the external position and reducing downward pressures on the exchange rate.[6] This pattern is evident in the substantial fiscal consolidation after the float, which over five years increased the underlying cash balance by 5¼ percentage points of GDP to a surplus of 1¾ percent of GDP in the 1988/89 fiscal year. It is also seen in the initial steps to increase labor market flexibility in 1987-88, with the allowance of higher wage increases in those firms where steps to raise productivity had been agreed; in the broader liberalization of foreign investment inflows after the sharp fall in the exchange rate in mid-1986; and in the adoption in 1993 of mandatory contributions by employers to employees' private pension funds.

[6] Arguably, a fixed exchange rate system can also motivate reforms to avert a foreign exchange crisis. In practice, it appears that at least in Australia's case, the more timely feedback from foreign exchange markets in response to policy developments was more influential.

15. **Australia faced a sharp recession in the early 1990s.** On top of the tightening in fiscal policy, the RBA raised interest rates in the late 1980s to lean against high credit growth and stubborn inflation, with the 90 day bank bill rate averaging almost 18 percent in 1989. In these contractionary conditions the Australian economy went into a sharp recession when growth in the United States slowed in 1990.



Sources: Australian Bureau of Statistics and CEIC Data

16. **The recession was exacerbated by the significant deterioration in corporate and financial sector health.** Together with declining prices for equities and commercial property, the recession brought the underlying poor quality of credit to light. The share of non-performing loans rose to about 6 percent on average. Although Australia avoided a full blown banking crisis, the deterioration in financial sector soundness was significant (Gizycki and Lowe, 2000).[7] Economic recovery was delayed as financial institutions and corporations rebuilt their balance sheets, slowing credit expansion and investment.

17. **Exchange rate flexibility supported the recovery, although, in this case, exchange rate adjustment came with a lag.** Utilizing its monetary independence fully, the RBA cut interest rates by 6 percentage points in 1990 and by a further 7¼ percentage points by mid-1993. Moreover, the A$ depreciated substantially, falling by over 20 percent in real

[7] Two of the largest banks faced substantial losses, some banks owned by the Australian States were recapitalized or taken over and a number of nonbank financial institutions were closed.

effective terms in the two years after the third quarter of 1991. However, this decline in the A$ came well after interest rate cuts began in early 1990 and also after the terms of trade began falling in late 1990. During this 1990-91 period of apparent delay in A$ adjustment, the exchange rate appeared to be "overshooting" in the sense of deviating from its usual fundamentals.[8] Indeed, the RBA intervened in both October 1990 and May 1991 to resist an appreciation of the A$, which it considered overly strong relative to fundamentals.

E. Adapting to Exchange Rate Flexibility

18. **Economic reforms since the float have been wide-ranging and private sector behavior and financial markets have also adapted.** Frameworks for monetary and fiscal policies were adopted that use transparency to enhance predictability and credibility while retaining short run flexibility. Structural reforms have increased the flexibility and efficiency of goods and labor markets. A modernization of financial supervision has reinforced incentives for sound risk management in the private sector, which has also been facilitated by the development of related financial markets. These reforms had a range of motivations, but they can be seen, in part, as a process of adaptation to the floating exchange rate.

Building Medium-term Macroeconomic Policy Frameworks

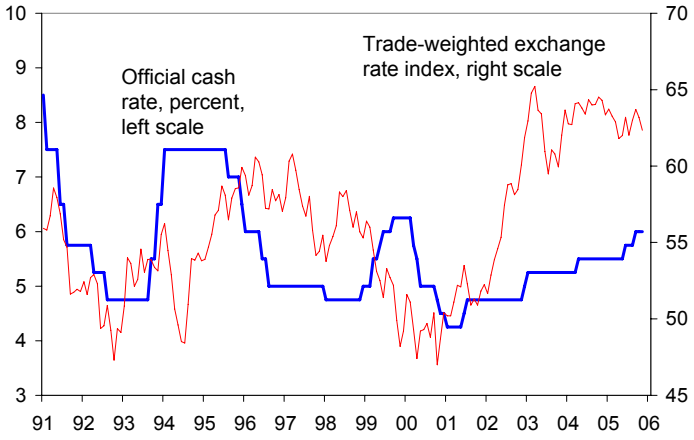
19. **Monetary policy: moving to an inflation targeting (IT) framework.** The monetary targets in place since 1976 were abandoned in February 1985 in the wake of a breakdown in monetary relationships occasioned by financial deregulation (Grenville, 1997). A "checklist"

[8] One interpretation of this apparent slow adjustment is that "fundamentalist" traders only enter the market when there are substantial deviations from fundamentals from which they can profit through speculation, while in normal times the market is dominated by "chartists," see Djoudad, Murray, Chan and Daw (2000).

of indicators helped guide monetary policy in 1985–86, and indicators of future inflation, such as demand and inflation expectations, gained increasing prominence during the asset price boom of 1987-89. The RBA's 1989 Annual Report identified the reduction of inflation—then running at 7 to 8 percent—as the central priority for monetary policy. The unexpectedly severe 1990-91 recession brought inflation down to less than 3 percent on an underlying basis by mid-1992, and the RBA announced in 1993 that it would be targeting inflation rates of 2 to 3 percent.

20. **A firm focus on the medium term has been a distinctive feature of Australia's IT framework from its inception.** As in other countries with an IT framework, the RBA maintains a high degree of transparency to enhance the predictability of monetary policy; it releases a detailed *Statement on Monetary Policy* on a quarterly basis, announcements of changes in the target cash rate provide a commentary on related economic developments, and there are frequent speeches by senior RBA staff. Central bank independence and accountability have been strengthened to underpin the credibility of the inflation target, with the operational independence of the RBA formally recognized by the Treasurer in the 1996 *Statement on the Conduct of Monetary Policy*, and with the RBA Governor making semi-annual appearances before a parliamentary committee. While the level of the inflation target is similar to other countries, the timeframe for its achievement—"on average over the economic cycle"—was distinctive in providing greater scope for the RBA to "look through" shocks that it judged would not have a lasting impact on inflation. It is noteworthy that other countries with IT frameworks have tended to adopt a similar medium-term focus once low inflation has gained credibility.

21. **The influence of exchange rate swings on monetary policy has weakened over time.** Interest rates were adjusted in response to exchange rate changes early in the float; in July 1986 and January 1987 policy was tightened in response to very steep falls in the exchange rate; and the RBA supported intervention against undue strength in the A$ with interest rate cuts in October 1990 and May 1991. In the past fifteen years, however, interest rates appear to have been less sensitive to exchange rate swings. The effect of exchange rate changes on activity and inflation remains a consideration in monetary policy decisions, but the RBA judges that medium-term impacts on inflation have declined as short-run pass-through effects weakened and risks of second-round inflation effects eased as low inflation gained credibility.



Source: Reserve Bank of Australia

22. **The RBA has not, however, pursued a policy of benign neglect of the exchange rate.** The RBA considers intervention to be useful in circumstances where market imperfections result in overshooting and also to calm markets threatening to become disorderly. However, the RBA tends to view the A$ as overshooting only when it has moved a considerable way from a level that can be explained by economic and financial developments, so interventions tend to be infrequent and near the peaks and troughs of the exchange rate cycle. Under this approach the RBA has made a profit of $A 5.2 billion on its intervention, suggesting that these operations have tended to stabilize the exchange rate (Becker and Sinclair, 2004).

23. **Fiscal policy has also adopted a medium-term focus and a high degree of transparency, a move promoted by the floating exchange rate.** The authorities steadily consolidated the fiscal position as the economy recovered from the 1990–91 recession, returning the federal government budget to surplus by 1997/98. To help preserve these gains, the *Charter of Budget Honesty Act 1998* lays out principles of sound fiscal management, including by requiring the government to set out its medium-term fiscal strategy in each budget.[9] Within the broad principles of the *Charter*, in 1998 the government adopted an explicit strategy to maintain budget balance, on average, over the course of the economic cycle. This clear objective, coupled with the medium-term fiscal projections in both the Budget and the Mid-Year Economic and Fiscal Outlook, enhances the predictability of fiscal policy, while still allowing flexibility for the automatic stabilizers to work in the short run. Floating the exchange rate facilitated this shift to a medium-term focus for fiscal policy because monetary policy became a more effective tool for macroeconomic stabilization and movements in the exchange rate also helped to cushion external shocks.

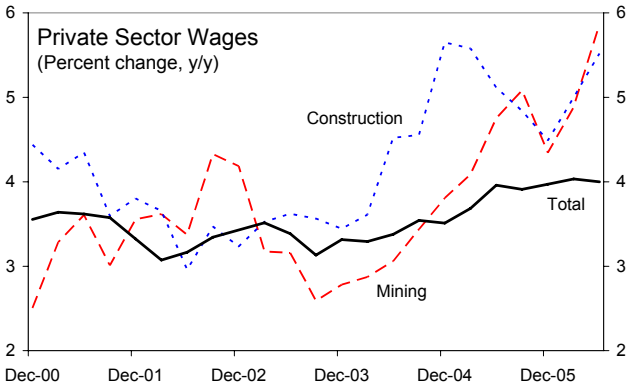
Reforming Goods and Labor Markets

24. **Industrial relations have been reformed progressively.** From early in the twentieth century, wages and conditions of work in Australia were determined by a complex set of highly prescriptive and centrally-determined "awards" that were administered by the Australian Industrial Relations Commission with the objective of promoting equity and

[9] The principles include: (i) managing fiscal risks prudently, having regard to economic circumstances including by maintaining general government debt at prudent levels; (ii) ensuring that fiscal policy contributes to national saving and moderating cyclical fluctuations in economic activity; (iii) spending and tax policies that are reasonably stable and predictable; and (iv) ensuring that policy decisions have regard to their financial effects on future generations. For further discussion, see Gruen and Sayegh (2005).

justice. As a consequence of this centralization, wage pressures in one sector or region would quickly spill over to other parts of the economy, reducing relative wage flexibility and increasing the inflationary impact of shocks. Such spillovers were also aided by limited competition in goods markets. Beginning in the 1980s, the bargaining process underwent a progressive decentralization, with the most significant step being the *Workplace Relations Act 1996*, which redefined the role of awards to effectively be a safety net of minimum standards for collective or individual agreements negotiated directly with enterprises.[10]

25. **Labor market flexibility has been increased.** By 2002, the share of employees relying on awards for pay raises had fallen to 20 percent from 67 percent in 1990. The effect of this decentralization of bargaining has been evident in recent years, as demand for workers in construction and mining has been very strong, resulting in faster wage increases in these sectors but not the generalized wage pressures seen in past terms of trade booms.

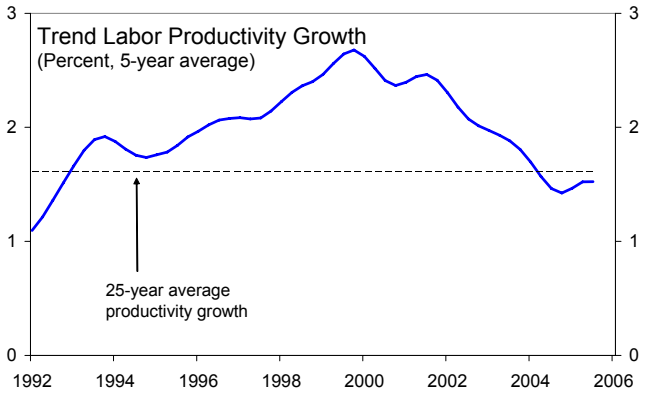


Source: Australian Bureau of Statistics

26. **Productivity was enhanced by far-reaching microeconomic reforms which were facilitated in part by the flexible exchange rate.** A steady reduction in tariff protection from the mid-1980s increasingly opened the economy to external competition. In the late 1980s, recognizing that the efficiency of the nontraded goods sector—which often provides key inputs to the traded goods sector—was central to Australia's competitiveness, the

[10] See OECD (2001) for a detailed discussion of labor market reforms.

authorities initiated the commercialization and privatization of government business enterprises, along with reforms of the communications, energy, and transportation sectors. These reform efforts were broadened by the National Competition Policy agreed by the Commonwealth and State governments in 1995. For example, barriers to competition were reduced by improving the regulation of infrastructure to enhance third-party access. The overall impacts on economic efficiency have been substantial, helping account for the surge in productivity growth in the second half of the 1990s (Productivity Commission, 2005). In addition to its role in strengthening political support for policies to improve competitiveness, the floating exchange rate may have also facilitated reforms by reducing the associated adjustment costs (Banks, 2005).



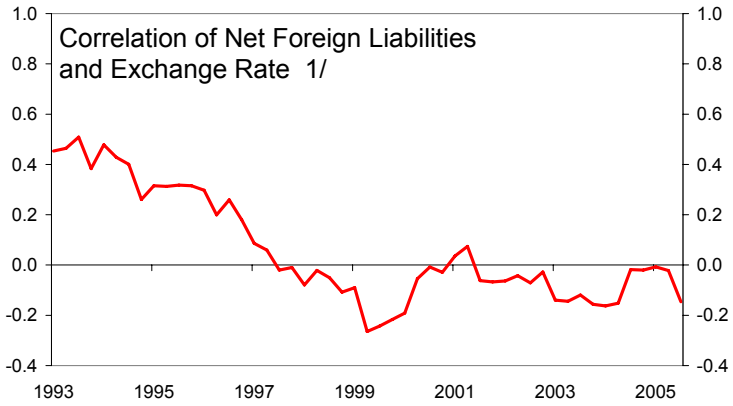
Source: Australian Bureau of Statistics

Enhancing Financial Supervision and Private Risk Management

27. **Placing financial supervision under a unified framework has encouraged improved private sector risk management.** Financial deregulation in the 1980s was associated with an initial deterioration in financial sector health as risk management practices took time to adapt to the new environment. Moreover, as financial innovations increasingly blurred the boundaries between different types of financial institutions, deregulation also resulted in gaps in financial supervision which had been structured primarily on the basis of the institutional forms of service providers. Following the report of the Wallis Committee, a single regulator, the Australian Prudential Regulation Authority, was established in 1997

with responsibility for the entire financial sector. The new framework emphasized greater reliance on disclosure and market-based signals rather than industry-specific regulations, helping to promote sound private sector risk management practices by providing additional market discipline and facilitating early detection of financial difficulties.

28. **Foreign exchange hedging of external debt is now extensive, reducing private sector vulnerability to exchange rate fluctuations.** While the financial sector relies on foreign funding to a large degree it has very little foreign exchange exposure (RBA, 2000). However, some less sophisticated actors initially failed to manage the risks on foreign exchange liabilities, as seen in the losses incurred in 1985-86 by farmers borrowing in Swiss francs. This experience, reinforced by disclosure requirements and prudential regulations, has increased demand for instruments to manage foreign currency risk; turnover in forwards, swaps and derivatives is now more than double the turnover of the spot market (RBA, 2005a). Even though net foreign liabilities were 56½ percent of GDP in March 2005, Australian entities had a net long foreign currency position of 26 percent of GDP (RBA, 2005b). Derivatives were used to hedge 79 percent of the foreign currency position on debt, leaving a short FX position on debt of only 6 percent of GDP, which was more than offset by foreign equity assets. As a result of these hedging practices, the value of the country's international investment position is little affected by exchange rate swings.



Source: Australian Bureau of Statistics and staff calculations.
1/ Correlation coefficient for rolling 20 quarter samples, between percent changes in trade-weighted exchange rate and net foreign liabilities.

29. **Moreover, firms in the tradable sector have increasingly used hedging to smooth the impact of exchange rate swings on cash flows.** Surveys show that more than half of importers and manufacturers had essentially no hedging in place in 1984 (Becker and Fabbro, 2006). But there were significant increases in hedging activity within a few years, with exporters found to hedge an average of 70 percent of their foreign exchange exposure by 1989/90. Nonetheless, the horizon of the hedging cover is typically less than one year, with the exception of the mining sector where long-term supply contacts are more common. While hedging does not immunize the international trading activities of most firms against the major cycles in the A$ exchange rate, it does provide these firms with more time to adjust.

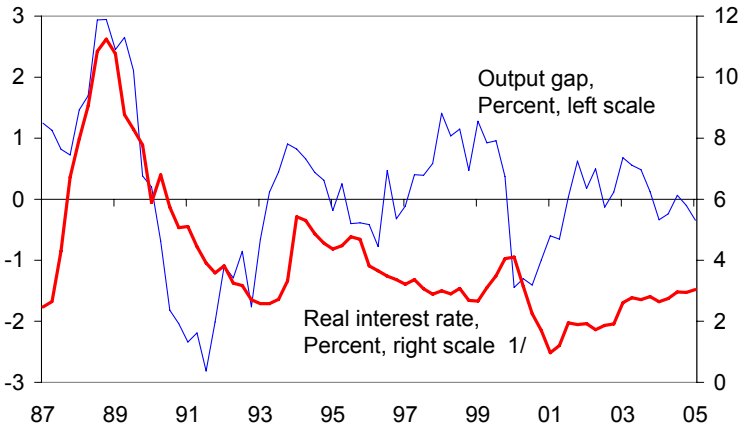
F. Has Adapting to the Float Paid Off?

30. **Australia's overall macroeconomic performance has been strong since recovering from its last recession in the early 1990s.** Real GDP growth has averaged 3¾ percent since 1992 and unemployment has fallen by 6 percentage points from its early 1990s peak to around 4½ percent in late 2006. Headline CPI inflation has averaged 2.6 percent over this period, consistent with the inflation target despite the wide exchange rate fluctuations. Aided by the strong performance of the economy, fiscal surpluses have been achieved in eight of the nine years since the adoption of the *Charter of Budget Honesty*. Moreover, the government's net debt was recently eliminated, standing at -0.6 percent of GDP in mid-2006, down from 14.4 percent in mid-1998.

31. **In particular, the amplitude of Australia's economic cycles has declined notably, in part owing to structural reforms facilitated by the floating exchange rate.** Since 1992, the standard deviation of IMF staff estimates of the output gap has declined to ¾ percent,

compared with 1⅔ percent in the decade prior to the float and 1½ percent in the early float (1984–92) period.[11] A less volatile external environment may be one contributing factor, because declines in output volatility have also been observed in other advanced economies (Cotis and Coppel, 2005). Structural reforms have also likely played a role, with recent research finding that liberalization of product, labor, and financial markets reduces both the scale of shocks and their macroeconomic impact (Kent, Smith, and Holloway, 2005).

32. **Running monetary policy within an IT framework, as permitted by the float of the A$, has also dampened cyclical swings in activity.** In seeking to maintain inflation around the target rate on average, the RBA has adjusted interest rates to lean against business cycle trends, tending to moderate the peaks and troughs in the cycle. The RBA's relatively low propensity to adjust monetary policy in response to exchange rate changes is also found to promote macroeconomic stability (Clinton, 2001).



Source: RBA, ABS, and staff estimates
1/ Target cash rate - average of weighted-median and trimmed-mean CPI inflation.

33. **By helping to insulate the economy from external shocks, exchange rate flexibility has improved economic stability more directly.** In the early 1970s, a sharp rise in Australia's terms of trade boosted demand and raised inflation to double-digit levels. Since

[11] Staff estimates of the output gap use a Hodrick-Prescott filter on GDP excluding agriculture and mining—fluctuations in the output of these two sectors are treated as supply shocks.

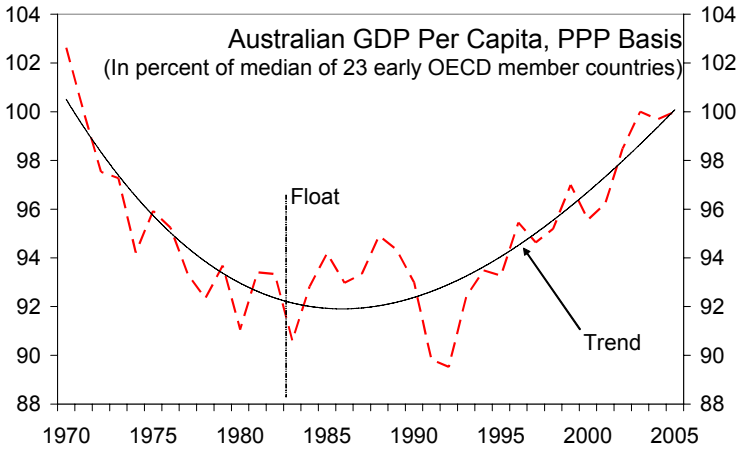
the float, however, the exchange rate has tended to respond to terms of trade shocks (see Box), diminishing their macroeconomic impact. For example, the terms of trade rose by 30 percent in 2003-05, supporting strong growth in domestic demand especially in business investment. At the same time, however, the exchange rate appreciated by 26 percent in real effective terms, with the result that imports met almost half of the expansion in final domestic demand, helping to ease pressure on domestic resources and inflation.

34. **Australia's economic resilience during the Asian crisis was a clear example of the benefits of the flexible exchange rate coupled with the medium-term focus of monetary policy.** The terms of trade fell by 7 percent during 1998 as commodity prices dropped in response to the Asian crisis, but this shock to the tradable sector was cushioned by an 8 percent decline in the real trade-weighted exchange rate over the same period. With inflation remaining broadly stable despite the decline in the A$, the authorities saw no need to tighten monetary policy. Indeed, the RBA's next move was a 25 basis point cut in the target cash rate in late 1998. Overall, Australia's real GDP growth remained at 4 to 5 percent in 1998-99 at a time when key trading partners were facing major economic contractions.

35. **Fluctuations in the A$ did not appear to hinder export performance through the 1990s.** International research is largely inconclusive on whether exchange rate volatility impedes trade and investment (Clark, Tamirisa and Wei, 2004). In Australia's case, exports performed well through the 1990s, with manufacturing and services exports—which are likely to be most sensitive to the exchange rate—growing at average rate of 12 percent from 1985 to 2000. This strong performance may reflect a combination of foreign exchange hedging, the benefits of structural reforms, increased integration with Asian markets, and the sunk costs of entering foreign markets (Menzies and Heenan, 1993). Slower growth in

manufactures exports in more recent years likely reflects more intense global competition, especially from China, as well as the appreciation of the A$ (Australian Treasury, 2006).

36. **Indeed, the float preceded a turning point in Australia's economic performance.** By the time of the float, Australian income levels (PPP basis) had declined to about 8 percentage points below the level typical for the 23 early OECD members (excluding Turkey). However, this gap in living standards has been closed in the period since the float.



Source: World Economic Outlook database, September 2006

37. **Floating the Australian dollar contributed to this turnaround in a number of ways.** As discussed, in the mid-1980s the float facilitated a substantial improvement in competitiveness, removing a key barrier to growth. But, perhaps more importantly, exchange rate flexibility helped galvanize political support for implementing structural reforms which have since contributed to solid growth in both productivity and employment. The float also facilitated the adoption of medium-term frameworks for monetary and fiscal policies in the 1990s. Together with more flexible and efficient goods and labor markets and the cushioning of major external shocks through exchange rate adjustments, these policy frameworks have promoted greater stability in growth and employment. With confidence in the resilience of the economy growing, public concerns about exchange rate swings seem much less evident than in the 1980s. Overall, it appears that Australia's adaptation to the floating A$ through structural and macroeconomic policy reforms has helped overcome the fear of floating.

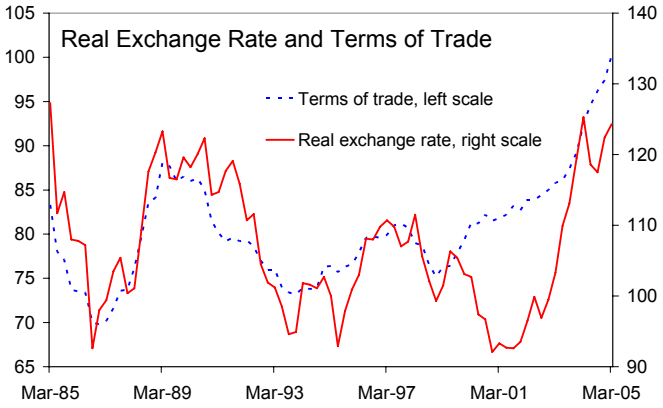
What Drives the Australian Dollar?

Australia's real effective exchange rate (REER) has fluctuated significantly since the float. After being stable in the first year of the float, the REER fell sharply in 1985-86, which has proven to be a lasting adjustment. Since then, the REER has fluctuated around a broadly stable level, with peaks and troughs about 15 percent above and below its average level.

Most major swings in the A$ have been linked to terms of trade developments. Since the 1985-86 adjustment, the major swings in the REER have included:

- 1988–89: Large appreciation (22 percent in year to 1989Q1) associated with a 15 percent rise in the terms of trade and higher interest rates.

- 1991–93: Large depreciation (21 percent in two years ended 1993Q3) following a large fall in interest rates and a fall in the terms of trade.



Sources: Australian Bureau of Statistics and Reserve Bank of Australia

- 1998: Depreciation (8 percent in year ended 1998Q4) as the Asian crisis led to a decline in Australia's export prices and the terms of trade.

- 1999–2000: Further depreciation (13 percent in the 18 months to 2000Q4), despite an improving terms of trade and a rise in interest differentials as Australia cut interest rates by less than other countries more affected by the global information technology slow down.

- 2002–03: Large appreciation (27 percent in two years to 2003Q4), apparently correcting the low level of the A$ in 2000–01 and responding to the continued increase in the terms of trade, while interest rates rose only modestly.

More formal analysis confirms the importance of the terms of trade for A$ movements. Along with interest rates, shifts in the terms of trade have been identified as the key factor in driving the A$ by Blundell-Wignall and Gregory (1990) and Blundell-Wignall, e*t al.* (1993). [1] Nonetheless, as would be expected given the general difficulty of predicting floating exchange rates, there have been periods when this pattern does not appear to hold, including the somewhat delayed depreciation of the A$ in the early 1990s (Section D) and the unusually weak A$ earlier in this decade. [2] Most recently, the A$ has appreciated less than might be expected given the rising terms of trade, possibly because part of these gains are expected to be temporary.

[1] The high correlation between the real effective exchange rate and the terms of trade has puzzled some researchers, because the terms of trade appears to have a significant cyclical component and the deviations should have been perceived as largely transitory (Gregory, 1993). Gruen and Kortian (1996) suggest this might reflect a lack of market efficiency and the short-sightedness of investors. An alternative explanation is that the terms of trade are forward-looking and may not be as predictable as argued (Douglas, *et al.,* 1997).

[2] The historically low level of the A$ exchange rate during 2000-01 is not well understand. Edison (2002) finds evidence that during this period the exchange rate may have been more sensitive to real commodity prices, especially world commodity prices as opposed to the price index for Australia's commodity bundle.

References

Australian Treasury, 2003, "Globalisation: The Role of Institution Building in the Financial Sector," *Economic Roundup*, Summer 2003–04, pp 49–86.

———, 2006, "Australia's manufactures exports," *Economic Roundup*, Winter 2006, 73-87.

Banks, Gary, 2005, "Structural Reform Australia-Style: Lessons for Others?" Australian Productivity Commission.

Battelino, Ric, 1999, "Australian Financial Markets," address to conference *The Future of the Australian Debt Market Beyond 2000*, August.

Becker, Chris and Michael Sinclair, 2004, "Profitability of Reserve Bank Foreign Exchange Operations: Twenty Years After the Float," Reserve Bank of Australia, RDP 2004–06.

Becker, Chris and Daniel Fabbro, 2006, "Limiting Foreign Exchange Exposure through Hedging: The Australian Experience," Reserve Bank of Australia, RDP 2006–09.

Blundell-Wignall, Adrian and Robert Gregory, 1990, "Exchange Rate Policy in Advanced Commodity Exporting Countries: The Case of Australia and New Zealand," OECD Working Papers No. 83, July.

Blundell-Wignall, Adrian, Jerome Fahrer, and Alexandra Heath, 1993, "Major Influences on the Australian Dollar Exchange Rate," Reserve Bank of Australia Conference on *The Exchange Rate, International Trade and the Balance of Payments*.

Calvo, Guillermo and Carmen Reinhart, 2002, "Fear of Floating," *Quarterly Journal of Economics*, Vol. CXVII, Issue 2, May, 379-408.

Clark, Peter, Natalia Tamirisa, and Shang-Jin Wei. 2005, *A New Look at Exchange Rate Volatility and Trade Flows,* IMF Occasional Paper No. 235 (Washington).

Clinton, Kevin, 2001, "On Commodity-Sensitive Currencies and Inflation Targeting," Bank of Canada, Working Paper 2001-3.

Cotis, Jean-Philippe and Jonathan Coppell, 2005, "Business Cycle Dynamics in OECD Countries: Evidence, Causes, and Policy Implications," Reserve Bank of Australia Conference on *The Changing Nature of the Business Cycle*.

Debelle, Guy and Michael Plumb, 2006, "The Evolution of Exchange Rate Policy and Capital Controls in Australia," *Asian Economic Papers*, 5:2, 7-29.

Debelle, Guy, Jacob Gyntelberg, and Michael Plumb, 2006, "Forward currency markets in Asia: lessons from the Australian experience," *BIS Quarterly Review*, September, 53-64.

Douglas, Justin, Harley Thompson, and Peter Downes, 1997, "Modeling the Exchange Rate and Commodity Prices in the Treasury Macroeconomic (TRYM) Model," Conference of Economists, University of Tasmania.

Djoudad, Ramdane, John Murray, Tracy Chan, and Jason Daw, 2000, "The Role of Chartists and Fundamentalists in Currency Markets: The Experience of Australia, Canada, and New Zealand," Bank of Canada Conference on *Revisiting the Case for Flexible Exchange Rates*.

Edison, Hali, 2002, "The Recent Behavior of the Australian Dollar," IMF Country Report No. 02/215

Fraser, Bernie, 1992, "Australia's Recent Exchange Rate Experience," *Reserve Bank of Australia Bulletin*, June.

Felman, Josh, Ray Brooks and Tim Callen, 1998, "The Labor Market," in Singh, Anoop, *et al*., *Australia: Benefiting from Economic Reform,* International Monetary Fund.

Gizycki, Marianne and Philip Lowe, 2000, "The Australian Financial System in the 1990s" Reserve Bank of Australia conference on The Australian Economy in the 1990s.

Gregory, Robert, 1993, "Major Influences on the Australian Dollar Exchange Rate-discussion," RBA Conference on *The Exchange Rate, International Trade, and the Balance of Payments*.

Grenville, Stephen, 1997, "The Evolution of Monetary Policy: From Money Targets to Inflation Targets," RBA Conference on *Monetary Policy and Inflation Targeting*.

Gruen, David and Tro Kortian, 1996, "Why Does the Australian Dollar Move so Closely With the Terms of Trade," RBA Discussion Paper, RDP9601.

Gruen, David and Glenn Stevens, 2000, "Australia Macroeconomic Performance and Policies in the 1990s," RBA Conference on *The Australian Economy in the 1990s*.

Gruen, David and Amanda Sayegh, 2005, "The evolution of fiscal policy in Australia," Australian Treasury Working Paper 2005-04.

Kent, Chris, Kylie Smith, and James Holloway, 2005, "Declining Output Volatility: What Role for Structural Change?" RBA Conference on *The Changing Nature of the Business Cycle*.

Macfarlane, Ian, 1993, "The Exchange Rate, Monetary Policy, and Intervention," *Reserve Bank of Australia Bulletin*, December.

Menzies, Gordon and Geoffrey Heenan, 1993, "Explaining the Recent Performance of Australia's Manufactured Exports," RBA Research Discussion Paper, RDP9310.

OECD, 2001, *Innovations in Labor Market Policies: The Australian Way*, Paris.

Productivity Commission, 2005, *Review of National Competition Policy Reforms*, February.

Reserve Bank of Australia, 2000, "Foreign Exchange Exposures of Australian Banks," *Reserve Bank Of Australia Bulletin*, August.

———, 2005a, "The Australian Foreign Exchange and Derivatives Markets," *Reserve Bank Of Australia Bulletin*, June.

———, 2005b, "Australia's Foreign Currency Exposure and Hedging Practices," *Reserve Bank Of Australia Bulletin*, December.