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Capital Flows: The Surprising Case of Australia
Capital Flows: The Surprising Case of Australia

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Abstract

This article examines the severe bouts of financial instability that have characterized the global economy recently. The features of these crises are discussed, as are the alleged causes and proposed solutions to minimize future instability. We then evaluate the vulnerability of the Australian economy to financial contagion and discuss the surprising resilience of our domestic economy to external shocks and volatile capital flows.

There appears to be very little conflict between what is valued by international financial markets and what is in Australia’s best interests.

The Australian Treasury submission to HRSCEPFA (2001, p. 27)

The free flow of financial capital is giving us one major international financial crisis every two years.


Introduction

Over the last decade or so there have been significant financial crises, often associated with severe economic, social and political distress. Some of the more significant crises occurred in 1992-3 in Europe, in 1994-5 in Mexico, in 1997-98 in East and South-East Asia, in 1998 in Russia, in 1999 in Brazil and in 2002 in Argentina. The crises involve various combinations of banking, currency and debt problems. The frequency and intensity of financial crises has led many observers to question how efficiently global financial markets

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function in an environment of volatile short-term capital flows and exchange rate instability.

Foreign exchange markets do not appear to behave as predicted by simple models of efficient markets. Foreign exchange markets may suffer from asymmetric information and herd behaviour that give rise to sudden surges in capital inflows followed by dramatic capital outflows as euphoria turns to panic. The consequences include persistent misalignments and unstable exchange rates that can result in banking and financial crisis with painful consequences for the real economy. Speculative bubbles may generate exchange rates far removed from fundamental economic variables.

This raises the issue of how can we then reconstruct the global financial architecture so as to reduce the likelihood of financial crises occurring and reduce their severity when they do occur? The most obvious way to stop speculation in foreign exchange markets is to abolish separate currencies, as with the European Union. Introduction of the euro has already reduced the volume of foreign exchange trading. The abolition of national currencies and dollarisation is a fairly drastic step to take but a number of countries are considering just that alternative. There has been some discussion of a currency union with Australia and New Zealand, or Australia joining an Asian currency union, or adopting the $US as Australia's currency, but little has come of those proposals. Short of regional or even a world currency, various 'second best' alternatives exist: direct controls on the movement of foreign capital and currency conversion, special deposit requirements on overseas borrowing, and transaction taxes.

Capital controls were integral to the operation of the old Bretton Woods system. They are another weapon that can be used to stem massive temporary inflows or outflows of debt. These controls are still used in many emerging market economies such as Brazil, Chile and Colombia in Latin America, and Korea, China, India, Vietnam and Malaysia in Asia. Chilean style controls on capital inflow have been successful in lengthening the maturity of foreign debt without reducing the quantity of capital inflow. Malaysian controls on capital outflow have arguably allowed that country to cope with the Asian Crisis more successfully than some of its neighbours. The comprehensive controls in China have not stopped that country from attracting huge amounts of direct foreign investment.

Following the Asian Crisis of the late 1990's, there has been a renewed interest in the role of capital controls in developing countries. While numerous
economists remain quite sceptical about the viability and desirability of controls – Edwards (1999) and Fane (2003) - even strong proponents of capital account liberalization have acknowledged that many countries that avoided the worst effects of recent financial crises were also those that used capital controls. Indeed, a number of highly respected economists – Bhagwati, Stiglitz, Krugman and Rodrik – have actively argued in favour of capital controls, although, in fairness, it should be said that particular countries have still been susceptible to crisis even with some forms of capital controls.

The International Monetary Fund (IMF) has been less than sympathetic to capital controls. One IMF study (Ariyoshi et al. 2000) examines the experiences of a group of 14 countries that used various types of capital controls. They rightly point out the difficulties of evaluating these control measures and that country episodes may be open to different interpretations. However, they conclude that capital controls cannot substitute for sound macroeconomic policies and that no single capital control measure is effective across all countries at all times. They single out the problem of evasion. To avoid non-compliance the controls need to be comprehensive but as a consequence the controls will become distortionary and costly to implement. Another IMF paper (Edison et al. 2002) surveys further evidence relating to controls and capital flows. Unfortunately, perhaps the Institution's Freudian slip is showing! In footnote 4 the authors state that 'in an influential article in Foreign Affairs, Bhagwait (1998) argued that 'substantial gains [from capital controls] have been asserted, not demonstrated …' (p. 7).' This is a complete misinterpretation of the Bhagwati article as anyone who has read it knows. It is free capital mobility that Bhagwati is referring to, not capital controls. Indeed, Bhagwati is sympathetic to types of capital control in certain circumstances.

Countries can try to directly control capital movements or use market-based mechanisms to change price incentives in the foreign exchange market. Economists generally support price incentives rather than direct controls and so taxes are seen as preferable to controls on capital movements. More than 30 years ago Nobel Laureate James Tobin (1918-2002) proposed a uniform international tax payable on foreign exchange transactions to discourage speculation by making currency trading more costly. A tax of a tenth to a quarter of one percent on foreign currency transactions might be too low to discourage long-term investors, while discouraging destabilising short-term capital flows, leading to greater exchange rate stability. Given the relatively small size of the non-financial market for foreign exchange (no more than 18 percent) in support of real trade and direct foreign investment activity, and
that 80 percent of foreign exchange transactions involve round trips of a week or less, a transaction tax would hurt the speculators disproportionately more because they tend to trade much more frequently (Haq et al. 1996).

Turbulence in world financial markets has solicited greater interest in Tobin Taxes to discourage speculative currency trading and to make exchange rates reflect long-run fundamentals relative to short-term expectations and bubbles. Whether the Tobin Tax is the solution is unclear but it would lead to a decline in the volume of foreign exchange transactions by throwing some sand in the wheels of international currency speculators. How feasible would a Tobin Tax be? Ideally the geographical coverage of the tax should be universal and so requires international agreement. This may be hard to achieve. Paul Davidson (2002) argues that a Tobin Tax would not avert very large speculative attacks and there is a need for outright prohibition of such capital flows via an International Money Clearing Unit.

We now provide a closer examination of some recent financial crises.

**Financial Instability in our Neighbourhood: The Asian Crisis**

Financial crises have a long and entertaining history as illustrated in Kindleberger's classic *Manias, Panics and Crashes* (1996) and his description of the sequence of events is useful:

> What happens, basically, is that some event changes the economic outlook. New opportunities for profit are seized, and overdone, in ways so closely resembling irrationality as to constitute a mania. Once the excessive character of the upswing is realized, the financial system experiences a sort of 'distress,' in the course of which the rush to reverse the expansion process may become so precipitous as to resemble a panic. In the manic phase, people of wealth or credit switch out of money or borrow to buy real or illiquid financial assets. In panic, the reverse movement takes place, from real or financial assets to money, or repayment of debt, with a crash in the price of commodities, houses, buildings, land, stocks, bonds – in short, in whatever has been the subject of the mania (p. 3).

While financial crises are not new, they seem to occur more frequently and the severity of their impact has increased. The proliferation of financial crises is often viewed as one of the defining aspects of the intensification of financial globalization over the last few decades. Bordo & Eichengreen (in Gruen & Gower 1999, p. 43) note that:
Under Bretton Woods, banking crises were essentially non-existent, and the effects of currency crises were mild. This is more evidence … that strict controls on domestic and international financial transactions can suppress the symptoms of financial instability. The speed of growth in this period provides no obvious support for those who would emphasise the negative side effects.

What is distinctive about the recent experiences is the coincidence of banking and currency crises and the severity of its real effects. The 1980s and 1990s saw bank crises in many countries. Of 181 countries surveyed in 1996, 133 had experienced significant banking sector problems at some stage during the past fifteen years. A study of 59 worldwide banking crashes in the 20 years prior to the Asian crisis found that the average cost of government bailouts was over 9 percent of GDP in developing countries and 4 percent of GDP in industrialized countries (Caprio, G. & Hobohan, P. 1999, p. 44). Michael Mussa (in Gruen & Gower 1999, p. 218) calculated that the cumulative output losses, covering the four years after the start of the Asian crisis, amounted to 24 percent of the annual GDP of Korea, 26 percent for Malaysia, 54 percent for Thailand and 83 percent for Indonesia. Losses of this magnitude are enormous and in some cases exceed those experienced during the Great Depression. The decline in Indonesia's GDP in 1998 was similar to that which occurred in total during the worst of the Depression years (1929-32) in the United Kingdom.

Given the proximity of the Asian Crisis to Australia we will focus on that particular episode. It began in Thailand in July 1997 when the value of the Thai baht plummeted and quickly spread to Indonesia, South Korea, Malaysia and the Philippines. By the end of 1997 the nominal exchange rates of the most affected countries had depreciated significantly – the Indonesian rupiah by about 80 percent and the others by 40 to 50 percent. By the end of 1998, GDP had fallen by 13.2 percent in Indonesia, 6.7 percent in Korea, 7.5 percent in Malaysia and 10.4 percent in Thailand.

Since the late 1980s many Asian developing economies had experienced surges in capital inflows. However, as the Asian economies approached the period of crises, the ratio of foreign direct investment (FDI) to short-term and portfolio investment declined. Kaminsky and Reinhart (1998) show that the ratio of FDI to short-term and portfolio investment in East Asia in 1986-95 was 77.2 percent and this declined to 61.8 percent at the commencement of crises in 1996. The Asian financial institutions of affected countries were ill-equipped to deal with globalisation's sudden surges of capital inflows. The banks were poorly regulated and standards of loan appraisal were generally
inadequate (Fane 2003). Financial liberalization in Asia promoted dramatic shifts toward speculative financing as local banks became heavily involved in risky domestic lending, and as local firms were free to borrow abroad. The ensuing credit boom was directed towards the property sector (real estate loans accounted for 25-40 percent of bank lending in Thailand, Malaysia and the Philippines in 1998) and funded by short-term foreign borrowing (Arestis & Glickman 2002, pp. 246-8). The rise in asset prices induced further capital inflows. Much of the collateral the banks accepted for foreign loans was real estate and equities, assets whose prices contained a large 'bubble' element. As much of the capital inflow was short term, the banks were borrowing short and lending long. When the bubble burst, the foreign capital departed as quickly as it had come in, leaving plunging currencies and unsustainable debt to equity ratios as asset prices collapsed.

The response of international institutions like the IMF has been to argue that the principal cause of the crisis was domestic financial sector weakness which permitted over-investment in the property sector of these Asian economies through excessive foreign borrowing at short maturities. Hence, because it was neglect of financial sector reform that got these countries into trouble, such reform has to be the centrepiece of the recovery package. It is then argued that banks and finance companies either need to be closed down or recapitalized to meet international capital standards. Foreign-ownership limits should be liberalized in the financial sector and supervision and regulation strengthened.

Others point to internationally mobile capital and the development of derivatives and other highly levered financial intermediaries, such as hedge funds and bank proprietary trading departments, which are programmed to move large pools of capital quickly between different financial markets. What is clearly apparent is the extraordinary surge in capital inflows following financial liberalization of crisis countries. Stiglitz (2002, p. 99) has stated that: 'I believe that capital account liberalization was the single most important factor leading to the crisis'. It appears that financial liberalization increases the probability of a financial crisis. Perhaps one lesson of the crisis is the need to reassess the drive for financial liberalization and certainly its sequencing. Domestic financial reform and adequate prudential supervision has to be in place before short-term international borrowing is permitted (Bhagwati 2002). Developing and transitional economies, however, may need to consider the trade-offs between higher rates of growth, financed by rapid expansion of foreign and domestic debt that may lead to financial crisis, versus somewhat slower growth, with less reliance on foreign finance and less pressure for rapid
expansion of domestic financial systems, that may prove more sustainable over the longer term.

This conclusion is reinforced by the mixed results of empirical studies on growth and capital account liberalization reported in Edison et al. (2002). A few papers find a positive effect of financial integration on growth. However, the majority find no effect, or at best a mixed effect. The paper by Prasad et al. (2003) finds no clear and robust empirical relationship between financial integration and growth. They do find that the volatility of consumption growth relative to that of income growth has on average increased in the 1990s for emerging market economies. They conclude that the availability of foreign borrowing and lending has not provided better consumption smoothing opportunities.

The composition of capital inflows does appear to have a significant effect on a country's vulnerability to financial crises. Capital flows take the form of commercial bank lending, foreign direct investment, or equity portfolio investment. McLean & Shrestha's (2002) empirical study looks at the composition of capital inflows, and finds that foreign direct investment and portfolio inflows enhance economic growth but that the effects of bank inflows is mostly negative. Foreign direct investment is the most stable source of capital inflow while bank loans were the most volatile. During the Asian crisis, the most significant fall in foreign borrowing was in foreign bank lending to domestic banks and the majority of the short-term bank funds were linked to derivative contracts.

In the following section of the article we explore further these issues but focus specifically on the implications for the Australian economy.

**Contagion Resistant Australia?**

With the onset of the Asian Crisis, the Australian Treasury substantially lowered its growth projections and warned of the dire consequences for the Australian economy. Who could have blamed them for this pessimistic prognosis given Australia's close linkages to the Asian economies? Furthermore, at the beginning of the Crisis, Australia's current account deficit was of similar size to Korea's and its international reserves lower than Indonesia's. Yet Australia weathered the Crisis relatively unscathed. Despite an attack on the currency and drastic reductions in trade with Asian markets, the local economy showed a remarkable degree of resilience. Paul Krugman
described the Australian economy as the 'miracle economy of the region'. Ricardo Caballero regarded Australia as the 'benchmark' in terms of its textbook response to crises.

We now examine some of the statistical evidence demonstrating the Australian economy's resilience. We analyze changes in international capital during the past three decades and the implications of such changes for the stability of the Australian economy. Australia is a small open economy. Exports and imports are about 33 percent of GDP, capital flows are unrestricted and the Australian dollar is the seventh largest trading currency in the world. Due to the small population and insufficient domestic saving, for the expansion of industries, Australia has always relied on the importation of capital from overseas.

Portfolio investment and foreign direct investment in Australia as ratios to real GDP are plotted in Figure 1. It is apparent that capital flows became larger and more volatile after the deregulation of financial markets in the mid-1980s. This is partly due to the floating exchange rate and partly due to increased global movements of capital during the 1980s and the 1990s. The mean and the standard deviation of the portfolio investment ratio were 0.31 and 0.44 respectively during the period 1973-85 and both statistics rose to 2.2 and 1.81 respectively during the latter period. The mean and the standard deviation of the foreign direct investment ratio also followed the same pattern by rising from 0.48 and 0.38 respectively during the former period to 1.21 and 0.98 in the latter period.

The growth rate of real GDP and the total capital flows relative to GDP are plotted in Figure 2. The average growth of GDP was higher and more stable during the latter period when capital mobility was more volatile. The mean and the standard deviation of the growth of GDP were both 2.5 for the period 1973-85 and changed to 3.6 and 1.8 in 1986-2001. The higher growth of GDP, particularly in the 1990s, has been attributed to microeconomic reform, advancement of technology and increased labour mobility but not necessarily to an increase in capital mobility. However, it is interesting to note that unlike South East Asian economies, increased capital mobility in Australia has been associated with more stability of the economy. Furthermore, Figure 3 shows that the ratio of private consumption to GDP was more stable during the latter parts of the 1980s and the 1990s than in the earlier periods. The coefficient of variation for the ratio of real consumption to GDP was 0.023 in 1973-85 and declined to 0.012 in the latter period. Again the period of stability coincides with the period of surge in capital inflow into Australia. Prassad et al. (2003) support these findings and show that international financial integration can
promote growth and reduce volatility in industrial countries with well-developed financial institutions.

The resiliency of the economy to the shock of the Asian Crisis is further evidence on the stability of the Australian economy during the 1990s. The depreciation of the Australian dollar allowed exporters to redirect exports to other destinations and offset the effects of a fall in exports to the affected Asian countries. Total exports of goods and services, in constant prices, relative to real GDP are plotted in Figure 4. The graph indicates some fall in quarterly values in 1997-98. However, on an annual basis, the real exports of goods and services increased from $109.7 billion in 1997-98 to $111.9 billion in 1998-99.

Figure 1: Foreign Direct Investment and Portfolio Investment in Australia % GDP
Figure 2:  
Total Capital Flows and the Growth of Real GDP

Figure 3:  
Real Consumption %GDP
Figure 4: Exports of Goods and Services % GDP

Figure 5: Debt Service Ratio: Net Interest Payment to Exports

Data Sources: Foreign Direct Investment and Portfolio Investment – IMF International Financial Statistics CD-ROM; Figures for GDP and Exports – Australian National Accounts (various issues); Debt Service – RBA Bulletins.
Why was Australia the 'Miracle Economy of the Region'?

There are a number of complementary hypotheses presented to explain Australia's strong performance in a region beset with crises. One hypothesis is that the structural reforms implemented over the last fifteen years have strengthened the economy's capacity to deal with external shocks. In 1983 the Australian dollar was floated. In 1993 the RBA announced inflation targeting and keeping inflation between 2 and 3 percent over the course of the business cycle. In 1996 it was announced that there would be a new fiscal policy objective of an underlying budget balance over the course of the business cycle and a decision to retire government debt as quickly as possible. A flexible exchange rate, macroeconomic stability and a more internationally competitive economy, is seen as a shield against contagion. Additional indicators of strength include the stabilisation of foreign debt and the low debt-servicing to exports ratio. Figure 5 indicates that the ratio of interest payment on foreign debt to export earnings dropped from 20 percent in the early 1990s to 9 percent at the end of 2001. The depth of our financial markets is seen in the ability of the government to borrow long-term in $A and thereby reduce exposure to currency fluctuations which reduces an important source of financial fragility. For a country to hedge the foreign-currency exposure of its international loans, it requires foreigners to be willing to hold a significant exposure to the country's domestic currency. Australia can do this, but almost all non-OECD countries do not have their external debt denominated in domestic currency (this is sometimes referred to in the literature as the problem of 'original sin').

A second explanation is the suggestion that financial crises are reflections of growing pains and to some extent inevitable. It is speculated that the Philippines was not hit as hard by the crisis because it had already experienced a financial crisis during the early 1980s. Taiwan had similarly experienced problems in the mid-1980s. Australia had its own currency crisis in the mid-1980s and financial crisis in late 1980s and early 1990s. Foreign exchange markets may be particularly susceptible to over-reaction when they have only limited experience in a floating regime and there are transitional problems as we move from a protected banking system to a more competitive and open system. We may 'need' a crisis to educate the prudential supervisors and to change bank attitudes to the acquisition and management of risk. The Australian experience shows the importance of learning and institutional development necessary to make a deregulated system work effectively.
A related research finding is that a more open capital account positively affects growth only after a country has achieved a certain degree of economic development (Edwards 2001). Prasad et al. (2003) also find some evidence of a 'threshold effect' in the relationship between financial globalization and economic growth. Sound macroeconomic policies and improved institutions and governance, including robust legal and supervisory frameworks, is important in attracting less volatile capital flows and in reducing a country's vulnerability to crisis.

**Caveats against Complacency**

While Australia's economy has performed surprisingly well in the midst of regional disturbances, stagnation in Japan and recessions in the US, one has to guard against complacency. There are some disturbing episodes that suggest caution in our enthusiasm for financial globalisation.

The Australian financial system was severely tested by the activities of large hedge funds in mid-1998. The major hedge funds established very large 'short' positions in the Australian dollar. They were selling not only their own holdings of Australian dollars, but entering into contracts to sell currency they did not yet own, to drive the $A down. They would then buy it back at a lower price, settle the amounts they had borrowed and make a large profit on the transactions. Their estimated borrowing was $12 billion in May 1998. They let the rest of the market know that they intended to attack the $A and concentrated sales in periods of thin trading. This led to classic herd-behaviour on the part of other market participants. The RBA intervened and spent $2.6 billion in three days buying Australian currency. This, in addition to the cut-off of credit to hedge funds from the banking system in the context of the collapse of Long Term Capital Management (LTCM), stabilized the foreign exchange market. The episode is well documented by Bob Rankin (in Gruen & Gower 1999) and in HRSCEFP (2001).

The activities of the large macro hedge funds are being increasingly scrutinized. At the beginning of the Asian Crisis, the short position built up by the hedge funds in Thai baht was equivalent to 5 percent of Thailand's GDP (HRSCEFP 2001, Ch. 6, p. 81). Paul Krugman (2000, Ch. 7) provides a detailed account of the Quantum Hedge Fund in Britain in 1990-92 and similar episodes are recorded for Hong Kong, South Africa and Russia in 1998. Another example was the $US/Yen exchange rate in 1998.
Franklin Edwards (1999) provides an illuminating account of one of these funds, Long Term Capital Management. He states with alarm that the 'misadventure of a single wayward hedge fund with only $US4.8 billion in equity at the start of 1998 could take the United States or even the world economy so close to the precipice of financial disaster' (p. 189). Hedge funds are left mostly unregulated as speculative vehicles for high net-worth individuals and institutional investors. Hedge funds typically have high minimum investment requirements (the Tiger Fund has a $US5 million minimum, LTCM $US10 million). LTCM had a more than 20 to 1 leverage ratio so that in 1998 it borrowed $US125 billion on an asset base of $US5 billion. The returns can be impressive, LTCM earned in excess of 40 percent returns in 1995 and 1996, as are the risks taken in speculating in foreign currencies. The LTCM debacle can hardly be regarded as a ringing endorsement of the financial regulatory system in the US. The herd behaviour of banks and securities firm in copying LTCM trading strategy is also troubling. The Australian Prudential Regulatory Authority is now looking into the operations of hedge funds.

A number of implications follow from the Australian and other episodes. Markets can display herd behaviour in which participants follow 'leaders' and this can result in overshooting of prices. So selling when the price is already low can be profitable if it induces others to do the same and thereby cause the price to fall further. Major players can engage in profitable, yet destabilising, speculation in a deliberate attempt to manipulate the $A. Volatility is driven by a small number of players who see advantages to themselves in engineering volatility. They do not just take advantage of expected price movements, they cause price movements.

Another implication of the attack on the $A is that 'this experience suggests that floating currencies can also be destabilised by the activities of hedge funds, even in markets as deep and liquid as that for the Australian dollar' (Gruen in Gruen & Gower 1999, p. 10). An exchange rate should reflect a country's international competitiveness and its capacity to produce tradeable goods, just as equity prices should reflect company earnings. But over short periods, macroeconomic fundamentals appear to explain little of the exchange rate movements. Indeed, floating rates have often been excessively volatile and subject to prolonged misalignments and overshooting. Flexible exchange rates have not helped Latin America in avoiding crises (Grenville & Gruen in Gruen & Gower 2001, pp. 123-24).
Bordo & Murshid (2000, p. 3) argue that good fundamentals alone cannot insulate a country from the effects of financial contagion. The October 1997 crash on the Hong Kong Exchange demonstrated that. A currency crisis may not be related to weak economic fundamentals or policy mistakes. In the light of these experiences, a fundamental reappraisal of theoretical models of international capital flows is now proceeding. New approaches to private speculative behaviour are being developed that are significant departures from rational expectations or efficient market models. One such model is the theory of rational speculative bubbles where prices continue to rise and depart more and more from economic fundamentals. Investors base their actions on what they see others doing – herd behaviour and informational cascades – and mimic the action of others.

'Irrational exuberance' is another term that has been used to describe this situation (Shiller 2000, p. 182). Bentick & Lewis (2003) document that much of the capital inflow into Asia financed a vast over-expansion of commercial real estate and led to huge price bubbles. They note the parallels with the Australian experience in the late 1980s and early 1990s (for a detailed account see Carew 1997). Moreover, the similarities with the real estate boom in Australia's capital cities over the last few years are uncanny. The Reserve Bank of Australia has continually expressed its concern about high levels of household debt and residential real estate bubbles, especially for apartments. Robert Shiller states that when financial bubbles happen the appropriate policy response is:

> A small, but symbolic, increase in interest rates by monetary authorities at a time when markets are perceived by them to be overpriced may be a useful step, if the increase is accompanied by a public statement that it is intended to restrain speculation. But authorities should not generally try to burst a bubble through aggressive tightening of monetary policy (pp. 223-224).

It seems that the Reserve Bank of Australia has followed this advice exactly in the context of Australia's property boom of the last few years.

**Conclusions**

Whatever one's view of the vulnerability of the Australian economy to future financial crisis, it is clear that emerging market economies seem especially susceptible to financial distress. This has led to a search for better 'financial architecture' for the world economy. Rogoff (1999) presents an excellent survey of the options available for dealing with financial crises. One
suggestion is the need for international regulation; Eatwell & Taylor (2001) have proposed a World Financial Authority. There is a need for international coordination to reduce destabilising effects of highly leveraged institutions. Improvements in the quality of domestic financial and regulatory institutions are also necessary.

Paul Volcker (in Gruen & Gower 1999) is also sceptical about the ability of US-style supervision and regulation to prevent financial crisis. Even in the US financial supervision did not prevent the Savings and Loan debacle in the 1980s and the collective failure of some of the largest commercial banks. Respectable major US banks were lending to small, incredibly risky hedge funds in the LTCM saga. Improving financial supervision and regulation 'may be inadequate to deal with the truly systemic problems before us' (p. 13). Volcker suggests stronger regulations to control foreign exposures of banks and that taxes on short-term capital inflows by means of special reserve requirements might be an option.

In the Australian case, while we are surprised at the resilience of our economy, this should not lead to over-confidence. It may have been good policies and institutions that allowed us to weather the storm of the Asian Crisis but we need to be vigilant about future crises. There are a number of vulnerability indicators that should be closely monitored. Vulnerability indicators include at the macroeconomic level the ratio of short-term foreign-currency-denominated debt to foreign exchange reserves, the extent of real exchange rate appreciation and the current account deficit. At more disaggregated levels, we need to monitor the balance sheets of individual sectors of the financial and corporate sectors. In particular, maturity mismatches between short-term liabilities and longer-term liquid assets, borrower foreign currency denominated liabilities compared to domestic currency assets, and debt-equity financing ratios need to be watched. Generally, we need to monitor foreign currency exposure of corporate and financial sectors and have an enhanced regulatory oversight of highly leveraged institutions. These were clear recommendations from the House of Representatives Standing Committee Report (2001) on International Financial Markets: Friends or Foes?
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