Capital Flows and the International Financial System

On 9–10 August 1999, the Bank convened a conference entitled 'Capital Flows and the International Financial System'. The following excerpt is the introductory chapter of the conference volume by Dr D Gruen, Head of Economic Research Department.

It has become easier, with the passage of time, to forget what an extraordinary event the Asian financial crisis was. Before the crisis, the countries of east Asia had grown faster, for longer, than any other countries in recorded history. They had transformed their economies and the standard of living of their people in the course of a single generation. In 1960, some of the east Asian countries had standards of living similar to those in Africa; by the mid 1990s, the contrast between economic conditions in the two regions was very stark indeed. The miracle of east Asian economic growth was something to be admired, studied, and emulated.

Two years after the onset of the crisis, however, the east Asian economies are viewed in a rather different light. Admiring analysis of the 'Asian model' – complete with suggestions that Asian-style capitalism might be more robust, and ultimately more successful, than the Anglo-American version – has given way to disparaging discussion of 'crony capitalism', 'connected lending' and bankrupt financial systems in Asia, and to a sense of triumphalism about Anglo-American capitalism. The atmospherics have evolved almost as quickly as the financial crisis itself.

But the success, or otherwise, of the Asian economic model is not the only thing at stake in the aftermath of the Asian crisis. There are also wider issues about the stability of the international financial system.

The transfer of capital from the industrial world to the developing world – intermediated through the international financial system – should be of benefit to all. Capital flows, and the technology that goes with them, should be a powerful force for enriching the developing world. Moreover, the higher returns available to savers in the industrial countries from investing in the developing world should ease the demographic transitions in the industrial countries as their populations age.

The problem, brought to the fore by the string of financial crises in the 1990s, is that the threat of sudden, unpredictable reversals of capital flows to developing countries may be a force for instability on a scale that could swamp these longer-term benefits.

The papers in the volume were commissioned by the Reserve Bank to improve our understanding of capital flows and the international financial system. They aim to contribute to our understanding of the causes of financial crises and the best ways to reduce their frequency and severity, to analyse ways in which developing countries can best

reduce their vulnerability to capital-flow reversals, and to examine suggestions for reforming the international financial system.

Understanding Financial Crises and the Role of Capital Flows

Financial crises have occurred intermittently for at least the past two hundred years, as Bordo and Eichengreen remind us in their contribution to the volume. The importance of financial crises precipitated by sudden reversals of international capital flows, as well as the economic devastation wrought by them, have generated much intellectual effort devoted to understanding them. The early contributions focused on currency crises, but more recent explanations have broadened to include the more virulent strains that involve both the currency and the domestic financial system, which are clearly of more relevance to the Asian financial crisis.

Several explanations of financial crises have been offered, as Dooley and Walsh explain in their paper. One set of explanations relies on some fundamental incompatibility in domestic economic policies that leads inexorably to a financial crisis in the country. An alternative set of explanations relies on the idea that, in certain circumstances, there may be more than one possible equilibrium for the economy. Nations can then be subject to 'self-fulfilling crises' in which a loss of confidence creates an economic, and perhaps political, collapse that validates investors' pessimism.

Such self-fulfilling crises can occur when international investors are behaving rationally, in their own private interests, and fully understand the economic environments in which they invest. Nevertheless, a change of heart on their part – one that is ultimately validated by economic outcomes – generates the crisis.

A further alternative, however, is that investors may lack such understanding. Some explanations of financial crises focus on the idea that investors can be subject to herding and have a preoccupation with the short term that may occasionally lead to market panic. One version of this idea is presented by Brock in his paper. His argument is that investors are not in a position to fully understand their evolving economic environment, and may alter their views about how the world works when new information arrives. Some new information will be particularly influential, leading to collective changes of view. Some investors will change their view because others, who they think are well-informed, have done so – that is, they will herd.

It is of course possible that more than one of these explanations is relevant to any particular financial crisis. Before discussing the possible links between them, however, it is worth examining each of the explanations in more detail.

Inappropriate government guarantees

How can incompatibilities in domestic economic policies lead to a financial crisis? The argument, as applied to east Asia, is that governments provided a range of inappropriate guarantees to their private sectors. For example, banks lent to favoured individuals, corporations or sectors of the economy, on the understanding, implicit or explicit, that the government would provide financial support to them in the event that their loans could not be repaid. Similar logic could explain foreign investors' willingness to lend large quantities of funds to domestic banks and favoured corporations in the aftermath of financial deregulation. By this argument, these loans were not advanced on the basis of commercial judgments about the likely soundness of these domestic institutions, but because foreign investors assessed that east Asian governments, or IMF-sponsored international rescue packages, would likely repay the foreign loans if the domestic institutions could not do so.

A similar argument can also be advanced to explain the extensive unhedged borrowing in foreign currency by east Asian corporations and financial institutions. According to this

argument, the private sector in the east Asian countries was encouraged to borrow in this manner by the exchange rate stability provided by the quasi-fixed currency pegs to the US dollar that operated in the region.

When the countries suffered an adverse external shock, the implicit liabilities of the government rose enormously as the possibility loomed large that many private-sector loans could not be repaid. Furthermore, as it became more likely that the currency pegs could not be sustained, the large stock of unhedged foreign loans in the economy further raised financial fragility and the implicit liabilities of the government. By this argument, foreign investors eventually became sufficiently concerned about the government's capacity or willingness to pay out on its rapidly rising contingent liabilities, that they withdrew their funds, thereby precipitating the crisis.

There is not necessarily any suggestion here that investors have had a 'change of heart' about the country. Rather, the idea is that they have simply responded to changed economic fundamentals in a quite consistent way.

Self-fulfilling crises

The second set of explanations for financial crises involves the idea that an economy can switch from a good to a bad equilibrium, driven solely or predominantly by a change of heart by investors without any change in economic fundamentals. This is then a self-fulfilling crisis, which can be understood by analogy with a bank-run. Banks stand ready to redeem the full value of savers' deposits at short notice, despite having most of their funds on loan for longer-term investment projects. If a small number of savers avail themselves of this option, banks have sufficient liquid funds to honour these claims. But if investors come to the view – for whatever reason – that a bank may not have sufficient liquid funds, then a bank-run can result, which validates investors' new-found pessimism. A financially solvent bank has become illiquid, unable to satisfy the legitimate claims of its depositors.

For many analysts, the analogy with the Asian crisis is a close one. Many of the elements of the good and bad equilibria have already been discussed. The good equilibrium is characterised by strong growth, strong investment and ample capital inflow. The bad equilibrium occurs if international investors become pessimistic, withdrawing their financial capital from the country. This, in turn, leads to a collapse of both domestic investment and the currency peg. Parts of the financial and corporate sectors are bankrupted, by both the collapsing domestic investment in a previously rapidly growing economy, and the sharp rise in the domestic-currency value of unhedged foreign borrowings. The economy sinks into a deep recession, validating investors' change of heart about the country's prospects.

The extent of global contagion in the 1997–99 financial crisis provides support for this 'self-fulfilling' explanation. Granted, there were domestic economic problems in each crisis country. But the idea that these could, by themselves, lead to a rapid succession of deep crises in such a wide array of countries (in some cases, geographically quite separated) seems far-fetched. The common thread instead seems to be a collective change of view by international investors about emerging markets, generated by the gathering storm of crises.

Corbett, Irwin and Vines, in their paper in the volume, also argue that the Asian financial crises were self-fulfilling ones. In their view, inappropriate government guarantees were also implicated because they heightened each country's vulnerability to crisis, and made the 'bad' equilibrium much worse than it would otherwise have been.

From euphoria to panic without missing a beat

The third set of explanations for financial crises, and sudden reversals in capital flows, relies on the argument that the standard textbook view of capital flows – that they are driven predominantly by rational, patient investors with a good understanding of the

economic environments in which they invest – is a poor representation of reality. Instead, the argument is that investors are sometimes subject to herding, and to swings of sentiment that are not well grounded in the economic fundamentals.

On this view, as applied to the east Asian economies, capital inflow in the years before the crisis was driven, largely, by investors' optimism about the prospects for earning high risk-adjusted returns in these economies, rather than implicit government guarantees. This explanation for the reversal of capital flows need not be inconsistent with the idea that the resulting crisis was, in large part, self-fulfilling. The explanation would, however, highlight the extent to which the earlier market expectations were unrealistically optimistic, and the aspects of market panic that resulted when these expectations were disappointed. According to this view, the crisis came when 'euphoria turned to panic without missing a beat'. Sakakibara (among others) subscribes to this interpretation of the Asian crisis, and financial crises in general, in his comments in the volume.

Two years after the onset of the Asian crisis, it is perhaps easy to forget why investors might have held such optimistic expectations in earlier years. But an examination, for example, of the World Bank's 1993 report on east Asia, gives a flavour of the widespread views about the region at that time. That report – revealingly titled *The East Asian Miracle: Economic Growth and Public Policy* – argued that the strong growth that had been experienced for so long was based on strong fundamentals, at both the macro and microeconomic levels, and sound public policies. On that basis, it was not so unreasonable for investors to expect a continuation of strong growth, and associated high investment returns, in the region.

In support of this argument that inflows were driven primarily by a search for high returns, rather than implicit government guarantees, it should be noted that much of the inflow was in forms for which there was no conceivable government guarantee, such as portfolio investments in the stockmarkets of the region. Hausmann, in his comments in the volume, argues that there is little evidence that inflows were disproportionately in those forms – like lending to banks – that would likely benefit from government guarantees.

On this view of events, a long period of rapid growth and high returns led to general market euphoria about the region, which attracted new investors and more capital inflow. Financial deregulation in these economies facilitated the inflow, as did developments on the supply-side, such as the growth of mutual funds and the decline in interest rates in the developed world.

There were emerging signs of over-investment and the formation and growth of asset-price bubbles in several markets in the region in the years leading up to 1997. But while these developments may have been noted, they did little to deflate the general feeling of optimism about the region.

Over the period 1995–97, however, there was a series of adverse external shocks – particularly a trade-weighted appreciation of the region's currencies as the US dollar, to which they were pegged, rose against the European currencies and the yen, and a fall in the terms of trade for electronic-goods exporters. These shocks brought into question the sustainability of the currency pegs to the US dollar, undermining the confidence of international investors in the region's prospects, and leading to a sudden withdrawal of their funds. As the currency pegs collapsed, the elements already discussed, particularly the large stock of unhedged foreign-denominated borrowings, undoubtedly fuelled investors' new-found pessimism and the sense of market panic, making the crisis much more severe than it would otherwise have been.

Reducing Developing Countries' Vulnerability to Capital-flow Reversals

The alternative explanations for financial crises canvassed above have significantly

different implications for which policy prescriptions are likely to be most helpful in reducing the frequency and severity of such crises.

For some domestic economic problems, the policy implications seem apparent. As has been said, one of the lessons from the Asian crisis is that exposing badly regulated banks to an open capital account is like offering a recovering alcoholic a drink. The implication is that financial regulation needs improving, but also that the capital account should be opened slowly.

To the extent that implicit government guarantees played a significant role in generating economically wasteful excess capital inflow in the pre-crisis years, as well as the sudden reversal of these flows, the appropriate policy response is to limit these implicit guarantees as much as possible. Such guarantees, to favoured individuals, corporations, or sectors of the economy, were undoubtedly important in several east Asian countries. But, of course, the economic waste associated with inappropriate government guarantees in the financial sector is not a problem unique to that region. As Volcker reminds us in his paper in the volume, the losses in the United States Savings and Loans industry in the 1980s are but one prominent recent example of the same phenomenon in an advanced developed country.

It is also worth noting that governments in almost all countries provide substantial guarantees to the financial system. Governments do not stand by passively in the event of a crisis that threatens the integrity of the domestic financial system (and nor should they). If a systemic financial crisis were to arise in almost any country, the contingent liabilities of the government would rise enormously, as they did in the east Asian crisis countries.

This problem may be particularly serious for developing economies. The financial systems in many such countries are small, domestically owned and disproportionately exposed to the relatively undiversified local economy. As previously noted, they also tend to be poorly supervised. As a consequence, adverse domestic shocks can threaten the integrity of the domestic financial system, undermine international confidence and set in train some of the destructive forces seen in the Asian crisis. A possible alternative for these countries is to follow New Zealand's lead, and allow the domestic financial system to become largely foreign-owned. A foreign-owned financial system is likely to be much more diversified across economies, and thus less susceptible to country-specific shocks. Furthermore, foreign-owned financial institutions may need neither to be guaranteed nor supervised by the government of the developing country in which they operate.

As previously mentioned, the extensive unhedged foreign borrowing undertaken by east Asian corporations and financial institutions contributed to the severity of the domestic recessions that followed hard on the heels of the currency collapses. It has been widely argued that this unhedged borrowing was encouraged by the exchange rate stability provided by the quasi-fixed currency pegs to the US dollar operating in the region. The obvious implication, drawn by many analysts, is that more exchange rate flexibility would reduce the extent of unhedged foreign borrowing, thereby reducing the financial fragility of these economies.

This argument may well be right. It certainly makes sense for unhedged foreign borrowing to be undertaken by those in the economy, like exporters, who have an alternative natural hedge against exchange rate movements. It also seems likely that if the currency is allowed to fluctuate on a day-to-day basis, banks and firms will learn the value of using derivatives markets to insure against currency swings.

But the logic is not as compelling as it first appears. While hedge markets exist in which individuals can trade foreign-exchange risk, this may not be true for the country as a whole. For the whole country to hedge the foreign-currency exposure of its international loans requires foreigners to be willing to hold a significant exposure to the country's domestic currency. (Hedging the foreign-currency exposure of international loans is largely equivalent to borrowing internationally in your own currency.) For industrial countries,

like Australia, a substantial proportion of foreign borrowings is indeed denominated in domestic currency. Almost without exception, however, non-OECD countries have almost no external debt denominated in their own currencies, as Hausmann points out in his comments in the volume. For reasons that remain unclear, markets in which developing countries can undertake such borrowing are thin or non-existent.

This incompleteness of financial markets may be an important reason why there is so much unhedged foreign borrowing by developing countries. Missing financial markets may therefore be an important source of developing countries' financial fragility, rather than their choice of exchange rate regime.

As well as contributing to a severe recession in the aftermath of a currency collapse, unhedged foreign borrowing – specifically short-term borrowing, and especially when it is borrowed by the banking system – also substantially raises the likelihood of a currency and financial crisis in the first place. This has led to a growing chorus of calls for developing countries to adopt Chilean-style holding-period taxes on capital inflow, which seem to have been successful in lengthening the maturity of Chilean foreign debt, without materially affecting the quantity of capital inflow.

A further suggestion is that the public sector should hold substantial foreign exchange reserves to offset, for the country as a whole, the currency mismatch associated with unhedged foreign borrowing by the private sector. There may be merit in this suggestion, but it is not without costs. If private-sector unhedged foreign borrowing is (partly) matched by higher public-sector foreign reserve holdings which would not otherwise have been accumulated, then the private sector does not face the true cost of its borrowing. If the private sector had to accumulate the foreign reserves itself, it would not have undertaken the foreign borrowing in the first place, as Corden points out. Moreover, the private-sector borrowing and public-sector reserve accumulation are likely to be costly for the economy as a whole, because the interest rate earned on foreign reserves is likely to be lower than the borrowing rate paid on private-sector foreign loans.

On the issue of which exchange rate regime best equips developing countries to cope with volatile capital flows, there remains considerable disagreement. One view is that they must choose between the extremes of a currency board (or a common currency) on one hand, and a freely floating exchange rate on the other. Yet, as argued by Grenville and Gruen and by Volcker in their papers in the volume, both these extremes have their disadvantages. Fixed exchange rates deprive an economy of a valuable price mechanism for adjusting to shocks and create an exit problem when they fail. But freely floating rates have not always delivered the benefits expected of them. Instead, they have often been excessively volatile, sometimes subject to prolonged misalignments and overshooting. These attributes are likely to be particularly disruptive for developing economies, which tend to be very open, with undiversified exports, yet with poorly developed markets for the management of exchange rate risk.

It therefore remains unclear what exchange rate arrangements these countries should choose. Different regimes undoubtedly suit different countries. Singapore provides one possible model, with a flexible exchange rate, but one that exhibits much less volatility than the floating rates of the major industrial countries. This lower volatility appears to be achieved by a combination of restrictions on foreigners' capacity to borrow domestic currency, and an active commitment to use monetary policy and foreign-exchange intervention to help limit, though not eliminate, short-term movements in the trade-weighted value of the Singapore dollar.

Reforming the International Financial System

How one approaches reform of the international financial system depends, not

surprisingly, on what one regards as the underlying source of its shortcomings. This depends, in large part, on one's view of the important causes of sudden reversals of capital flows, and the associated financial crises.

As previously discussed, some analysts regard the critical distortion facing the international financial system as the implicit guarantees provided to international investors by the prospect that they will be bailed out by an IMF-sponsored rescue package in the event of a crisis. (These analysts also point to inappropriate government guarantees – but these can be eliminated by the governments themselves without requiring reform of the international financial system.) The appropriate response is then to severely limit the size and frequency of these rescue packages. In this way, the moral-hazard problems associated with the implicit guarantees become much less serious, and international investors become more attuned to the actual risks involved in investing in developing countries.

The possibility of receiving a rescue package if there is a crisis in future clearly does provide (limited) insurance to those developing countries which may at some time receive such a package, as well as to international investors who invest in those countries. But, as Mussa argues in his paper, the existence of moral hazard does not necessarily imply that the rescue packages are too generous or too frequent. This can most clearly be seen by analogy with the insurance industry.

The insurance industry provides economically valuable services, despite having to deal with endemic moral-hazard problems. In general, risk-averse individuals or firms take too few socially diversifiable risks in the absence of insurance. An insurance firm can diversify its own risks by providing insurance to many such individuals, who in turn will take more risks than they otherwise would. Up to some level, this extra risk-taking is socially and economically desirable, even if some moral hazard is generated as a consequence.

Returning to our explanations for developing country financial crises, the idea that a change of heart by international investors can generate a self-fulfilling crisis (at least in economies which are, in some sense, vulnerable) means that private capital flows can be inherently unstable. If this is so, then developing countries face real hazards associated with the possibility of capital-flow reversals on a large scale. A developing country faced with such a reversal is in a similar predicament to a bank that has suffered a run on its deposits. Like a bank, a country can become illiquid, even though it remains solvent.

In this world, rescue packages play the economically desirable role of providing internationally diversifiable insurance. Indeed, from this perspective, the insurance provided is extremely limited. Even after receiving international rescue packages, countries still suffered massive losses – estimated by Mussa, for the Asian crisis countries, to range from 24 per cent of annual GDP for Korea to 83 per cent for Indonesia.

For many observers, the crucial underlying problems with the international financial system arise because there are only poor international substitutes for important domestic institutions and laws that contribute to the efficient functioning of modern economies. Perhaps the two most important of these institutions are the lender of last resort, and bankruptcy laws and procedures. The aim of many international reform proposals is to mimic these institutions more closely at an international level.

When faced with an illiquid financial institution, a domestic lender of last resort must decide whether that institution is solvent or not. If solvent, loans are advanced to enable the institution to survive. If not, the institution is taken over or closed down. Ideally, the lender of last resort has deep pockets (it may be the central bank, with the capacity to print money) and can act quickly to stem a bank-run and arrest contagion to other institutions. Ideally, it is also in a position to make delicate decisions about whether or not to close down financial institutions, (relatively) free from political interference.

The closest international equivalent to a domestic lender of last resort is the IMF, although it is hardly equivalent. Many reform proposals involve trying to make it more so. Many observers argue that the IMF needs substantially more resources, in order to provide deeper financial cushions to countries in crisis, and to deal more effectively with contagion to other countries. There are also proposals to reduce crisis-response times, with the same aims in mind.

Furthermore, by its nature, the IMF is subject to political pressure, especially from those countries from which it gets the largest share of its financial resources. One implication of this political pressure is that the Fund's rescue packages tend to provide financial assistance that allows foreign investors from creditor countries to be repaid at the expense of taxpayers in the crisis countries. Another, specifically applying to the conditionality the Fund attached to its Asian packages, was the requirement that crisis countries open their financial markets and distribution systems to foreign competition – arguably serving the interests of industrial countries seeking market access more than the crisis countries themselves.

The lack of international bankruptcy rules also hampers the efficient functioning of the international financial system. The existing arrangements for resolving international crises operate in a much more cumbersome manner than do industrial-country domestic bankruptcy procedures. Many reform proposals focus on ways to speed this resolution, as well as to 'bail-in' private-sector creditors so that the financial burden of the crisis is shared more equitably.

Many international bonds, for example, require the unanimous consent of bondholders if there is to be a restructuring of the debt contract. But unanimous consent is unwieldy and time-consuming, not to mention providing the incentive for some bondholders to hold the process to ransom by threatening legal action. The alternative is to require international bond contracts to include provisions for an orderly workout (for example, by specifying majority voting, or making provision for a bondholders meeting) if that becomes necessary. Such clauses are unlikely to occur at the behest of developing countries, which would rightly fear that requiring them would signal that the country saw itself as likely to suffer a crisis. They would therefore have to be introduced by creditor countries, perhaps at the instigation of the IMF. In some cases, like Korea late in 1997, it has proved possible to get voluntary agreement from creditor-country banks to roll-over their credits, undoubtedly assisting Korea's rapid recovery from crisis.

Another relevant issue for reform, distinct from those already discussed, concerns the extent to which hedge funds have a destabilising impact on international financial markets. This issue is taken up in the papers by Rankin and Yam.

Hedge funds are usually structured to avoid regulation and reporting requirements. They also typically engage in a high degree of leverage, particularly off-balance sheet. Their trading strategies often involve rapidly generating, or unwinding, sizable open positions in financial markets.

Data on the trading activities of hedge funds are virtually non-existent. It is nevertheless possible to learn about their activities from market intelligence. In the case of Hong Kong, hedge funds borrowed large quantities of Hong Kong dollars in the several months before August 1998 and built up significant short positions in the Hong Kong stockmarket. In August, they sold Hong Kong dollars, in the expectation that the Monetary Authority's defence of the currency would drive up interest rates and lead to a fall in stock prices, from which they would profit. This attack on Hong Kong's financial markets was very disruptive for a time but ultimately proved unsuccessful because, as well as defending the currency, the authorities also bought stocks, driving up stock prices and eventually inflicting heavy losses on the hedge funds.

Hedge funds also built up large open positions in the Australian dollar in the first

half of 1998, with the aim of inducing other market players to follow their lead and thereby profiting from a fall in the currency. The size of the positions taken, and the aggressiveness of the trading strategies pursued by these funds caused a good deal of instability in Australian markets. 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.

There have been several suggested policy responses. One possibility is to set up a disclosure or reporting framework to provide information necessary for proper risk assessment by counterparties, creditors and investors. Another involves 'indirect regulation' of hedge funds by requiring the banks with which they deal to adopt more prudent policies on the management of their exposure to hedge funds. Further suggestions involve the direct regulation of hedge funds, or if that proves impractical, the introduction of a code of best practice for hedge funds, with pressure brought to bear on them to comply.

Reference

World Bank (1993), *The East Asian Miracle: Economic Growth and Public Policy*, Oxford University Press, New York.