International Capital Flows, Exchange Rates and Macroeconomic Policy*

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Abstract

The failure of the 'one size fits all' policy response to the Asian economic crisis initially favored by the IMF provides timely evidence of the institutional and country specific nature of macroeconomic policy.

Thus, each economy needs to choose the broad macroeconomic policy regime that is best suited to its particular circumstances. There are significant constraints on the broad macroeconomic policy regimes that are feasible. Most notably a country cannot simultaneously achieve an independent monetary policy, exchange rate stability and complete financial market integration. It can partly achieve a convex combination of these objectives or fully achieve two of the objectives.

A well-developed capacity for quantitative macroeconomic analysis is required if countries are to make a well-informed choice of regime while meeting the constraints just cited. Such a capacity is also required to determine the appropriate policy settings one a regime is chosen.

In this paper I present a non-technical discussion of these issues, present some tentative policy conclusions and canvas the macroeconomic issues that might occupy research agendas of Asia Pacific regional research institutes seeking to build a capacity for macroeconomic analysis.

1. Introduction

The appropriateness of macroeconomic policy responses depends crucially on institutional settings. For example, the way an economy responds to deficit spending depends on whether or not its institutions are sufficiently strong to make the central bank unlikely to monetise the deficit.[1] The failure of the 'one size fits all' policy response to the Asian economic crisis initially favored by the IMF provides timely evidence of the institutional and country specific nature of macroeconomic policy.

A wide variety of policy responses were suggested during the crisis. In the absence of a well-developed regional capacity for macroeconomic analysis it proved difficult to evaluate these proposals on a country by country basis. Thus in order to avoid, or at least ameliorate, crises like those recently experienced, it is essential for regional economies to develop a strong macroeconomic analysis capacity. Central to this is a capacity to quantify the likely macroeconomic impacts of alternative policies.

It is important that this capacity for quantitative macroeconomic analysis be developed not only in central banks and finance ministries but also in independent research institutes. The latter are required to generate the informed public debate that is necessary to underpin good macroeconomic policy and build a consensus in favor of the institutional reform that will promote better macroeconomic outcomes. In this paper I present preliminary policy conclusions and canvas the macroeconomic issues that might occupy the research agendas of regional research institutes seeking to build a capacity for macroeconomic analysis.

2. The choice of macroeconomic policy regime

The key macroeconomic policy questions relate to the choice of: exchange rate, monetary policy and capital flows regimes. As is well known, the choice of exchange rate regime only matters in those circumstances where some prices are sticky and changes in nominal magnitudes have real effects in the short run. Thus, with sticky prices movements in nominal

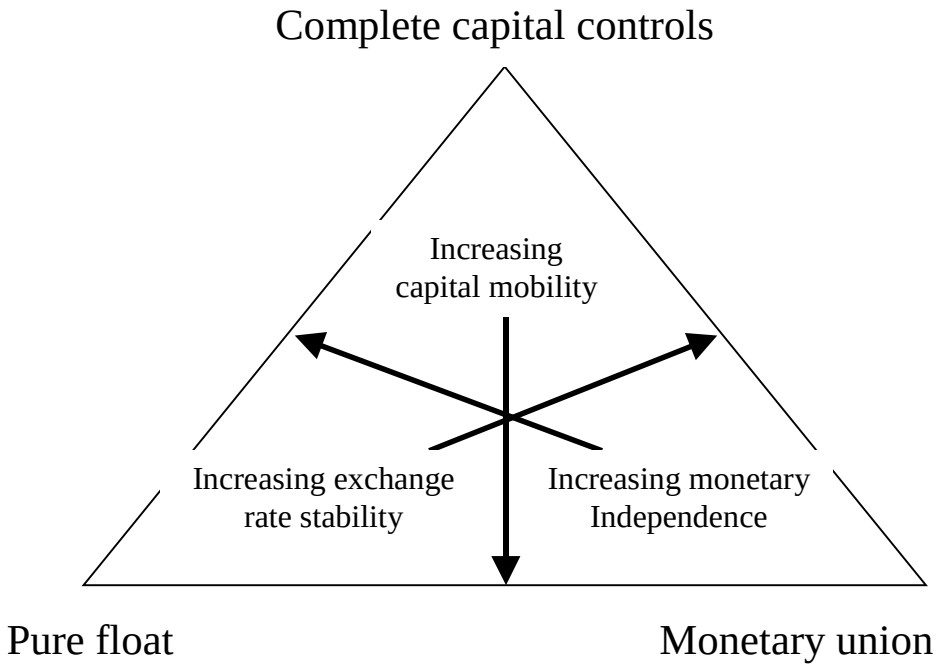
[1] Similarly, devaluing the currency to switch spending towards domestic goods can help a country with strong anti inflation institutions ameliorate a slowdown or recession. But in a country with weak anti-inflation institutions fixing the exchange rate is one mechanism through which the central bank can deny government access to the inflation tax. The danger in devaluation as a response to recession for such an economy is that it may be seen by the market as a signal that the central bank is reneging on its commitment to lower inflation by allowing government access to the inflation tax. See Eichengreen (1998p9-11) for further discussion.

exchange rates can achieve adjustments in the relative price of tradable goods that would otherwise take much longer.

There is strong evidence that some prices are sticky; see Keating (1998). There is also evidence that stickiness is more pronounced across national borders; see Engle (1993) and Engle and Rogers (1995). Thus, in this paper I will take it as given that the choice of exchange rate matters for macroeconomic outcomes. The factors determining price stickiness and thus the degree of price stickiness is likely to vary across countries. Thus the implications of price stickiness for macro economic policy will vary making it an empirical issue as to which policies are appropriate for particular countries.

One of the most basic insights in international macroeconomics is that policy choices are interrelated. Figure 1, which is adapted from Frankel (1999), illustrates the main tradeoffs that a country faces when choosing a macroeconomic policy regime. The central point is that a country cannot simultaneously achieve an independent monetary policy, exchange rate stability and complete financial market integration. It can partly achieve a convex combination of the objectives — the middle ground in Figure 1 — or fully achieve two of the objectives. At one extreme a country with a freely floating exchange rate and no capital controls achieves monetary independence and full financial integration. Alternatively with capital controls and a fixed exchange rate one can achieve monetary policy independence and exchange rate stability. Finally with a monetary union and free capital flows, stable exchange rates and financial integration are achieved.

Figure1: Feasible policy choices



The last thirty years have seen a shift towards allowing greater mobility of capital. At the same there has been a shift towards the poles of Figure 1 in terms of currency arrangements. By the end of 1998, 101 countries had currencies that were floating against other currencies (Cooper 1999). At the same time a number of countries moved to rigidly fixed exchange rates. The most notable being the Euro group which eliminated ten European currencies in moving to full monetary union. In other cases such as Hong Kong and Argentina currency boards are in place.

2.1. Is the middle ground dangerous?

It seems clear from the recent crises that sustaining a fixed exchange rate that is only mildly overvalued is increasingly difficult in a world of mobile capital.[2] The task is particularly difficult where the capital flows involve a significant volume of short-term debt instruments.

The central issue with fixed exchange rates is, of course, the problem of exit. Once exit comes on to the agenda it is natural for financial markets to inspect more closely a country's fundamentals. This makes it difficult to exit from a fixed rate regime without triggering a

[2] See Furman and Stiglitz (1998) for an assessment of the extent to which Asian currencies were overvalued prior to the crisis.

crisis. Once exit is contemplated markets begin to reevaluate the economies fundamentals. Crisis are likely in such circumstances because the market is likely to undertake this reevaluation over a horizon that is much shorter than that at which domestic policy changes can be made.

Once such a reevaluation takes place for one economy it is likely that speculation about exit and the consequent reevaluation of fundamentals will flow onto countries that are related in some way.[3] For example, when Thailand went into crisis it put the issue of exit on the agenda for a number of countries. Several of these countries, most notably Indonesia, had fragile political systems. Such fragility could no longer be ignored once exit from fixed rates was being considered. There was no prospect of a political solution over the horizon at which financial markets operate. Thus there was a consequent rise in the risk premium and the crisis spread.

Like many others, I interpret the recent evidence from the Asian, Mexican and emerging markets crises as establishing that the middle ground is increasingly dangerous and thus countries should move towards one of the corners in Figure 1.

We are likely to gain valuable empirical evidence on this normative proposition from the experience over the next two years from China. China is in the middle ground of Figure 1; it maintains restrictions on capital flows and a managed float, but has chosen not to devalue in the light of the Asian Crisis. To date China has weathered the recent financial crises reasonably well. It has felt the crises primarily through weaker export demand. However, it seems clear that the overvalued Renminbi is exerting strong deflationary pressure on the Chinese economy and is slowing its rate of growth. This slowing comes despite policy moves to stimulate demand through reductions in nominal interest rates. It will be very interesting to see the extent of the cost to the Chinese economy of maintaining an overvalued currency.

2.2. Choose your corner wisely

There are some clear cases that can be dealt with quickly. As is well known, see Frankel (1999) for example, if you are a small country very open to foreign trade, with highly mobile

[3] The relationship could be through trade, geography or through being perceived to be in similar economic circumstances.

labour, a fiscal instrument available for stabilization and a high correlation with the business cycle of some large country then fixing the exchange rate is a very sensible policy. One example of such a country is Luxembourg for which rigidly fixing to the Euro makes sense.

However, Hong Kong (also small and open) with a currency board has not done so well and remains in recession. Moreover, Hong Kong faces the prospect that it will have to follow the US Federal Reserve Bank and raise interest rates late in 1999 or early in 2000. That is Hong Kong could be forced into tightening just as it begins to emerge from recession. I interpret this evidence as saying that rigidly fixed exchange rates are unambiguously the best option in only a very limited set of circumstances.

Evidence in favor of the benefits of floating exchange rates and free capital flows comes from the good performance of developed countries such as Singapore, Australia, New Zealand and Canada. However, as Grenville and Gruen (1999) observe, exchange rate flexibility has not delivered significant benefits to those South American countries with floating rates. This evidence suggests that in order to obtain benefits from a floating rate system it is necessary to get macroeconomic policies right along a number of dimensions. For example, New Zealand has performed poorly relative to Australia in recent times because it adopted an inferior mechanism for setting monetary policy. Thus a key item for research is what constitutes the best approach to monetary policy in a floating exchange rate regime.

3. Capital mobility?

The role of increased capital mobility in pushing countries towards flexible exchange rates raises the important issue of what the costs and benefits are of increased capital mobility. Bhagwati (1998) has questioned the theory that favors increased capital mobility and have criticized the IMF and US Treasury for relying too heavily on such a theory in encouraging the dismantling of international capital controls. Such critics site India and China as countries with capital controls that seem to have avoided the worst of the Asia crisis. However, it is too early to tell whether China has escaped or merely postponed or transformed the Asia crisis shocks.

In evaluating the case for capital controls, it is useful to remember that one of the most notable features of the world economy is that labour is plentiful and capital is in short supply. Perhaps the next most notable feature is the disparity across countries in capital to labour

ratios.[4] These two features suggest that achieving greater capital mobility and moving towards full financial market integration, is central to world economic development. Financial market integration and capital mobility yields the best prospect of levering the small pool of world savings into the required stock of capital.

Thus the costs of restricting capital flows would come in the form of reduced rates of economic growth while the benefits come in the form of reduced volatility in the stream of per capita consumption. In order to make an informed choice nations need to know the following.

The extent to which slowing down capital flows would reduce rates of economic growth in net borrowing countries;

How such reductions in economic growth would translate into reductions in the rate of growth of per capita consumption;

The extent to which limitations on capital flows would serve to reduce the volatility of GDP (and thus consumption) growth; and

The extent to which people are willing to trade off lower growth for lower volatility.

My expectation is that when we ultimately know the answers to these questions they will be that restrictions on capital flows do little to reduce volatility in per capita consumption. One reason for this is that in developing countries fluctuations in per capita consumption are in part attributable to poor transport and communication and storage infrastructure that underpins gluts in some regions or time periods and shortages in others. Foreign capital that goes into improved transport and communication infrastructure may improve distribution networks in ways that even out regional supply and demand imbalances thereby serving to reduce volatility of per capita consumption.

However, it seems likely that restrictions on capital flows would limit growth. Here, the sort of calculations that Lucas (1987) performed for the business cycle will, are necessary if countries are to make informed choices about policies to limit capital flows.

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[4] Including human capital.

Domestic financial markets have a number of imperfections and thus actions to correct those imperfections can have significant benefits in terms of reducing vulnerability to crises. Most notably developing sound banking systems with good prudential regulation is a priority.

It is also well known that financial markets have a bias towards debt financing at the expense of equity financing. This means that developing countries bear an inefficiently high portion of the risk of when they use foreign capital to develop their economies. Rogoff (1999) suggests that the four main reasons for this bias are:

The under-developed nature of equity markets in developing countries.

Taxpayer funded deposit insurance in both creditor and debtor countries have the effect of subsidizing debt.

International lenders are able to use contracts that are enforceable in the courts of developed countries whereas equity investors are subject to the, often lower, level of protection provided to shareholders in developing countries. Put simply shareholder rights are weaker in developing countries.

Bulow et al (1992) suggest that the G-7 funds used to help debtor countries in times of crisis may end up as subsidies to the debtors.

The points above suggest that the available policies for developing countries are those which involve developing their equity markets and providing increased shareholder protection. Moreover, as Rogoff (1999) observes the case for deposit insurance in developing counties may not be as strong as is sometimes thought.[5]

3.1. 'Emergency' restrictions on capital outflows

Remedies for debtor nations whose currency is subject to speculative attack all involve pain to the debtor country. The IMF prescription of higher domestic interest rates involves great pain for the economy as a whole and the banking sector in particular. Sach's (1998) suggested solution of allowing a large depreciation could make insolvent a banking sector which has borrowed in foreign currency but lent in domestic currency.

[5] The case for deposit insurance is strongest when it relates to the protection of small lenders. Here the case rests on equity, social and political considerations.

Thus Krugman (1998) has suggested that 'emergency' restrictions on capital outflows might be the best policy in such circumstances. The question of whether such a policy is appropriate turns on the reaction of international investors. Rogoff (1999) argues that efficient contracts do not always require repayment of debt in all circumstances and thus Krugman's suggestion may be viewed as recognition of this possibility. In practice it seems unlikely that emergency restrictions on capital outflows would approximate the provisions in efficient debt contracts. Nonetheless it is important that regional economies build the capacity to evaluate policy proposals that involve emergency restrictions on capital flows.

3.2. The Chilean 'solution'

The much talked about Chilean 'solution' has been to tax inflows of short run debt. In May 1992 the Chilean government required foreigners making non-equity capital inflows to post a non-interest bearing one-year deposit equal to 30 per cent of the initial capital inflow. In this case the tax on inflows is the opportunity cost of the interest foregone on the one-year non-interest bearing deposit. Because the deposit must be held for one year only, the effective tax rate is higher on short-term debt than it is on long term debt. The tax is designed to correct the maturity mismatch problem where banks borrow short term and lend long term.

In order for the Chilean style tax to be effective it is necessary for prudential regulation of the domestic banking sector to be sufficiently comprehensive as to stop domestic banks making derivative swap contracts with foreign holders of the country's long-term debt. Otherwise derivative swaps can be used to circumvent the tax (Rogoff 1999).

In terms of macro economic outcomes, Chile is regarded by many as one of the most successful of the South American economies in the last quarter of the 20th century. And it has resisted speculative pressures better than most. However, as Edwards (1998) observes, this may be attributable to Chile's achievements in prudential banking regulation rather than to its tax on short-term capital inflows.

Chilean style controls also impose costs on the economy. Most notably, foreigners who for good reasons prefer to lend short term will demand a premium for the reduced liquidity of their investment. This premium will vary from country to country. Thus no blanket recommendation can be made regarding the suitability of Chilean style taxes on inflows.

Perhaps it is best to let the Chileans have the last word on this subject. Despite the extent to which these controls have been discussed in academic and policy circles, it is the case that Chile reduced the tax rate in May 1998 and, since September 1998, have reduced the tax rate to zero.[6] However, the mechanism to impose the tax remains in place.

4. The problem of persistent departures from fundamentals

Floating regimes raise new sources of political pressure that are often difficult to address. For example, exchange rate appreciation puts pressure on domestic producers of tradable goods. Import competing industries are particularly likely to seek protection in these circumstances. These pressures are hardest to resist where the exchange rate departs persistently from its fundamentals.[7] Unfortunately, the evidence suggests that floating exchange rates do depart from fundamentals for significant periods of time.[8]

This is a feature that currencies share with other assets. Like all asset-pricing theories, theories of the exchange rate have not performed well in recent times. One reason for this is that asset-pricing theories are based on the assumption of arbitrage. This assumption is most plausible in circumstances where like assets can be used in pricing. Currently there are a number of assets for which it is hard to think of a like asset. Internet stocks provide one example. Indonesia provides another example because of the political difficulties that it faces. Indeed, if one takes the currencies of the Asian crisis countries together it seems that they became increasingly difficult to price though arbitrage in the wake of capital market liberalization. The world had simply not seen evidence of countries growing so rapidly with large capital inflows and under developed banking and financial systems and in some circumstances facing very substantial political difficulties.

In addition, as is well known, there are difficulties with asset pricing theories that rely on arbitrage at long time horizons in order to rule out bubbles. Most assets are priced through

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[6] Rogoff (1999) observes that this was in response to a persistent Chilean current account deficit. He adds parenthetically that "When a country needs to borrow to pay for current consumption, it is less well positioned to impose taxes on foreign investors".

[7] In such circumstances those seeking intervention can argue with some support from economics that the exchange rate is departing from fundaments because of a market failure and that if the market failure is not correctable at its source the theory of the second best can be invoked to support other forms of intervention.

[8] For the purposes of this paper, fundamentals of asset prices can be taken to refer to the present value of the stream of income along the perfect foresight path.

the actions of employees of financial firms. Firms are potentially infinitely lived but employees are often only attached to firms for short periods of time. Thus the time horizon of the employee is naturally shorter than that of the firm. This is the source of an important principal-agent problem that is only partly overcome through the remuneration arrangements of financial market employees. This agency problem may explain why financial markets sometimes fail to seize the long horizon arbitrage opportunities that would rule out the existence of bubbles.

There is no clear evidence on which asset pricing theories work. Portfolio managers diversify this risk by allocating funds to chartists and the like as well as to those who attempt to price in relation to fundamentals. Frankel (1989/90) and Frankel and Froot (1990) observe that those using chartist techniques or extrapolation of past trends have increased in importance thereby increasing the extent to which asset prices deviate from fundamentals. Such deviations then make it more risky for stabilizing speculators of the type that play a role in Friedman's (1953) argument for floating exchange rates. If such a market failure were found then the simplest way[9] to correct it would be to require the central bank to play a role as stabilizing speculator.[10] Some central banks, for example the Reserve Bank of Australia, already intervene when the market is 'disorderly'.

Requiring the central bank to take an interest in the volatility of the exchange rate around its fundamentals does not necessarily conflict with the objectives of capital market integration and monetary policy independence. Under this suggestion the central bank is at no stage fixing the exchange rate rather it is reducing its volatility around fundamentals.

A policy of requiring the central bank to play the role of stabilizing speculator has the virtue that it is easily monitored. Evidence that the policy is working is provided if the central bank makes a profit on such stabilizing speculation. Of course, to be fully satisfied that such a policy was appropriate it would be necessary to establish that the bank's activities were not crowding out other domestic stabilizing speculators.

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[9] Assuming that it is not possible to affect the incentives in the financial markets.

[10] This proposal assumes that the central bank CEO is on a contract that is longer than the country's electoral cycle and is thus one of the most secure employees in the country. As such the central bank CEO has the greatest opportunity to take a long term perspective.

One reason for preferring this a policy is that it is an attempt to correct a market failure. A second reason for preferring the policy is that rather than costing revenue the profits generated add to government revenue something that is particularly desirable in countries where taxation is inefficient.

Whether or not one accepts that there is merit in the proposal put here it is interesting to note that there are considerable differences among countries in the volatility of their exchange rate. Singapore, for example, has an exchange rate that is one-half as volatile as the exchange rate of any of the G3 countries (Grenville and Gruen 1999). It would be most interesting to understand how Singapore achieves this reduced volatility and whether the lessons are transferable to other countries.

5. Conclusions

I draw four points from the discussion above.

First, the Asian crisis made it clear that the costs to developing countries of not having an adequate capacity for macroeconomic analysis are now very high.

Second, increasing the efficiency with which the world allocates scarce capital is central to development. Thus capital market integration must continue. Increased integration of capital markets makes it difficult to sustain fixed or managed exchange rates. Thus for most countries the move towards more freely floating rates is valuable. But since there are also costs from too free a flow of short-term capital there is a need for research that allows countries to identify the costs and benefits of capital mobility and design policies that are informed by the results of such research.

Third, freely floating rates are not a panacea. It is important to get a range of other policies right. The conduct of monetary policy is particularly important in floating exchange rate regimes. There is considerable evidence now that inflation targeting is a useful way to conduct monetary policy in developed countries such as Australia, New Zealand, Canada, the United Kingdom and Sweden. Thus an important question is whether monetary targeting is appropriate for developing countries.

Finally, in freely floating regimes the evidence of persistent divergence of exchange rates from fundamentals is worrying. This may involve a market failure and thus central banks may need to develop a market environment conducive to stabilizing speculators.

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