The impossible trinity and constraints on policy options

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Introduction

First I want to thank Governor Subbarao for the invitation to this Research Conference.

After the collapse of Lehman Brothers in September 2008, the financial crisis swept all over the world with full force. Central banks, governments and other authorities were forced to take a range of massive and unconventional measures in order to prevent a total breakdown of the international financial system and to try to ward off a deep recession. Even though there are signs that the turning point has been reached, a lot of hard work remains before we are through the financial crisis. Globalisation is at the heart of the problems and intensive international cooperation and coordination will be needed to find the new tools required to manage risks and to prepare for a better-balanced development. The challenges for economic policymakers are huge and this makes this kind of exchange of views extremely valuable.

The topic for the first part of this session is issues related to the "impossible trinity" and the constraints it imposes on policy options. The trinity concept refers to the choice of monetary policy and exchange rate regime and states that out of the three objectives free capital mobility, monetary policy independence and exchange rate stability policy makers can choose only two. With an open capital account, monetary policy can be oriented towards either an external objective such as the exchange rate, or an internal objective such as the price level, but not both at the same time. In practice many emerging market economies have intermediate solutions, and the choice between the three objectives is vital for the policy alternatives at hand for a country to manage the consequences of the financial crisis. The trade-offs made between these objectives also have consequences for the world economy. The policy response to the surge in foreign currency inflows in emerging market economies in Asia is one topical example that I would like to comment on today. I will also say some words on the choices in terms of the impossible trinity made in these countries. I am going to concentrate on policy choices in emerging Asia, but I can not refrain from drawing some conclusions from our Swedish experience of different exchange rate and monetary policy frameworks that may be of interest to other countries.

The impossible trinity

The impossible trinity or the incompatible trinity goes back to the contributions made by Robert Mundell in the 1960s. It is one of the fundamental conclusions of his analysis concerning the conditions for monetary policy in an open economy[1]. Research in this area is vast. Theoretically, this trilemma is more or less self-evident for academic economists and is a standard part of economic textbooks.

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[1] This is one of the contributions for which Robert Mundell was awarded the Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in 1999.

In practice, the trilemma has also had a fundamental influence on the policy considerations in many countries. Over the last two decades, among advanced and emerging market economies there has been a movement from intermediate exchange rate systems of different kinds towards either hard pegs or floats (including independent as well as a managed floats) as is demonstrated by Fisher (2008). Today all the advanced countries except one, Denmark, have a hard peg or a float and the Danish krona shadows the euro. That is, with Fisher's words, among advanced countries bipolarity is almost complete. In the classification used by Fisher the EMU countries are in the hard peg group[2]. Since the euro is independently floating, an alternative way of describing the choice of exchange rate systems in advanced countries is that all but two, Hong Kong and Denmark, have floats and most of them have chosen flexible inflation targeting regimes. Among emerging market economies still quite a number have intermediate solutions with capital controls and pegs of different kinds or bands.

The choice of monetary policy and exchange rate regime

In practice the choice of monetary policy and exchange rate regime is neither simple nor clear-cut and research on the optimal system is vast. Over the past decade, the IMF has produced three major analytical studies on the choices of exchange rate regimes in different countries in 1999, 2003 and 2009, of which the last one has not yet been published[3]. These reviews are part of the IMF's surveillance mandate and aim at informing member countries of how their choice of exchange rate regime might affect their own macroeconomic performance and contribute to the stability of the international monetary system. In a brief presentation of the forthcoming 2009 Review, Gosh and Ostry (2009) describe how the preferred exchange rate regime, particularly for developing and emerging market economies, has evolved over time. In the early 1990s, pegging the exchange rate to a strong anchor currency was the popular view. But during that decade the currency crises came, one after the other, and the conclusion was that soft pegs or tightly managed floats cannot be sustainable for extended periods. When the 1999 IMF Review was produced, the regime prescription was the bipolar view, i.e. countries should adopt either a hard peg or a free float without government intervention. In 2002, the collapse of the currency board in Argentina cast shadows over the hard end of the scale. The 2003 IMF review concluded that pegged exchange rates provided little benefit to emerging market economies and that they should adopt freely-floating exchange rates. The same should apply to developing countries as they became more financially integrated.

The 2009 IMF review is based on a broader data set of IMF member countries for the period 1980 – 2006, and examines the impact of the exchange rate regime on a wider range of variables. The classification of exchange rate regimes for different countries differs from earlier studies and is based on de jure as well as de facto exchange rate regimes, i.e. it takes account of both what countries promise to do and what they actually do. The conclusions in the new study are more varied than in earlier studies. The message is that for developing and emerging market economies, pegged exchange rate regimes show the best inflation performance. The benefit comes from the credibility of a formal commitment by the central bank to maintain the parity. On the other hand, intermediate regimes with a relatively rigid but not pegged exchange rate have the best growth performance.

[2] The classification of exchange rate systems is that of the staff of the IMF, based on their evaluation of the de facto exchange rate arrangement in place at the time. According to Fisher a new classification is being prepared at the IMF where currency unions like the EMU will be classified as independently floating. See Fisher (2009) p.370.

[3] See Ghosh and Ostry (2009)

On the other hand, the Review also points at three major downsides of the more rigid regimes[4]. First, they "severely constrain the use of macroeconomic policies", that is to say the "impossible trinity holds" and according to the authors it seems to hold even for countries with less-open capital accounts or those that heavily sterilize reserve flows under pegs. It is also striking, according to the authors, that there seems to be less scope even for countercyclical fiscal policy in countries with pegs. Second, the 2009 Review also confirms the result from the earlier IMF Reviews that the risk for currency and financial crises is higher for pegged and intermediate regimes. On the other hand, the risk for credit booms and sharp falls in growth are about as likely in floating regimes as in more rigid ones, which, according to the authors, the current global crisis has demonstrated. A third downside is that pegged and intermediate exchange rate regimes "impede timely external adjustment" both on the deficit side, when deficits grow larger and unwind more abruptly and on the surplus side, where more rigid regimes are associated with large and highly persistent surpluses that can affect the stability of the overall international system.

The trilemma in Asia

Before the onset of the financial crisis, GDP growth in emerging Asia was strong and led by a surge in exports. Gross saving increased in relation to investment and many countries, with the exception of India, had substantial surpluses on the current account. On top of that, large capital inflows were attracted. Exchange rates were prevented from appreciating correspondingly and massive foreign exchange reserves were accumulated. The magnitude of the capital flows to the emerging market economies in Asia mirrors the trilemma trade-offs made by policymakers in the region. This has triggered a discussion on the choice of monetary policy and exchange rate framework, the balance between exchange rate stability and price stability, and the consequences not only for the domestic economies in the region but also for the world economy.

In recent years, judging from the objectives stated by the central banks, there has been an increasing focus on price stability in Asia[5]. Four countries have moved towards inflation targeting frameworks (Korea 1998, Indonesia 1999, Thailand 2000 and the Philippines in 2002). Singapore, India and Malaysia declare price stability as the monetary policy objective together with adequate credit supply in the Indian case and exchange rate stability in Malaysia. One underlying trend is also that restrictions on cross-boarder capital flows gradually are being eased. The exchange rate systems in all these countries are managed floats according to the IMF classification[6]. In China the stated central bank policy objective is stability of the value of the currency. In all these countries interventions are used but several countries have allowed more exchange rate flexibility in recent years.

One interesting question is if the inflation performance differs between the inflation targeters and the other countries. Filardo and Genberg (2009) have examined the monetary policy institutional changes in Asia and the Pacific to assess whether these can be traced to subsequent inflation performance. They study 12 countries of which 6 are inflation-targeters. In addition to the countries mentioned above Australia, Hong Kong, Japan, and New Zealand are included. Their conclusion is that inflation performance has been "admirable". The greater focus on inflation control has translated into a lower and more stable inflation environment.

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[4] Ibid, p.40
[5] See Filardo and Genberg (2009)
[6] See Fisher 2009

Comparing the two groups, they find it difficult to document big differences in the inflation performance between explicit inflation targeters and non-inflation targeters.

With increased financial integration the trilemma is forcing countries to accept less exchange rate stability or less domestic monetary stabilisation or a little bit of both. Hannoun (2007) has looked into the policy framework and the policy responses to the surge in capital inflows in the region in order to study the balance between exchange rate stability and price stability. He reviewed the development of five key indicators to study the trade-offs: foreign exchange reserves, real exchange rates, interest rate differentials with the United States, real interest rates and balance of payments. The review was made before the onset of the financial crisis, and his conclusion was that these indicators pointed "to a resistance to exchange rate appreciation which might be seen as excessive". On the other hand, Hannon also pointed out that inflation had so far been broadly well contained, and that it in view of this fact not might be appropriate to state that monetary policy in the region was dominated by exchange rate considerations.

An important consideration is also the consequences for the world economy of the choice of monetary policy regime by different countries. The bigger the economy and the more integrated it is in the global economy, the more the choice of monetary policy and exchange rate system and the policy response to economic developments matters. In the analyses of the run-up to the financial crises, the gigantic capital flow to emerging market economies is one important element. The foreign exchange reserves in emerging market economies were in large part invested in government bonds and other assets in the advanced countries, contributing to driving down the risk-free real interest rates to historically low levels and to trigger a huge international credit expansion[7]. Credit terms were eased and search for yield gave a stimulus to the development of new complex structured financial instruments. One interpretation might be that the trade-off between the policy objectives in emerging Asia was fairly well-balanced from the domestic perspective in the region but contributed to the building up of imbalances in the world economy.

The financial crisis and the challenges ahead

The Asian economies were not much affected by the financial crises to begin with as the direct exposure to the problematic financial instruments was negligible[8]. The favourable economic development in the region continued until mid-2008. After the collapse of Lehman Brothers, however, the economies were hit hard. Dramatically falling export demand and paralysed international financial markets took its toll. Confidence fell, the financial conditions tightened, domestic demand was dampened, and labour markets weakened. GDP growth fell considerably and only China, Indonesia and India escaped a severe recession. This was the result of large policy stimulus and in India less dependence on exports. There was a sharp reversal in capital flows and inflows turned into large outflows. Such immense fluctuations in capital flows put enormous strain on economic policy and exchange rates depreciated.

The world economy has started to recover again, with emerging market economies, especially in Asia, in the lead[9]. The economic outlook for Asia improved markedly already during the first half of 2009. One of the factors behind the rebound is the very expansionary fiscal and

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[7] See Subbarao (2009)
[8] For the Indian case see Mohanty (2009)
[9] See IMF (2009a)

monetary policy. The comparably robust fiscal positions in the emerging Asian economies at the onset of the crisis have left room for manoeuvre for a very expansionary economic policy in the region. Another factor behind the rebound is the upturn in financial markets in the spring 2009, which eased financing constraints in the economies. The overall health of the banking sector in the region has also limited the impact of the financial crisis.

More favourable growth prospects in emerging Asia together with the prospects of low interest rates in the advanced countries for "an extended period" as it has been expressed by Fed, is again driving significant capital flows into emerging markets, particularly in Asia and the Pacific. There are also indications of increasing carry trades funded in US dollars and other low interest rate currencies[10]. These inflows put pressure on exchange rates and monetary policy in the recipient countries. If exchange rates are prevented from appreciating through interventions this may have consequences for the liquidity of the domestic financial system and lead to increasing inflation pressure, asset price volatility and financial instability. The larger the inflows the more difficult it will be to effectively sterilise the interventions and interventions can also be costly[11]. Imbalances may build up with increasing risks of more dramatic corrections further on. In the autumn 2009 policymakers in a number of countries, India, Korea and Chinese Taipei, have hinted that they would consider measures to limit capital flows[12].

In the World Economic Outlook in October 2009 the IMF points at the needs to rebalance global demand. The recovery in the US and in Europe is expected to be sluggish. The argument is that emerging market economies which have previously relied on export growth will now have to rely more on domestic demand. Since the upturn is expected to be stronger in emerging market economies it is probable that they will have to start to unwind the expansionary policy measures earlier than the advanced economies. In order for the faster growing economies to be able to tighten monetary policy, greater exchange rate flexibility may be necessary.

If greater exchange rate flexibility is allowed competitiveness of the economy will be affected by the capital flows. However, it is not possible to permanently prevent a currency from moving towards its long run equilibrium value. But massive speculative capital inflows and outflows can lead to exchange rate overshooting and undershooting. Carry trades might for extended periods drive a currency away from its fair value. This may be a good reason for trying to dampen exchange rate volatility. On the other hand, greater exchange rate volatility might make carry trades more risky and dampen the attractiveness this kind of activities.

As has been touched upon before, increasing financial integration will also bring new risks. Exchange rate volatility will increase costs for individuals and companies who are engaged in cross-boarder trade and financial transactions. It is important to have an infrastructure in place for managing these risks effectively. One consideration which was put forth by Hannoun (2007) is that intermediate policy frameworks, where the policy choices are not clear, may make it necessary for the private sector to insure against a wider set of risk with the consequence of higher hedging costs. The incentives for development of markets and products for the purpose may also be diluted.

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[10] See Gyntelberg and Hördahl (2009)
[11] See CGFS (2009)
[12] See Gyntelberg and Hördahl (2009)

The conclusion is that lack of products and markets for hedging risks may be a reason for preventing full exchange rate flexibility. But on the other hand, there are no good excuses for not working hard to develop such markets.

The Swedish experience

Talking about the trinity choices I can not refrain from drawing on the Swedish experience of different policy frameworks during the last four decades. After the breakdown of the Bretton Woods system in the early 1970s, Sweden tried different exchange rate pegs. The intention was of course to "borrow credibility" from low-inflation countries. But the fixed exchange rate failed to act as a nominal anchor. Inflation expectations were too high, and there was a succession of cost crises. Economic policy was unable to prevent wages and prices from rising too fast to be compatible with the commitment to maintain a fixed exchange rate. To safeguard employment the government accommodated wage increases and between 1976 and 1982 the Swedish krona was devalued 5 times. During the 1980s the government made various attempts to stabilize wage increases but without success and Swedish competitiveness eroded. The credit market was successively deregulated and the foreign exchange regulation dismantled. At the end of the 1980s, the capital account was wide open.

A change of course in stabilisation policy was tried at the beginning of the new decade with an increased weight on price stabilisation while the exchange rate remained fixed. But, to cut a long story short, the Swedish fixed exchange rate system was one of those that collapsed in 1992 after dramatic speculative attacks. The krona was allowed to float and the flexible inflation targeting regime was introduced.

Initially, credibility of the new inflation target was low. One reason was of course the unfavourable inflation record. At that time Sweden was also in the middle of a severe home-made bank crisis. Another reason was the unsuccessful fiscal policy over the previous decades. The economy was out of balance with big deficits in the public finances as well as in the current balance. A shift in the fiscal policy regime was also needed. In the first half of the 1990s extensive measures were taken to consolidate government finances. A distinct division of roles in the Swedish economic policy framework was introduced. Fiscal policy would be targeted at achieving long-term sustainability in the public finances while monetary policy was given the task of keeping inflation low.

The flexible inflation targeting regime has served the Swedish economy well over the last two decades. Since 1992 inflation has fallen remarkably from an average of more than 8 per cent per year to close to the inflation target of 2 per cent. Inflation expectations have come down and are well anchored close to the inflations target. GDP growth has averaged close to 3 per cent, one percentage point higher a year than in the 1970s and 1980s. Real wages have developed much more favourably.

For a small open economy with a high export share like Sweden it is impossible to escape volatility altogether. The difference between the old regime with a fixed exchange rate and the new regime with a floating krona and an inflation target can be illustrated in different ways. Exchange rate volatility has increased, but the flexible exchange rate has an important stabilising role which means lower volatility in the domestic economy. Exchange rate volatility generates higher costs for sectors exposed to international trade and finance and the presence of instruments to manage exchange rate risk is vital. The Riksbank's policy rate is changed much less frequently than during the fixed exchange rate regime and the average policy rate is lower. Market interest rates are lower than in the 1970s and 1980s and an important part of the explanation is lower risk premia for Swedish interest rates.

In the early phases of the financial crisis it appeared as though Sweden, like the emerging market economies in Asia, would be relatively spared from the effects of the turmoil. After the collapse of Lehman brothers, however, the Swedish economy was strongly affected through paralysed international credit markets, a sharp fall in exports and deteriorating confidence in the economy. With the change in the monetary and fiscal policy frameworks in the beginning of the 1990s, Sweden is now much better equipped to counteract these effects of the global crisis. There has been scope to stimulate the economy by means of expansionary monetary and fiscal policy. The Swedish krona weakened substantially after the collapse of Lehman Brothers. The lowest point was noted in March 2009 and since then the krona has appreciated somewhat. The weak krona has helped to some extent to counteract the downturn in the economy. It has also had a positive effect on inflation, which fell considerably in the fall 2008 and is still well below the target.

Concluding remarks

In addition to my recent term on the executive board of the Riksbank, I was also employed at the bank for a decade during the fixed exchange rate regime. Back then economists in Sweden, almost without exception, believed that a floating exchange rate would be inappropriate or even dangerous for a small open economy. Nothing could have been more wrong. But there was at least one key factor missing in the Swedish system – credibility. The Swedish authorities were committed to defending a narrow range of exchange rates. However, time after time, when imbalances had built up, the target was abandoned. When the capital account was deregulated, speculation finally ended the regime. The odds were too high for another devaluation. Credibility is built upon openness and transparency and it is necessary to make people understand the measures taken. Another prerequisite is to be in control of the necessary policy measures. It took several years for the Riksbank to gain credibility for the flexible inflation targeting regime. One indication of success is that inflation expectations in the Swedish economy have been quite stable close to the target. Another fact worth mentioning is that the social partners explicitly pay regard to the inflation target in the wage negotiations.

I realize, of course, that the same monetary policy and exchange rate regime is not optimal for all countries in all phases of development and irrespective of the rate of global integration. With growth and with increasing trade and cross-border financial transactions, new risks will appear. What kind of risks these will be, exchange rate risks or inflation risks, depends among other things upon the monetary and exchange rate regime chosen. The private sector needs appropriate instruments to manage risks. The development of such facilities must be in tandem with global integration. In Sweden, for example, exchange rate risks are greater now than in the old regime and it is quite common for exporters and importers to hedge their cross-border payment flows.

The IMF study shows that an intermediate regime might be favourable for a developing or an emerging market economy. When there are still capital controls and before the necessary financial infrastructure is in place it might be necessary. But judging from, for example, the Swedish experience, when financial markets become more complex and more sophisticated it is also much more difficult to effectively control capital flows. Since almost all advanced countries have chosen a monetary union or a float, there are good reasons for believing that other countries, when their capital flows are free and their financial infrastructure is complex and rich, will do the same.

Thank you

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