The Foreign Exchange Reserves Buildup: Business as Usual?

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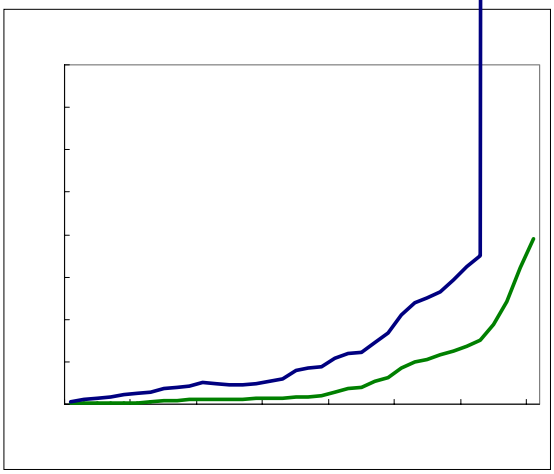
1. Introduction

The massive accumulation of foreign exchange reserves started in the mid-1990s and has accelerated in recent years (Figure 1). It has been driven by the emerging market countries but it is not limited to these countries. Indeed, with the exception of the developed world and of the Latin American countries, the phenomenon is very general, including Africa and the oil exporters. It has been most spectacular in South East Asia and in particular in China. Indeed, at the end of 2006, the seven East Asian countries – ASEAN plus China and Korea – held a total of more than $ 1500 billion, of which $ 1000 billions alone are owned by China.

Figure 1. Foreign Exchange Reserves (US $ bn.)



and had often to be promptly adjusted when they appeared to be ill-adapted (Feldstein, 1998; Wyplosz, 2006).

What do the facts tell us? Figure 1 seems to unambiguously suggest that something new and massive has been under way. Section 2 argues that this evidence is at best incomplete and needs to be carefully revisited. Accumulation appears remarkably rapid when the size of reserves is normalized by GDP or exports. When it is normalized by financial variables (credit, money supply) instead, the situation is entirely different. This simple observation suggests that interpretations that focus on undervaluation policies – e.g. the famed Asian export-led growth strategy – may fail to take fully account of financial integration. Section 3 looks at the situation in different groups of countries. It argues that most of the reserve accumulation is tightly associated with the financial globalization process. The following section starts by asking why countries accumulate reserves, both in theory and in practice. It goes on to offer an evaluation of the adequacy of existing reserves. Its main conclusion is that mercantilist motives seem to play a small role, which is in line with the near-impossibility of a policy of systematic exchange rate undervaluation. The last section concludes by asserting that, maybe with a few exceptions, it is all business as usual. Reserves are mostly used for self-insurance; as financial risks have grown, so have reserve stocks.

2. Are international reserves excessive?

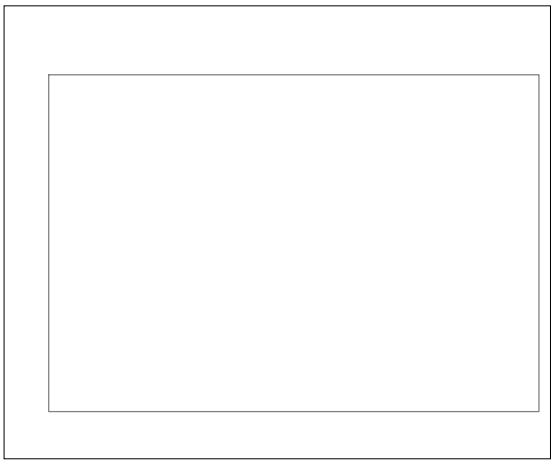
Have reserve holdings become excessive? Answering this question requires dealing with two preliminary and related questions. We need to agree on how to measure reserves and we need criteria to determine what an adequate level is. The latter issue is taken up in Section 4. Here we start by noting that the evidence provided by Figure 1 is not satisfactory for the purpose at hand. The figures are not adjusted for inflation and they are unrelated to the reasons why countries may wish to hold reserves. The first criticism is of little import; dollar inflation has been subdued since the reserve buildup process got under way. The second one raises many serious issues.

The motivation for holding reserves determines which variable should be used to scale the reserves. The usual procedure is to use measures such GDP, exports or imports, which is done in Figure 2. The figure does not dispel the impression that reserves have been accumulating fast since the early 1980s but there is none of the sense of abrupt acceleration since the mid-1990s visible in Figure 1. The obvious reconciliation of the two figures is that both world GDP and trade have increased faster over the last decade. Still, Figure 2 shows that reserves have not just kept up with GDP and trade growth, they have grown much faster, at about twice the pace. Thus the charge that this accumulation is excessive stands.

It is unclear what lies behind the view that GDP or trade are appropriate scaling variables. No reasoning has been offered for the use of GDP. For trade, the usual justification is that countries need to have enough reserves to meet unexpected external disturbances with sufficient means to avoid a sudden stop in essential imports. Indeed, it used to be that international institutions recommended that reserves represent at least three month worth

of imports. Such a recommendation suggests that reserves constitute a form of insurance against unexpected trade disruption. It also implicitly argues that either the trade balance is where balance-of-payment disturbances mostly occur, or that the main risk to be insured by holding reserves concerns the financing of recurrent trade deficits.

Figure 3. International reserves



The remainder of the present paper will only consider reserves scaled by gross external liabilities. Is this the right measure? It is better than gross flows for two reasons. First, flows are rather volatile. Second, it is logical to compare stocks. Yet, it could be argued that we should only look at short-term liabilities, which is indeed what the Greenspan-Guidotti-Fischer rule does. One reason for not doing so is simply data availability. A better reason is that the distinction between short and long-term liabilities can be deceptive. Not only is the border inevitably arbitrary, but the logic implicitly behind this view is flawed. The usual presumption is that long-term liabilities are more stable than short-term ones. On the face of it, this seems uncontroversial. Yet, it ignores two features of currency speculation. The first one is that speculation mostly takes the form of open short positions. These are short-term liabilities, of course but they may be collateralized by long term ones. Second, and more importantly, long-term liability holders rarely remain inert when a crisis looms. They then quickly build up hedges. While these hedges typically take the form of short-term liabilities, the potential for such a buildup is captured by looking at the overall liability position.

3. Who Accumulates Reserves?

The phenomenon of reserves buildup is driven by emerging market countries, but not only. Two groups of countries have not raised their reserves as a share of their external liabilities: Latin America and Non-EU Eu

What hides behind these differences? Many Latin American countries have been part of the financial globalization process and, indeed, Figure 6 shows that average external liabilities have quite strongly increased.[3] On average, therefore, the Latin American countries have simply accumulated reserves at the about same speed as they have accumulated external liabilities. The average increase of external liabilities in "Non-EU Europe" – not shown, but see Table 1 – has been rapid but starting from a low base; like in Latin America, reserves have been added about proportionately to external liabilities. The case of Africa has gone little noticed. Financial globalization has been slower there; still, between 2000 and 2004, African external liabilities have increased by 51%. During the same period, their reserves rose by 94%. The oil exporting countries too have become financially integrated but their reserves have rapidly increased. This reflects the rise in oil prices. If past experience is any guide, we can expect that they will decumulate their reserves as they gradually invest in other assets, often acquiring significant shares of foreign corporations.

Figure 6. External liabilities

stabilizing the capital account. Taking both concerns into account, we may conclude that one good reason for a country to hold reserves is to self-insure itself against sharp and sudden reversals in the balance of payments.

A second, more dubious reason is what Aisenman and Lee (2006a, 2006b) call mercantilism. They distinguish financial from monetary mercantilism. Financial mercantilism is a modern form of mercantilism, which is often labelled the export-led strategy. A common representation of this strategy is that it seeks to boost growth by maintaining the exchange rate undervalued. The excessive accumulation of foreign exchange reserves is then seen as a byproduct of the strategy. A related description of the strategy is that it seeks to

only a limited support for the mercantilist approach."[4] This also confirms the view, presented above, that the recent accumulation of reserves has largely been driven by the recognition that financial globalization calls for a new attitude to deciding on reserve adequacy.

A very different approach is adopted by J

> stockpile of foreign exchange reserves, the government would not have to resort to drawing funds from the people to get through difficult periods. Hong Kong survived the 1997 crisis because it held large foreign exchange reserves."
> Xie Taifeng, "Large Forex Reserves Do More Good than Harm", People's Daily Online, November 14, 2006 (http://english.people.com.cn)

The intention is clearly to rule out the need to apply to the IMF for emergency loans as happened during the 1997-8 Asian crisis. Many Asian countries consider that the conditionality associated with these loans was ill-designed and even violated their sovereignty. The rejection by Malaysia of these conditions, and the controversial evidence by Kaplan and Rodrik (2001) that Malaysia fared at least as well as the other

holding reserves. Defining the cost as the difference between the cost of borrowing abroad and the return on reserves, he provides an estimate of 1% of GDP when reserves amount to 30% of GDP. This procedure has the merit of circumscribing the evaluation to a question of assets and liabilities management. It has the drawback of not taking into account the *opportunity* cost of other possible uses of the foreign currency held as reserves.

Instead of safe and liquid investments, the monetary authorities could hold assets with superior returns, which a number of central banks have started to do.[6] An even more

4.3.2. Export-led growth strategy

The potential opportunity cost of asset stocks must be related to potential benefits. If the main purpose is export-led growth, the potential benefits can be large. Of course, currency undervaluation impose an additional cost to trading partners, but the cost-benefit balance may be favorable for the country in question in the presence of fixed costs, market distortions or increasing returns in production. There seems to be no study that attempts to measure the existence and extent of such benefits but the presumption must be that that these benefits are real and sizeable. A *prime facie* indication is that most of the successful emerging market countries of yesterday (Japan and Korea) and of today (Argentina, China) have adopted this strategy. Chile is an important counter-example.

It remains to determine how this strategy can work. In principle, simply attempting to keep the exchange rate undervalued cannot work if markets operate reasonably freely. Indeed, keeping a high level of external demand for domestically produced good must inevitably lead to inflationary pressure. This, in turn, means an appreciating real exchange rate. In order to maintain prevent the real exchange rate undervalued, the central bank must them keep depreciating its nominal exchange rate, which requires further reserve accumulation in an unending process. Furthermore, to prevent inflation from catching up, the central bank must sterilize its foreign exchange market interventions, which then becomes increas5.1rr

rate over the short to the medium run, but cannot be in and by itself a policy tool. This conclusion is in line with the empirical results reported earlier in Section 4.2, which tend to reject mercantilism as a driving force behind reserve accumulation.

4.3.3. Self-Insurance

The second motivation for reserve accumulation is self-insurance against the risk of currency crises. This would justify bearing the cost of holding reserves, which amount to a risk premium. But what exactly is the risk that is insured and how is it covered? Currency crises can be very expensive, especially when they are accompanied by banking crises, as is often the case. Estimates of these costs range from 10% to 25% of GDP, sometimes even more. In addition, these estimates overlook the social and political costs of severe crises. Assuming that reserves of, say, 100% of GDP are apt to provide the sought-after protection – an assertion that is challenged below – the Rodrik estimate implies an annual cost of about 3% of GDP. Further assuming that crises could cost 25% of GDP may arise once in a decade, even ignoring discounting, the insured expected risk is of the order of 2.5% of GDP. This would suggest that self-insurance via foreign exchange reserves is not particularly attractive. Of course, we would need to add the non-economic costs of financial crises – social pain and instability, political turmoil, wealth redistribution and more.

The matter becomes even more complicated once we allow for moral hazard. There are many ways for a country to reduce the odds of a crisis and to make its consequences less dramatic. The experience of the developed countries suggests that both the odds and the consequences can be considerably reduced by adopting adequate structural and macroeconomic policies. Self-insurance can become very expensive if a large stock of reserves acts as a disincentive to adopt these policies, especially since most of them carry additional favorable supply-side benefits.

The second issue concerns what does self-insurance really achieves. Foreign exchange reserves are not really an insurance mechanism: they do not pay back a fraction of the costs, they are only meant to reduce the odds of a crisis. The deep question, then, is whether they offer an iron-clad protection. There is no consensus on this question, for lack of empirical investigation. In theory, there is little doubt that large reserves may deter crises, but there is no guarantee that the deterrent is always effective. Even if reserves meet the Greenspan-Guidotti-Fischer rule and are equal to short-term debt, which may not be enough once we allow for short positions. Jeanne and Wyplosz (2003) show that determined markets can quickly build up virtually unlimited speculative positions. Reserve stocks, on the other hand, are finite.

The main role of reserves is there-5.7alaFfr9(p)0–15 0 TD0.001 Tc-0.0035ises, -T-0.2(,eJ1)6dramay 0eserv

with the foreign currency that they will have to deliver and, at the same time, extend domestic currency credit to keep the money supply unchanged. When the banking sector is relatively fragile, large-scale sterilization may become a hazardous undertaking. Replacing a currency crisis with a domestic

strategy is meant to serve. The alternative interpretation of the export-led growth strategy is that relies on high saving rates, which are largely immune from policy actions.

Another way to think about reserve accumulation is in terms of costs and benefits. Reserves are typically held in the form of low-yield, high-grade and liquid assets. There follows the presumption of a sizeable opportunity cost, for two main reasons. To start with, taking the balance of payment as given, additional reserves are added as a consequence of external borrowing. The difference between the borrowing rate and the return from reserves is a first measure of the cost of holding reserves. Another way to look at the question is to identify reserve accumulation with a balance of payments surplus. In that case the returns from reserves must be compared to the productivity of domestic investments, private or public. Either way, with few exceptions, it is likely that reserve holding is expensive.

The benefits are related to the motive. If we dismiss mercantilism, the main benefit from

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Appendix: Country groupings used in Error! Reference source not found.

Emerging market countries (25)

Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

Non-EU Europe (17)

Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Moldova, Poland, Romania, Slovak Republic, Slovenia, Turkey.

South-East Asia (14)

Brunei, Cambodia, China (Mainland), Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Oil Exporters (28)

Algeria, Angola, Azerbaijan, Equatorial Guinea, Gabon, Islamic Republic of Iran, Iraq, Kazakhstan, Kuwait, Libya, Nigeria, Norway, Oman, Qatar, Russia, Saudi Arabia, Sudan, Syrian Arab Republic, Trinidad and Tobago, Turkmenistan, United Arab Emirates, Venezuela, and Yemen.