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Financial Markets Reform

THE ACCUMULATION OF INTERNATIONAL RESERVES AS A DEFENSE STRATEGY

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Introduction

The financial turmoil of the second half of the 1990s showed that even some of the most successful and fast-growing emerging countries risked suffering deep and widespread damages caused by balance of payments crises generated by capital flow reversals. In fact, as reflected in the contemporaneous debate, most of these countries suffered doubly, both from the crises themselves and from the burden of the rescue packages put together by the International Monetary Fund.[2] Stung by the costs of those crises and their resolution, emerging countries seemed to have adopted in the 2000s a different strategy, dubbed "self insurance". The central and most visible, although by no means the only, instrument of this strategy has been the relentless accumulation of international reserves.

Reserve accumulation by developing economies, however, has been a more complex phenomenon than has often been recognized. Firstly, because reserves have been accumulated under very different circumstances, in response to different reasons, depending on the country one chooses to analyze. Secondly, because it is assumed by many analysts that these countries have better alternative uses for the resources that are being kept idle or semi-idle (invested in low yield securities as US Treasury bonds, for instance). Thirdly, critics and defenders alike of reserve accumulation as a defensive strategy do not always properly evaluate the risks of new balance of payments crises. In any case, in the absence of adequate sources of liquidity that could offer emergency support on reasonable terms in the case of crisis, it should not be a surprise that developing countries tried to identify means to defend themselves.

In this chapter, we want to re-examine the set of defensive strategies recently adopted by emerging economies of which reserve accumulation has been rightly identified as a central

element. In doing so, we begin, in the follwoing section, by examining the motives to hold reserves, based on the notion of liquidity preference proposed by Keynes in *The General Theory of Employment, Interest and Money*, and discussing how it applies both at the international and domestic levels. The nest section focuses on how reserve accumulation, as well as other instruments currently being adopted or proposed, fit into this theoretical approach. We distinguish the cases where reserve accumulation results from conscious precautionary strategies from those where it is a byproduct of policies designed to achieve other goals. Next, in the following section, we show that important vulnerabilities remain even if the country is successful at accumulating a very large amount of reserves. The last section concludes the chapter by examining some alternatives to reserve accumulation that could reduce vulnerabilities and minimize negative externalities.

Motives for Demanding International Liquidity

Quite apart from any need for *capital* or *external savings* of any nature, a nation demands *liquidity*, that is, *the command over international means of payment*, for reasons that are fundamentally similar to the demand for domestic money on the part of individuals and firms. If we adapt Keynes' well known classification of motives to demand money[3] to the demand for international reserves, we may define:

a) A transactions demand. Domestically, this is the main reason behind the demand for money. As in the case of the domestic transactions demand for money, the amount of international means of payments a country needs to retain to cover its payments needs for goods and services

depends primarily on the time profile of its cash inflows and outflows. *Normal* expenditures cover payments for imports of goods and services as well as factor incomes. Inflows are generated by the export of goods and services and by the import of capital. The latter may be too volatile to be counted on to guarantee cover for normal expenditures. On the other hand, it is extremely unlikely that cash inflows from exports of goods and services will materialize exactly when needed to pay the country's external obligations, given their own time patterns. The less dependent a developing country is on the export of a few agricultural or mining commodities, the smoother its export inflows should be. In this case, one would expect a transactions demand for reserves to emerge to guarantee the payment for normal imports of goods and services in the cases where normal inflows may be too irregularly distributed.

b) A precautionary demand. In contrast to the transactions demand for money, the precautionary demand refers to the liquid balances held against uncertainty, that is, to protect the country against the possibility of suffering adverse shocks. Supply shocks, like the oil price rises of the 1970s, may suddenly and sharply increase the import bill. Reversal of capital flows and capital flight[4] may easily overcome the monetary authorities' abilities to maintain stability in the foreign currency market. For a country, guarding against adverse shocks that may reduce or interrupt cash inflows or increase outflows may be the most important motive to retain reserves.

c) A finance demand.[5] Keynes defined this motive to demand money as applying to the case where an individual has an abnormal expenditure plan, as in the case of making an investment, for example, and thus has a temporarily higher need for means of payment. For a country, particularly if it is a developing country, there may be moments where the launching of a large-

scale investment plan may create an extra demand for international means of payment, above and beyond the normal transactions demand for reserves. In this case, the country can satisfy this demand by borrowing, if it has access to foreign financial markets and loans are available, which increases however its external liabilities, or by accumulating extra reserves in advance of the launching of the plan.

d) A speculative demand. In Keynes's theory, the speculative demand for money refers to money balances held by investors when they expect interest rates to rise. They prefer to hold money until the prices of securities go down to avoid a capital loss, buying them on the cheap when the interest rate finally rises as expected. Normally, one would not think of countries actually speculating with asset prices and therefore there would be no speculative demand for reserves. However, as the value of reserves held by emerging economies rose steeply in recent years, there arose some concern with the growing opportunity cost of maintaining those reserves idle. The possibility was then examined in many quarters of investing a fraction of those resources in reasonably safe but higher-yielding assets. But liquidity considerations should remain paramount in reserve management. Thus, to avoid mixing liquidity management with the search for higher returns, more and more countries decided to dedicate a fraction of their reserves to constitute Sovereign Wealth Funds (SWF) with the mission of increasing the overall return on reserves. The creation of SWFs worked, thus, as an alternative to the definition of a speculative demand for international reserves, that is, to holding currency reserves in anticipation of some expected investment opportunity to materialize.

Thus, as in the case of domestic demand for money, demand for international reserves should be a function of the "normal" value of expenditures with goods and services and the time profile of cash inflows from exports (transactions motive), the level of uncertainty about the future (precautionary motive), and the existence and value of extra expenditure plans (finance motive). Expected changes in foreign interest rates and the price of securities (speculative motive) should influence the portfolio choices of SWFs, rather than influencing directly the demand for foreign currency. The size of the demand for reserves, on the other hand, should depend on the existence of ready sources of international liquidity in case of need, and the conditions for accessing these sources. The easier the access to liquidity sources, the lower will be the demand for money since users will not need to maintain idle balances if they can obtain the money they need from existing facilities.

Two main features distinguish domestic and the international monetary systems with respect to liquidity provision. Firstly, domestic monetary systems are run by specially-created institutions to manage the creation of money in line with the economy's needs, while no such institutions exist at the international level. Secondly, while domestic economies are usually endowed with one currency, in the international economy different currencies can actually co-exist and compete for the preference of private agents and governments, as it currently happens in the case of the US dollar and the euro.

In modern domestic monetary systems, high-powered money (legal tender) is created by central banks and multiplied into a larger volume of means of payment by the banking system. The provision of liquidity, at least in principle, is regulated so as to accommodate the increase in transactions that will follow the expansion of the economy, while safeguarding the value of money by combating inflation. This can be done in modern monetary systems because liquidity

is ultimately created by a specific institution with the power *and* the mission to create means of payment in the necessary amount to allow trade to grow.

Modern international monetary systems, in contrast, are not governed by a specific institution with a mandate to support the legitimate demands for international means of payment. In the post World War II world, the US dollar has played the role of international means of payment, even after the collapse of the fixed exchange rate system adopted in 1944 in the Bretton Woods Conference. This means that the provision of international liquidity has been a byproduct of domestic monetary policies adopted in the United States, which are decided almost exclusively with domestic goals in mind. There is no reason to expect, of course, that international needs for means of payment will be served by such a policy. The Federal Reserve decides on policy having the US economy's needs in mind, not the world's. Only by accident, the pursuance of domestic goals will generate the money supply the rest of the world needs. The problem, of course, is not the predominance of the US dollar as such. The use of a *national* currency as an *international means of payment* would pose a similar problem were the euro or the yen the dominant currency.

In fact, as Robert Triffin explained in 1960, giving a national currency the role of international money inevitably creates a dilemma.[6] For a national currency like the US dollar to work as a means of payment in international transactions, it is necessary that other countries have access to dollars to make transactions among themselves. This is only possible if the United States generate deficits in its balance of payments with the rest of the world. If the value of transactions is growing, and the velocity of circulation of money is stable, balance of payments deficits have in fact to increase in order to increase international liquidity. The growth in the US balance of payments deficits, however, erodes the confidence on the stability of the value of the

dollar, undermining its role as an international money of account and means of payment. This is the Triffin dilemma: controlling US balance of payments deficits could restore the confidence on the dollar, but at the cost of rationing international liquidity and creating obstacles to trade expansion. Accommodating the international demand for the international money, in contrast, accelerates the erosion of confidence on the same money.[7]

The provision of means of payment is not an exclusive responsibility of central banks. Domestically, high-powered money is multiplied by the banking system when the latter creates demand deposits. In addition, non-bank financial institutions can again multiply the ability of doing transactions with a given volume of means of payment. The smooth operation of the monetary system depends, thus, on the way the three types of institutions operate and relate to each other. The central bank influences the ability of banks to multiply the volume of means of payment and the banks influence the rest of the financial system in the creation of additional liquidity.

In the first two decades after Bretton Woods, the expansion of international liquidity was limited by the general acceptance of capital controls and other restrictions on international financial transactions. In particular, purely financial transactions were banned in a large number of cases. Even foreign direct investment was subject to legal or regulatory restrictions in many countries. Practically only trade credit, to support the expansion of international trade in goods and services, was accepted without reservations. Capital controls began falling out of favor in the 1960s. Their reach was increasingly restricted in the following decade and they practically disappeared among developed countries in the late 1980s. In the 1990s, it was the developing economies' turn to dismantle their capital controls, although the process somehow lost momentum at the end of the decade.

The rapid expansion of financial transactions following the liberalization of the capital account aggravated the fragility of a system already plagued by the Triffin dilemma. The fast growth of capital flows sharply increased the volatility of asset prices, interest rates and exchange rates, with significant impact on the real "side" of the economy. Increased volatility meant an increase in the uncertainty surrounding the behavior of the capital account and of the overall balance of payments position. All other things equal, the increasing uncertainty was bound to increase the precautionary demand for international money stimulating the accumulation of reserves.

These increased uncertainties, naturally, affected much more strongly developing countries because external liabilities for these countries are mostly denominated in foreign currencies, for reasons discussed in the "original sin" literature.[8] Unable to service its liabilities in its own currency, a developing country has to be sure it will have access to, or will have in storage, the amount of foreign currency necessary to honor those obligations.

The situation is certainly potentially more dramatic in the case of developing economies, but they are by no means the only countries threatened by these developments. In fact, it was precisely the conscience of how serious this problem could be for the international economy that inspired the creation of the International Monetary Fund in the 1944 Bretton Woods Conference. In its original conception, the IMF was to serve precisely as a supplier of "secondary" reserves to countries suffering from balance of payments deficits in a world where the only internationally accepted means of payment would be the dollar. It was only after a protracted debate, in the late 1940s and early 1950s that the Fund came to adopt its current practice of imposing (sometimes exacting) conditionalities on its support programs for countries in need.[9]

In the absence of supporting institutions providing international liquidity at reasonable terms (financial costs *and* policy conditionalities), countries were supposed to turn to private financial markets. The precariousness of this "solution" however was repeatedly illustrated by the succession of crises initiated by the Mexican crisis of 1994.[10] On other hand, the rescue packages by the IMF came to be seen, especially in Asian countries, as a burden in themselves, imposing heavy costs, hard to disentangle from the costs of the crises themselves. New strategies, more efficient in protecting these economies against the volatilities of the international economy just *had* to be devised.

Reserve Accumulation and Other Instruments of "Self Insurance"

The experience of the 1990s crises vividly illustrated to developing countries the risks of financial and capital liberalization. Both capital flow reversals *and* the rescue packages put together by the IMF imposed heavy losses to afflicted countries in terms of lost output and employment, bankruptcies, and the loss of policy autonomy resulting from the imposition of structural conditionalities that even the Fund itself ended up recognizing were excessive.[11] T he sudden realization that international financial integration made the position of emerging countries exceedingly fragile led to two main results.

The first, and more immediate, impact of the succession of balance of payments crises since 1994 was the loss of momentum of the process of capital account liberalization that had been going on in force since the beginning of that decade among developing economies. The most dramatic of the crisis episodes, the 1997 Asian crisis, exploded precisely when the IMF was proposing a reform of its Articles of Agreement to consecrate the principle of capital account

convertibility. After 1997 this process was decelerated, virtually to the point of a halt, but it was not reversed.

The second was the realization that emerging economies had to find ways to deal with the possibility of capital flows reversals other than appealing to the IMF for support. It is in this context that several measures were adopted, among which the most visible so far has been the accumulation of reserves.

Capital flows reversals are particularly destructive for developing economies for at least four reasons. First, given the size disparities between world capital markets and those in developing countries, even marginal changes in capital flows in the world market can create great volatility in emerging economies.[12] Second, capital flows respond more frequently to changes in *source* countries than in *recipient*, developing economies. Third, both capital inflows and outflows into developing countries tend to induce vast changes in domestic policies in order to sterilize their effects on exchange rates. Fourth, finally, through their effects on exchange rates (or in interest rates as a result of attempts to sterilize their domestic impact), capital movements can generate important externalities, such as the deleterious effects on exports caused by exchange rate appreciation when inflows are excessive, or the impacts on the solvency of domestic borrowers in foreign currency, when the local currency depreciates as a result of capital flight.

In fact, both *capital flight* and *capital flood* create difficulties for developing countries.[13] In an environment of free capital flows, even small changes in their intensity or direction can cause disproportional damage to the recipient economy.

Developing countries sought to implement measures directed at providing themselves some degree of protection. Short of reinstating capital controls, three were the main instruments

for self-protection: the accumulation of increasing amounts of international reserves, to create a cushion against the risk of capital flight or to attenuate the pressures to overvaluation in the case of capital flood; the creation of regional monetary arrangements; and the development of domestic financial markets to accommodate demands for financial resources by local borrowers, including the government.

At first sight, the pace at which reserves have been accumulated by emerging economies these last few years is a very impressive proof of the popularity of the instrument. Table 1 show that, for all developing countries, international reserves grew at increasing speed in the 2000s, adding almost US$ 2.5 trillion dollars in the years 2004 to 2007 alone. The perception that one could not count on alternative sources of liquidity should lead to an increase both in the transactions and the precautionary demand for money, intensifying reserve accumulation. One should be careful, however, in attributing all growth in reserves to a strategy of self-insurance. Particularly until the outbreak of the subprime crisis in the United States, a large amount of reserves have been accumulated as a result of capital inflows that are beyond the control of recipient countries. In some cases, inflows were so intense that exchange rates appreciated strongly even while reserves were accumulated. In other cases, reserves were held precisely to avoid potentially disruptive movements of the exchange rate. Table 15.1 also shows that, in parallel to an impressive growth of current account surpluses, developing countries also received increasing volumes of foreign capital. In fact, in 2006 alone, net private capital inflows reached about US$ 600 billion. In 2007, net private capital inflows rose to slightly less than US$ 900 billion. These inflows are not necessarily sought for, or even desired by developing countries: they simply cannot be stopped once capital controls have been dismantled. In some other cases, reserve growth is a byproduct of an attempt to promote the expansion of net exports to

compensate the slow growth of domestic expenditures, particularly in the presence of restrictive monetary and fiscal policies. In this case, growth of reserves is not a strategic goal, being just an unintended result of aggregate demand management policies.

<Insert Table 15.1>

Whichever way one measures the contribution of each of the three factors just discussed for the final result, the result is still very impressive in itself, that is, the accumulation of such a volume of reserves in a small period of time.

The creation of regional monetary funds is an attempt to create liquidity facilities that may be more member-friendly than the IMF. It is widely believed that the Fund took advantage of the crisis in Asian countries to promote structural reforms that seemed to be more in line with the demands of some developed countries than in the interest of the borrowing countries. Of course, it is accepted that monetary funds must seek guarantees that their loans will be repaid, but there must be clear principles and mandates to set the types of guarantees that are legitimate. The Fund itself seems to have concluded that it went beyond its mandate during the Camdessus tenure, since an immediate review of the reach of structural conditionalities was began by his successor. How far the Fund is willing to go to recover its legitimacy is still to be tested, but the bad experience of the 1990s has stimulated many countries to look for alternative liquidity facilities where conditionalities could be more reasonable.

So far, however, only one of the experiments created recently has actually matured, in Asia, the Chiang Mai Initiative.[14] The creation of other institutions is being examined, most notably the Banco do Sul, in Latin America. The original proposal, advanced by the government

of Venezuela, contemplated an institution that would simultaneously perform the roles of a regional monetary fund and of a development bank. The conflation of the two roles was, however, criticized by some potential members, most notably Brazil, which supports the creation of a development bank, but not of a monetary fund. Other relevant, and more immediately viable, initiatives comprise the adoption of local currencies in bilateral trade, as established between Brazil and Argentina, which can be extended to the remaining Mercosul partners, and the creation of swap lines that can economize the use of reserves in the region.

Finally, incentives to the expansion of domestic securities markets have been instrumental in reorienting the demand for financial resources on the part of public and private borrowers into the domestic markets in order to reduce exchange rate risks. Of course, the development of domestic financial markets cannot solve problems related to the scarcity of foreign currency, when this is the case, but can keep foreign liabilities under control when foreign financial markets are accessed just because they are more liquid or the cost of capital may be lower. Again, a few countries have achieved a significant measure of success in creating domestic markets for public securities and/or stock exchanges, but this is still mostly a promise for the future.

Persistent Vulnerabilities

Building up regional monetary arrangements or creating domestic securities markets are long term processes that may or may not become efficient protective devices in the future. The accumulation of reserves, in contrast, is meant to protect economies against balance of payments disequilibria *right now*. They are expected to represent a liquidity cushion capable of

accommodating sudden demands for foreign currency, giving some breathing time for government authorities to devise more consequent policies.

In fact, as shown in table 15.2, the accumulation of reserves contributed to the general improvement in the external position of developing countries as a whole, although a case can be made that, after the widespread process of capital account liberalization of the 1980s and 1990s, the traditional indicators reported in table 2 may not give an accurate assessment of a country's external vulnerability any more.[15]

<Insert Table 15.2>

Of course, cushions are only efficient if they are available when one needs to use the resources. In this sense, it is important to distinguish between the cases where reserves result from the accumulation of current account surpluses and those resulting from capital account surpluses in excess of current account deficits, since the latter implies an increase in foreign liabilities. *Borrowed* reserves can become unavailable precisely when a country needs them most, that is, when capital flow reversals put pressure on the balance of payments, as it was the case of Latin American countries in many occasions since the debt crisis of the 1980s. *Earned* reserves, on the other hand, resulting from the accumulation of surpluses in the current account, become the country's foreign *net worth*, that cannot be just taken away by creditors in the event of a crisis and can thus help to keep country solvent.

In practically all cases net capital inflows have been an important source of reserves. Some countries, however, have accumulated reserves entirely, or almost entirely, out of capital inflows. In these cases, self insurance may be largely illusory, since it is likely that creditors will

call back their loans and portfolio investments in case of a balance of payments crisis, as it frequently happened in the past. The extensive substitution of debt securities placements for syndicated bank loans as a source of external finance that followed the debt crisis of the 1980s in Latin America and the appeal to foreign investors to acquire stock in local exchanges may have accentuated the fragility of the financial position of the countries in the region. However, although it is extraordinarily difficult to make any kind of predictions, capital flight has not been as dramatic a problem so far to countries like Brazil, Argentina and Mexico. Capital movement reversals have been somewhat strong in 2008, but there seems to be no evidence yet of the kind of sharp change in the demand for foreign assets among residents in those economies which has signaled the beginning of a capital account crisis in the recent past.

The situation may be only marginally improved if capital inflows take the form of foreign investment rather than loans or portfolio investment. Foreign investments create *implicit* foreign liabilities that may be as much constraining as the *explicit* liabilities created by debt. In fact, they may even pose more difficult problems for the authorities since there is no pre-determined schedule of repatriation or of remittances of profits and dividends, which can be accelerated or decelerated according to changing evaluations made by investors. In any case, table 15.3 shows that, among the major emerging economies, the situation, from this point of view, is less reassuring than it may look if one only pays attention to the amount of reserves. In fact, at least in the case of Brazil, the situation has clearly worsened since 2006. After a rapid fall of the current account surplus in 2007, it actually was transformed into a deficit in 2008, which is growing very quickly, prodded initially by a overvalued currency and afterwards by the dramatic weakening of external demand, even after a sharp devaluation of the real reversed the trend to exchange rate appreciation that had been observed for some months.

<Insert Table 15.3>

Be it as it may, in the absence of capital flight, reserves may offer a good measure of protection against events like the reduction of exports, caused by a deceleration of trade or a reduction in the price of exported goods and services, particularly if they take place gradually. The use of reserves to maintain payments for *normal* imports and service external liabilities may avoid changes in exchange rates that would transmit the disturbances to other agents, running the risk of initiating a contagion process.

The accumulation of earned reserves may also be an efficient shock absorber in the current environment where foreign liabilities are mostly of private responsibility, in contrast with the dominance of public borrowers in the past. Private liabilities are spread throughout the economy, making a coordinated response to a given shock much more difficult than in the case of public liabilities, where a unified reaction by government can be articulated relatively quickly. The availability of an ample cushion of reserves may accommodate unexpected capital outflows without causing significant changes in exchange rates, for instance, that can influence the solvency of other local debtors. Of course, a cushion serves to attenuate shocks, to gain time while a more definite policy response is articulated, it is not a response in itself. But it can help avoiding contagion effects as it happens when a sudden outflow causes exchange rates to rise, thereby forcing other debtors to rush to try to liquidate their liabilities before rates rise even more, generating a self-feeding devaluation process.

The benefits of reserve accumulation do not come without costs, though. In the case of borrowed reserves, the pecuniary costs are relatively easy to calculate, consisting in the spread

between the rates of interest paid to service the external debt and the rates received as interest on the securities that are held by the country. As reserves are usually held in highly liquid, low-yield securities, as, typically, US treasuries, this spread is certainly negative. In the case of earned reserves, the calculation is not as clear-cut, since it would involve the opportunity cost of maintaining those resources invested in low-yield securities, compared to their "best" possible alternative use, which is seldom calculable with certainty. In any case, one should notice that the main service offered by the accumulation of liquid reserves is not their yield, but the safety it provides.[16]

It is still important to notice, on the other hand, that the security reserves offer may be overestimated when one uses traditional indicators such as those listed in table II. In fact, most studies evaluate the adequacy of reserves in comparison either with imports of goods and services or with the value of *short term foreign debt*. As difficult and uncertain as the estimation may be, one should also consider, in addition to debt, the possibility of repatriation and acceleration of profit remittances by foreign direct investors, which usually happens during a balance of payments crisis. In addition, the mass exit of portfolio investments by non-residents may also create strong pressures on reserves. The potential negative impact of these outflows on the level of reserves (or on the exchange rates) can at least be calculated. But the most fateful omission in the calculation of vulnerability indices based on the value of the short term debt relates to the possibility of *capital flight by residents*. It is often forgotten that the liberalization of capital accounts opened the possibility for residents to transfer their wealth abroad. Under these circumstances, the volume of reserves do not have to be just sufficient to allow repayment of non-residents' loans. Reserves have actually to be also enough to cover capital flight by residents. In fact, most of the balance of payments crises in emerging economies in the 1990s

were triggered by capital flight by residents using the privileges obtained in the financial liberalization reforms.[17]

A final word must be reserved to notice that the increase in the number of reserve currencies, to include most notably the newly-created euro, in an international system of flexible exchange rates, introduces the exchange rate risk in the calculation of national authorities. An even more difficult Triffin dilemma of sorts emerges, because balance of payments disequilibria in countries issuing reserve currencies may influence the valuation of (and therefore the degree of protection afforded by) reserves through its impacts on current and expected exchange rates.

Conclusion: Are There Better Alternatives?

Holding high volumes of reserves, particularly if they are earned reserves, serves to absorb moderate shocks, smooth the behavior of exchange rates in floating regimes, and to allow some breathing space for government authorities, postponing the operation of contagion channels, such as the impact of changing exchange rates on the balance sheets of borrowers in foreign currencies. So far, the availability of reserves seems to have given some measure of protection to economies like Brazil's, since they allow local authorities to face the pressures resulting from the international financial crisis and avoid major disruptions. The key feature of the current situation (as of early 2009), in the Brazilian case, seem to be that while foreign portfolio and direct investors are reducing their presence in the national economy, residents have not felt the push to substitute foreign for domestic assets that leads to uncontrollable capital flight.

Under current conditions, accumulating reserves may be a better strategy than just relying on the possibility of accessing institutions such as the IMF, or trying to establish emergency

credit lines with private banks, as done by Argentina during the Tequila crisis, which may not be honored when the country needs them.

Nevertheless, reserve accumulation as a defensive strategy should be seen mostly as an option of last resort, to be adopted when better strategies are not available. It is potentially expensive for the country holding them, particularly in the case of developing countries that could find better capital accumulation strategies than just holding idle balances or low-yield securities. It is deflationary for the global economy, reducing global demand, output and employment.

The best alternative, doubtless, would be the organization of an international monetary system where a true international currency, free of the Triffin dilemma, could be created as the need for liquidity increased. In such a system, emergency liquidity facilities, accessible at reasonable terms, should be created to protect countries suffering adverse temporary shocks to their balance of payments. Finally, in the case of countries facing deeper disequilibria, institutions and formal procedures should be defined to allow restructuring of liabilities to be negotiated by the concerned parties without causing excessive disruption to the operation of their economies.

Of course, these were features (except for the third) of Keynes's plan presented at the Bretton Woods Conference of 1944, rejected by the United States delegation, who presented their own plan.[18] The White Plan[19] maintained the US dollar as the international means of payment, and created the IMF, not really as a liquidity provider of last resort, but as a financial intermediary demanding more and more exacting terms, as time passed by, to concede loans to countries in difficulties. Although the creation of international institutions and the attempts to formalize procedures represented a definite progress in the evolution of international monetary

relations, the inadequacies of the chosen strategy became more and more clear through the years. Through time, these inadequacies led many economists to propose versions of the Keynes's plan adapted to current conditions. Most of these proposals gave special attention to the need to overcome the Triffin dilemma and to create more flexible emergency liquidity provision mechanisms. Since the creation of SDRs, one favorite from reformers is the possibility of transforming this instrument into a true international currency.

There seem to be, however, some important political obstacles to the exploration of such a reform path. In contrast with the situation in 1944, there is no clear hegemony in the world economy that would give any country the power to impose solutions, no matter how enlightened they might be. On the other hand, there are no clear and convergent views among the leading economies as to the need for a new monetary and financial architecture or the lines along which the existing architecture should be reformed. In particular, there is nothing like the identity of concerns and goals that marked the two leading groups of participants in the Bretton Woods process, the "new dealers" of the US administration and the British delegation, under the intellectual leadership of Lord Keynes.

One should recognize that the IMF has been making an effort to streamline their loan conditionalities, after the widely criticized excesses under Michel Camdessus directorship in the 1990s. New guidelines have been approved by the Executive Board, making an important distinction between policy changes and reforms that were *critical* to the success of a rescue plan and those that are only considered *relevant* by the Fund. The former would be still part of loan conditionalities, but the latter would just be *recommended* by the IMF. There is reason for skepticism, however, as to the efficacy of such guidelines, which have been mostly ignored by the Fund's staff in the past in their dealings with client countries. Be it as it may, this is far from

a dead subject and the Fund will be again an important institution when international liquidity dries up once more, as it most certainly will. The debate about the adequacy of its resources and of its loan procedures and conditionalities cannot be abandoned.

If global reforms in the international monetary architecture do not offer much promise in the current situation, it is inevitable that countries will keep pursuing individual solutions, particularly in the case of emerging economies. These economies are already highly integrated both financially and commercially to the world economy, but do not have the privilege of issuing liabilities in their own currency, at least not to a significant extent.

The main alternative to reserve accumulation is the reinstatement of capital controls. In principle, capital controls serve the same purpose as maintaining reserves. Restrictions on non-residents' capital inflows serve to avoid exchange rate appreciation in times of excess liquidity. Restrictions on capital outflows by residents absolve a country from the need to maintain reserves to allow these outflows to take place. However, no matter whether the costs of maintaining controls are greater or smaller than its benefits, after the liberalization process of the 1990s, reinstating capital controls, after private interests have already crystallized around the protection of their newly-acquired privileges, would require bold action by political leaders that do not seem willing or capable of taking this path.

The orthodox view is that floating exchange rates alone should do the trick. Neither controls nor reserve accumulation would in fact be necessary if exchange rates could freely float in result of excess demands or supplies of foreign currency and converge to new equilibrium positions. Empirical evidence, however, has not supported the optimistic expectations of floating exchange rates defenders. These regimes have been marked by excess volatility, which causes domestic disequilibria, particularly in countries that exhibit a higher degree of financial

and commercial integration in the world economy. Besides, under capital account liberalization, capital flows become an important determinant of the behavior of exchange rates which means that monetary policies play an indirect but no less decisive role in the determination of exchange rates. Under these circumstances, it is difficult to make the case that exchange rates are really "freely" floating in response to pure market forces, unaffected by macroeconomic policies.

This brief examination of alternatives helps to understand why reserve accumulation has been seen, if not as the very best defensive strategy to deal with the volatility of the world economy, still as the best *available* strategy. On the one hand, it does not depend on a currently unlikely disposition of the international community to work towards a cooperative solution that contemplates the needs and priorities of developing economies. On the other hand, it is politically much easier to implement than reinstating capital controls, since reserve accumulation does not threat any group's privileges. There is a serious risk that the degree of protection afforded by this strategy may not be as high as some countries seem to think, but it doubtless seemed to be the least-effort option available while the international economy operated relatively smoothly. Whether reserve accumulation can be enough in the face of capital flight episodes fed by major financial turmoil remains to be seen.

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2 For a review of the criticisms raised against the IMF performance in dealing with the Asian crisis, see Carvalho (2000/1).
3 Keynes (2007), pp. 195/197.
4 Capital flight may happen when non-residents return their investments to the source country (or, in fact, move them to some other recipient country) or when residents try to substitute foreign for the domestic assets they hold. In the absence of capital controls, governments try to hold enough reserves to prevent capital flight from disrupting exchange markets.
5 The finance motive to demand money was introduced by Keynes in his post-publication debate on The General Theory with Bertil Ohlin. See Keynes (1937), p. 246.
6 On the Triffin dilemma, see Ocampo, Kregel and Griffith-Jones (2007), p. 141, and Ocampo (2007/8).
7 One should notice that na eventual replacement of the dollar by the euro as an international means of payment would not help in any way solve the Triffin dilemma.
8 For a recent explanation of the original sin hypothesis, that states that developing countries cannot borrow in their own currency in international financial markets, see Panizza (2006).
9 Cf. Horsefield (1969). See also Carvalho (2008a).
10 In fact, the risks involved in turning to private financial markets had already been shown in the aftermath to the oil shocks of the 1970s, when Latin American countries borrowed from international banks to finance their balance of payments, which led to the debt crisis of the early 1980s.
11 Both Managing Directors Kohler and Rato, who succeeded Camdessus, emphasized the need to streamline structural conditionalities. A less circumspect criticism of the Fund's performance in the period can be found in Stiglitz (2002). Another critical evaluation, more focused on the political mistakes made by the IMF in the Asian crisis is offered in Blustein (2001).
12 According to IMF (2008), p. 144, total capital inflows to emerging markets and developing countries in 2006 was a little less than a quarter of the inflows to developed economies. Although precise comparisons between the sizes of domestic capital markets in developed and developing countries are very difficult, on page 147 of the same report, the IMF informs that stock market capitalization in the US alone, for instance, was twice as big as markets for all developing and emerging economies. Similar ratios applied to other financial market segments.
13 Cf. Carvalho (2008b).
14 See Park (2004).
15 Such criticism will be addressed below, at the end of this section.
16 The growing perception that these costs may be unreasonably high given the size reached recently by international reserves has led many countries to create or enlarge Sovereign Wealth Funds (SWFs). This denomination actually covers a widely heterogeneous set of institutions, including a restricted set of Funds created by developed countries, as it is notably the case of Norway. Most of them were created by exporters of oil or other commodites who saw their export revenues increase steeply recently. A study prepared by JP Morgan Research estimated that at the end of 2007, assets detained by the 50 largest SWFs reached between US$ 3 and US$ 3.7 trillion, making them as a group larger than hedge funds, for instance. The concern with the possibility that SWFs investments may be politically motivated has led a few countries, led by the United States, to press for regulation of their activities. A code for recipient countries is being prepared by OECD, and a set of "best practices" to promote self-regulation is being prepared by a work group led by the IMF. On characteristics of SWFs, see Griffith-Jones and Ocampo (2008) and JPMorgan Research (2008). For the IMF'as view of SWF, see Lipsky (2008) and Johnson (2007).
17 A working paper by IMF staff members on the Brazilian crisis of 1998/9 showed that capital flight actually began with residents taking their wealth out of the country, followed later by non-resident investors. Cf. Goldfajn and Baig (2000). A similar pattern is believed to have been followed at least in the cases of Mexico, in 1994, and Thailand, in 1997.
18 The Keynes Plan was rewritten many times to respond or incorporate criticisms. All its main versions can be found in volume XXV of Keynes' Collected Writings (Moggridge, 1980). A summary of its main propositions can be found in chapter 1 of Horsefield (1969).
19 Named after Harry White, the head of the US delegation to the conference.