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Reserve Accumulation and Global Financial Stability: A Critical Assessment of IMF Concerns

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Abstract

This paper examines the nature of IMF Management and senior staff concerns about excessive reserve accumulation. It describes how the IMF's concerns regarding global imbalances before the crisis evolved into concerns about reserve accumulation in the crisis aftermath, and explores why this may have occurred. It assesses why the recent concerns about reserve accumulation have not resonated with much of the Fund's membership. The paper suggests the need for a robust understanding of the multi-faceted risks afflicting the international monetary and financial system before assessing the risks, if any, from reserve accumulation. It also suggests the focus should remain on understanding and addressing the underlying drivers of reserve accumulation—rather than attempting to limit such accumulation as an objective in itself.

The views expressed in this Background Paper are those of the author and do not necessarily represent those of the IEO, the IMF or IMF policy. Background Papers report analyses related to the work of the IEO and are published to elicit comments and to further debate.

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ABBREVIATIONS

CGFS	Committee on the Global Financial System
FCL	Flexible Credit Line
FDI	foreign direct investment
FRBNY	Federal Reserve Bank of New York
GDP	gross domestic product
<i>GFSR</i>	<i>Global Financial Stability Report</i>
IEO	Independent Evaluation Office of the IMF
IFS	International Financial Statistics
IIP	International Investment Position
IMF	International Monetary Fund
IMFC	International Monetary and Financial Committee
IMS	international monetary system
Management	Managing Director, First Deputy Managing Director, and three Deputy Managing Directors
PCL	Precautionary Credit Line
PLL	Precautionary and Liquidity Line
SDR	special drawing rights
SWF	sovereign wealth fund
TSR	Triennial Surveillance Review
<i>WEO</i>	<i>World Economic Outlook</i>

EXECUTIVE SUMMARY

Prior to the global financial crisis, a recurring source of IMF concern was the unsustainable trends embodied in rising global current account imbalances, and the policies that contributed to them. In the aftermath of the crisis, excessive global reserve accumulation emerged as a parallel source of concern for the stability of the international monetary system.

The focus on excess reserve accumulation has been met with skepticism. Many country officials perceive the recent emphasis as a response to frustration among some member countries with the IMF's inability to promote exchange rate adjustments in Asian economies with persistently large current account surpluses. Since reserve accumulation by the largest accumulators is viewed essentially as a by-product of their exchange rate and other underlying policies, it is unclear what is to be gained from shifting the emphasis from policy impediments to the symptom of reserve accumulation. Some officials and observers also consider that focusing on the risks of reserve accumulation could divert attention away from more pressing threats to global financial stability, in particular those emanating from much larger private asset holdings and capital flows.

Many officials of emerging market economies view reserve accumulation as a legitimate response to the risks and competitive pressures these economies face. The risks are seen to include the surge in global liquidity of the past decade, which has contributed to the rising volume and volatility of capital flows. Indeed, reserve accumulation appears less excessive than depicted by IMF staff if measured against several relevant financial market indicators, or against countries' own consolidated liabilities. There is also concern that capital flow surges can undermine competitiveness, especially in a context where major trading partners target their nominal exchange rate, in effect shifting the burden of adjustment to those who permit more flexibility. Both factors have led to greater intervention and reserve accumulation than would otherwise have been the case. Moreover, the focus of the Fund's policy attention on the recipients of private capital flow surges is perceived as too narrow, given inadequate attention devoted to addressing the drivers of such surges at source.

A more robust approach to assessing risks to global financial stability is thus called for before judging the risks, if any, posed by reserve accumulation. The Fund's advice to the recipients of capital flow surges should be complemented by a more comprehensive assessment of the factors driving capital flows. Such work would include assessing why financial sector growth in financial centers has been so rapid, and the impact of financial regulation at source (or lack thereof) on capital flow volume and volatility. The relationship between global imbalances and recent crises could be assessed more thoroughly, and integrated with more recent work on the drivers of global liquidity and financial asset trends—of which reserves comprise a small portion. If exchange rate and other policy distortions lead to excessive current account imbalances, the remedies should be targeted at these policies; diverting attention to the symptom of reserve accumulation has not proved persuasive. These efforts would best be served by ensuring that the Fund's analysis and conclusions are driven solely by its technical expertise.

In assessing reserve adequacy, country-specific vulnerabilities need to remain center stage, supplemented by the recognition that prescribing limits on reserve accumulation appears both unwarranted and futile under the international monetary and financial system as it actually operates.

“Treating symptoms rather than causes is usually a good way to make a patient worse.”

Lawrence Summers (2012)

I. INTRODUCTION¹

1. In the aftermath of the global financial crisis, IMF Management, supported by IMF policy papers discussed at the Executive Board, contended that past and prospective reserve accumulation was excessive and jeopardized the stability of the international monetary system (IMS). These concerns were followed by initiatives with potential repercussions for the IMF’s membership. A number of options to mitigate reserve demand were presented. A new reserve metric targeted at emerging markets was constructed to highlight whether precautionary reserves fall within an IMF-determined appropriate range. New IMF financing facilities were introduced following the onset of the crisis, and were presented in part as a means to contain the growth of reserves. Some country officials interpreted these developments as signaling that the post-crisis anxiety about excessive reserve accumulation at the global level could evolve into more onerous discussions, if not obligations to reduce reserves at the bilateral level.

2. In the process, the perception of reserves within key parts of the IMF appears to have shifted vis-à-vis the aftermath of the Asian crisis. On that occasion, IMF staff issued a number of papers that highlighted the need to assess reserve adequacy in the context of a comprehensive understanding of the asset-liability structure of the economy. Rules of thumb for ratios of reserves to short-term external debt, imports and money were discussed, although it was stressed that the many risks and uncertainties facing emerging markets in particular meant that significantly higher reserves could be required depending on a country’s individual circumstances.² IMF Management’s view of reserves in the wake of the global financial crisis thus appears to have undergone a turnaround.

3. The basis for the recent concerns about excessive reserve accumulation is, however, viewed with skepticism among a number of country officials and independent observers. The recent concerns are not seen to add value to the IMF’s previously articulated concerns about global current account imbalances from which they appear to be derived. Global reserve

¹ I would like to thank my IEO colleagues for comments on earlier drafts of this paper, Andrew Martinez and Chris Monasterski for research assistance, Arun Bhatnagar and Mari Lantin for administrative assistance, and Rachel Weaving for editorial assistance.

² The following excerpt from remarks by Fund Management articulates this sentiment: “An IMF staff study discussed by our Executive Board last year agreed that holding reserves equal to short-term debt was an appropriate starting point for a country with significant but uncertain access to capital markets. But it is only a starting point. Countries may need to hold reserves well in excess of this level, depending on a variety of factors: macroeconomic fundamentals; the exchange rate regime; the quality of private risk management and financial sector supervision; and the size and currency composition of the external debt.” IMF (2001a). See also IMF (2000, 2001b, and 2004a).

accumulation is viewed principally as a symptom of the fiscal, monetary, regulatory and exchange rate policies of major surplus and deficit economies—and addressing distortions in these underlying policies is considered more appropriate than focusing on one of their symptoms. Many observers also do not rank reserve accumulation high on the list of concerns for the stability of the global financial system, since reserves form a marginal share of global financial assets and the incentives driving the managers of private asset holdings appear more prone to generate instability.

4. Separately, domestic policy objectives tend to dominate decision making at the country level, and the concern, if any, that global financial stability may be jeopardized by excessive reserve accumulation appears peripheral to this policymaking nexus. Recent crises and the repercussions still stemming from them appear to have strengthened the view that countries with ample reserves were better protected from external shocks.

5. This paper first examines the nature of IMF Management and senior staff concerns about reserve accumulation and then critiques these concerns, drawing on a range of alternative views including those expressed to the evaluation team in the course of interviews. Section II discusses how the IMF's longer-standing concerns regarding global imbalances before the financial crisis evolved into concerns about excess reserve accumulation in the crisis aftermath, and describes proposed responses to these concerns. Section III explores reasons why the emphasis on the risks of reserve accumulation may have emerged. Section IV discusses why the recent concerns about reserve accumulation have not resonated with several country authorities and academics. In doing so, it discusses both conceptual and practical problems that have undermined the new approach.

6. Section V concludes by suggesting that greater focus on the underlying drivers of reserve accumulation, and how to address the risks associated with them, is apt to be more favorably received than attempting to restrain reserve accumulation directly. It also suggests that to the extent that risks from reserve accumulation are assessed, they should be analyzed in the more comprehensive context of the risks to global financial stability. The aforementioned developments relating to bilateral policy advice on reserve adequacy are discussed more thoroughly in IEO (2012), for which this paper serves as background.

7. The paper is based on a review of IMF papers, public and internal, public statements by IMF Management and senior staff, interviews with current and former country officials, IMF executive directors, Management and staff, and the views of outside analysts and academics.

II. IMF CONCERNS AND PROPOSED REMEDIES

A. Global Imbalances: The Original Concern

8. Through much of the past decade, the IMF regularly expressed concerns about the costs and risks posed by large and persistent global imbalances, referring to the pattern of current

account deficits and surpluses that built up since the late 1990s. The Fund examined these concerns from many dimensions, but focused in particular on the widening U.S. current account deficit and East Asian current account surpluses, especially the loose fiscal policy and low savings that underpinned the former, and the post-Asian-crisis investment collapse and sustained intervention to limit currency appreciation that underpinned the latter. The steady source of financing from East Asia was said to undermine the incentive and ability to adjust in the United States and other countries with large current account deficits. The widening of imbalances was likely to imply an unsustainable build-up of claims on deficit countries.

9. Since the pattern of global imbalances was judged to be unsustainable, a common topic of speculation was the manner of their inevitable adjustment, in particular whether the adjustment would be gradual and benign, or rapid and disorderly. Since official sources, primarily central banks investing the proceeds of their intervention, comprised a significant share of capital flows into government securities, it was conjectured that unsustainable deficits could be financed for longer than if they had been principally reliant on private finance. This diminished the likelihood of disruptive adjustment, but also reduced the urgency of implementing corrective measures. Nonetheless, the substantial costs from the possibility of an abrupt decline in demand for U.S. assets and a collapse of the dollar were of sufficient concern to be highlighted in the context of the IMF's multilateral surveillance and in the 2006 multilateral consultation (IMF, 2007a), and to prompt calls for preemptive corrective measures by surplus and deficit countries alike.³

10. There was less explicit emphasis on risks to the IMS from excess reserve accumulation per se in the discussion of global imbalances prior to 2009. Assessments of rapid reserve accumulation tended to emphasize domestic costs rather than costs to the IMS. For example, a section in the 2003 *World Economic Outlook (WEO)* found that reserve accumulation in many emerging economies in 2002 was well in excess of what one would expect based on "fundamentals."⁴ That analysis pointed to the desirability of slowing Asian reserve accumulation, given the growing costs of such accumulation accruing from differentials between interest earnings on reserves and the cost of domestic debt, the cost of sterilization, and the purported costs of maintaining an undervalued exchange rate.

11. The same 2003 *WEO* section also discussed multilateral concerns arising from Asia's reserve accumulation, in particular the need for Asia to share in the adjustment needed from the eventual narrowing of the U.S. current account deficit, thus rebalancing demand from the

³ See, for example: "Globalization and Economic Imbalances," IMF (2005a) and "How Will Global Imbalances Adjust?" and "Global Imbalances: A Saving and Investment Perspective," both in IMF (2005b), and "Unwinding Global Imbalances" IMF (2006a). These concerns were paralleled in a large academic literature.

⁴ As derived from a multivariate regression model developed using data from 1980 to 2002: "Are Foreign Exchange Reserves in Asia Too High?" IMF (2003). The Fall 2004 *GFSR* (IMF 2004b) diagnosed the factors underlying the rise of emerging markets as capital exporters, but also did not consider this rise a threat to the IMS.

United States to Asia. The section concluded that both domestic and multilateral benefits would accrue if Asia could become more reliant on domestic demand with lower current account surpluses over the medium term. Such a strategy would involve many elements, including, importantly, greater exchange rate flexibility in China. It should be stressed that even the analysis of multilateral concerns was assessed from the perspective of adjusting global imbalances rather than any inherent threat that excessive reserve accumulation posed to the IMS.⁵

12. By 2006, a slight change in emphasis can be discerned, in the sense that costs and concerns from accumulating reserves external to the accumulating country began to be considered. For example, a few speeches by senior IMF officials linked reserve accumulation directly to concerns such as an artificial lowering of U.S. government borrowing costs and the consequences thereof (discussed in Section II.B below)⁶:

“At a recent conference on capital flows held in Washington, it was determined that reserve accumulation by central banks of oil-producing and other emerging countries had a major influence on the behavior of U.S. bond rates (and may have contributed to a reduction of about 90 basis points in those rates), ...” (IMF, 2006c)

13. Another strand of thinking emphasized that easing access to Fund resources through the creation of instruments to provide financing with minimal conditionality could reduce costly and “distortionary” reserve accumulation—since an important motivation for reserve accumulation in emerging markets was ostensibly to avoid the trauma of stringent conditionality associated with Fund programs:

“In fact, in order to maintain their ‘independence’ from the Fund, a number of emerging markets have built large pools of reserves, in the process intervening heavily in exchange markets.

If the Fund is to persuade these member countries to reduce their costly self-insurance and the distortionary policies that accompany a large reserve buildup, it has to offer lending that recognizes the greater maturity and continuity of policies and reforms in some of these countries.” (IMF, 2006d)

14. Notwithstanding the examples cited where reserves were discussed as a source of concern, it is fair to conclude that the IMF was not identifying risks to the international monetary system from excessive reserve holdings in a systematic manner before the global

⁵ Subsequent papers by the IMF or by IMF staff written before the crisis also tended to focus on domestic costs of reserve accumulation. See, for example, IMF (2006b) and Jeanne and Ranciere (2006).

⁶ These views were not universally accepted at the time—see, for example, Genberg and others (2005).

financial crisis. Indeed, the April 2007 *WEO*, IMF (2007b) commended higher emerging-market reserves:

“The good news is that emerging market countries have generally continued to take advantage of the benign global environment. They strengthened public balance sheets, including further reductions in ratios of public debt to GDP; improved currency and maturity composition of debt stocks; *and increased levels of international reserves.*” (italics added)

Several issues of the *Global Financial Stability Report (GFSR)* during this period also stressed the benefits of reserves from the perspectives of strengthening financial stability and economic resiliency:

“Emerging market countries have continued to build up cushions against adverse developments, including by accumulating additional reserves, and by early financing of external needs. ... Near-term risks to financial stability are declining as credit quality improves and as an increasing number of emerging market commodity producers shift to net international creditor status, ...” (IMF, 2005c)

“Emerging markets have so far proved broadly resilient to the financial turmoil. Improved fundamentals, abundant reserves, and strong growth have all helped to sustain flows into emerging market assets.” (IMF, 2008a)

15. Simultaneously, the IMF emphasized the need for policy adjustments to reduce global imbalances, including: increased savings primarily via fiscal adjustment in major deficit countries, particularly the United States, and currency appreciation and greater exchange rate flexibility in emerging Asia, particularly China, amidst measures to boost consumption and reduce private saving.⁷ These views were conveyed via traditional surveillance vehicles (multilateral and bilateral), the 2006 multilateral consultation, and application of the 2007 surveillance decision (Section III below).

B. The Emergence of Excessive Reserve Accumulation as a Parallel Concern

16. In the wake of the global financial crisis, the IMF devoted considerable effort to assessing the stability of the international monetary system, and considered options to make the system more robust. This work was supported by communiqués from the IMFC.⁸ A

⁷ Structural reforms in the euro area and Japan were also recommended to spur productivity and GDP growth in these economies. These reforms would, inter alia, mitigate the risk of a downturn as global imbalances adjusted.

⁸ For example, in October 2009, the IMFC urged that: “The Fund should continue to strengthen its capacity to help its members cope with balance of payment problems, including financial volatility, and reduce the perceived need for excessive reserves. ... We also call on the Fund to study other policy options to promote long-term global stability and the proper functioning of the international monetary system.” Subsequent IMFC communiqués have reiterated the need to deepen the analysis of these issues.

prominent feature of this work was the concerns raised about risks to the IMS from excess reserve accumulation. A sample of statements by IMF Management and senior officials on this subject is contained in Box 1, a recurring theme of which was that the rapid accumulation of reserves made it difficult for the reserve-currency countries to achieve fiscal and external balance, given the sustained demand for reserve assets.

**Box 1. IMF Management and Senior Staff Speeches/Statements on
Reserve Accumulation and International Monetary Stability**

“In the long run, it is difficult to both meet the liquidity needs of the global economy and maintain macroeconomic stability in the reserve issuing country, a problem known as the Triffin dilemma. In effect, to meet the world’s ever-increasing demand for international reserves, reserve issuing countries such as the United States need to run external deficits that eventually undermine confidence in their currencies.” (IMF, 2009a)

“Such self insurance is costly both at the country level—given the foregone domestic absorption and the complications for monetary and exchange rate policy—and at the international level, where countries wishing to build up their reserves have tended to generate persistent current account surpluses. There is a real danger that in the wake of the current crisis, there could be renewed wide-spread efforts to add to reserves. It is clear that if such efforts are pursued simultaneously, one result would be to dampen the global recovery.” (IMF, 2009b)

“However, the dollar’s continued dominance as an international reserve asset means that the global demand for reserve assets can only be satisfied if the reserve issuer runs external deficits. And there is no automatic mechanism that would mitigate an ongoing reserve build-up by surplus countries. This problem has been aggravated in recent years as the demand for reserves rose sharply—reflecting in part the desire of many large emerging markets to self-insure against costly capital account crises. Of course, in many cases the reserve build-up has far exceeded any conceivable insurance function.” (IMF, 2010a)

“Turning to the issue of an international lender of last resort, it is clear that one of the weaknesses of the existing international monetary system has been reflected in the accumulation of record official international reserve holdings, at least in part in an effort at self-insurance against a sudden stop in capital flows or international financial market illiquidity. It is generally agreed that reserve holdings represent a relatively costly form of crisis insurance, while at the same time the buildup of such reserves potentially could make it more difficult for the country or countries providing reserve assets to achieve fiscal and external balance.” (IMF, 2010b)

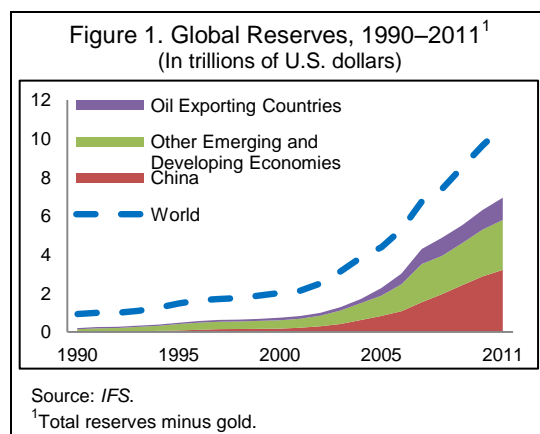
“But the massive build-up in reserves over the last decade has put the international monetary system under some strain. What can be done to ease these pressures? If countries had access to better financial insurance, the need to build up precautionary reserves could be lessened. The IMF’s Flexible Credit Line, which provides upfront financing with no subsequent conditionality, tries to meet this need.” (IMF, 2010c)

“During the last two years, we at the IMF have tried to change the international monetary system, and not only at the margin—I think it is more important than that—by creating the so-called flexible credit line and recently, the precautionary credit line, to try to help countries to avoid building up reserves and, by this process, creating more imbalances.” (IMF, 2010d)

“But many countries remain to be convinced that the global financial safety net is strong enough to deal with the next crisis—and so the costly accumulation of reserves continues well in excess of precautionary needs.” (IMF, 2011a)

17. A number of papers by IMF staff since 2009 have corroborated these Management concerns, stressing the potential threat of reserve accumulation to the IMS.⁹

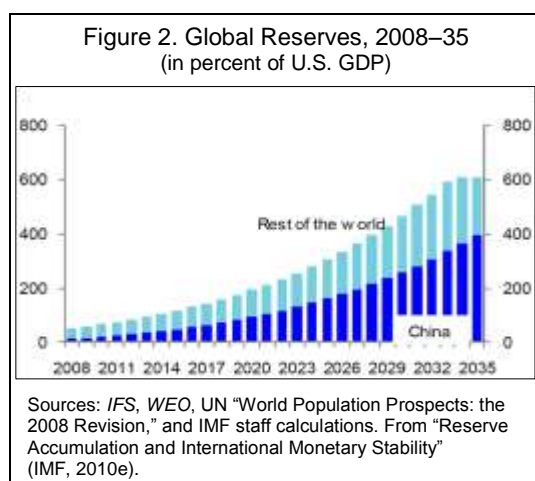
18. Reserves indeed increased sharply in the past decade (Figure 1), with accumulation averaging nearly \$800 billion per year during 2000–11, driven in large part by China and other emerging markets, although Japan remained the second largest accumulator of reserves during this period. More than half of reserves were held by just four countries in 2011 (China, Japan, Russia, and Saudi Arabia). The rapid pace of reserve accumulation in part reflected sustained intervention to limit currency appreciation by countries targeting their nominal exchange rates. This in turn drove other emerging market economies with erstwhile more flexible exchange rate regimes to attempt to limit currency appreciation in response to competitive pressures, in the process adding to global reserve accumulation. Rising precautionary demand for reserves, in large part as a response to rising private capital inflows that were viewed as volatile and reversible, was also an important factor prompting reserve accumulation.¹⁰



19. IMF (2010e) expressed concern about this rapid pace of accumulation, citing extrapolations that indicated that—even assuming much slower reserve growth in the future—reserves would increase from about 50 percent of U.S. GDP in 2008 to 690 percent by 2035, with China's holdings comprising more than half this amount by the end of the period (Figure 2).

20. A number of risks to the IMS were highlighted from this scenario in IMF (2010e), including:

- Reserve accumulation in the government debt instruments of reserve currency countries, accompanied by the steady supply of funding to these countries, could



⁹ The discussion in this section draws primarily from IMF (2010e) and Mateos y Lago and others (2009). IMF (2009c) and Ghosh and others (2010) addressed some of the same issues, although the focus of the latter two papers was on exchange rate regimes and policy.

¹⁰ The relative importance of alternative factors driving reserve accumulation remains a topic of debate in the academic literature. Net private capital flows to emerging markets increased more than six-fold during 2002–07.

lower interest rates for government borrowing and undermine the incentive to reduce their large fiscal and current account deficits. This could heighten debt sustainability concerns in these countries, undermining the store-of-value characteristic of reserve assets.

- Lower yields could cause under-pricing of risk beyond the public sector, once again facilitating excessive risk taking and asset price bubbles once private demand recovered. There could also be a link between the availability of cheap credit and capital flow volatility, particularly as the former might encourage more carry trade investments.
- Alternatively, a global demand shortfall could be aggravated if the United States were no longer able to act as consumer of last resort—for example, if fiscal consolidation were implemented and stronger macro-prudential regulations limited over-borrowing by the private sector. This could lead to a deflationary impact, to the extent that deficit countries were less willing than in the past to continue to incur large deficits and surplus countries were unwilling to absorb the resulting demand shortfall. Protectionism and competitive devaluations could emerge in a world of limited demand.
- A rapid switch out of a specific reserve asset could disrupt the smooth functioning of international payments, with parallel large and disruptive exchange rate and wealth effects.

21. It should be apparent that the essential nature of the pre- and post-2009 concerns—the former viewed through a global imbalances lens, the latter through a reserves accumulation lens—did not change. The prior concern that global imbalances could not be sustained was recast in terms of an unsustainable pace of reserve accumulation, while a disruptive unraveling of the pattern of official flows that had sustained both global imbalances and reserve accumulation remained the existential threat in both cases.

C. Options to Address Excessive Reserve Accumulation

22. Although the risks of excessive reserve accumulation cited by recent IMF speeches and papers were closely derived from the risks from rising global imbalances cited on many prior occasions, the proposed remedies diverged. Whereas the concern with global imbalances targeted both surplus and deficit countries for policy adjustment, the more recent concern focused attention on the reserve accumulators. Moreover, it stimulated a number of potentially significant proposals for institutional reform (as discussed in Mateos y Lago and others, 2009 and IMF, 2010e), broken down into reducing the demand for reserves and diversifying the supply of reserve currencies. Management statements and initiatives supported some of these objectives.

23. To mitigate reserve demand, the above papers discussed a number of options, including:

- Reducing non-precautionary reserve accumulation. Ideas ranged from a multilateral framework of understandings along the lines of the multilateral consultation in 2006 on alleviating global imbalances, to the imposition of penalties on excessive reserve accumulators and debt issuers governed by a system to be established by the Fund, which would require an amendment of the Articles of Agreement.
- Dampening capital flow volatility via IMF jurisdiction over capital controls, also requiring an amendment of the Articles of Agreement.
- Providing guidance by the Fund on desirable ranges of precautionary reserve levels given country circumstances. IMF (2011b) elaborated on this proposal.¹¹
- Exploring further options for the Fund to make available its own resources on a less restrictive basis.

24. The first two proposals requiring amendments to the Articles appear to have lacked support and are not being pursued. Although the Board did not reach a consensus on what constitutes an adequate level of reserves, Article IV reports that were issued after the Board discussion of IMF (2011b) have begun to measure reserve adequacy utilizing the metric developed in that paper, and the recent “Pilot External Sector Report,” IMF (2012a) also utilizes this metric. In a series of speeches, IMF Management promoted the Flexible Credit Line (FCL) and Precautionary Credit Line (PCL), inter alia, as instruments to limit the build-up of excessive reserves (Box 1).¹²

25. To diversify the supply of reserve assets, IMF (2010e) assessed the scope and feasibility of a multi-polar reserve currency system and proposals to encourage an orderly progression to such a system, as well as the feasibility of promoting an SDR-based system, initially as a complement to the emergence of a multi-polar system.¹³

26. **Portraying large reserve accumulation as a symptom of IMS malfunction, and of global economic and financial instability.** IMF (2012b) indicated that effective operation of the international monetary system is observed when the elements it governs do not exhibit symptoms of malfunction. One of these symptoms was a very large build-up of international reserves. This symptom of malfunction was also considered likely to render the global

¹¹ IEO (2012) contains a discussion of the new reserve metric associated with this initiative.

¹² The FCL was adopted in March 2009; the PCL was adopted in August 2010 and was replaced by the Precautionary and Liquidity Line (PLL) in November 2011.

¹³ The present paper does not assess the viability of these proposals.

economic and financial system unstable.¹⁴ Thus, stemming from the concerns that crystallized in the wake of the crisis, this 2012 paper appears to *define* one of the difficulties in the operation of the international monetary system as a “very large build-up of reserves.”

III. THE PIVOT TO RESERVE ACCUMULATION: DISCARDING INCONVENIENT BAGGAGE?

27. This section discusses possible reasons why concerns for the stability of the international monetary system were expressed in terms of reserve accumulation in the aftermath of the crisis. Several interviewees considered that the IMF’s inability to promote more flexible exchange rate policies among current account surplus countries in Asia was a key factor. This section elaborates on this and other possible factors—which are not mutually exclusive. Essentially, it suggests that the Fund’s pre-crisis arguments and efforts to reduce global imbalances were perceived in some quarters as either ineffective or as having lost their luster in the aftermath of the crisis, motivating alternative approaches to address perceived vulnerabilities.

28. First, global imbalances fell sharply as a result of the financial crisis, with the U.S. deficit and Chinese surplus both cut by more than half from peak to trough.¹⁵ Post-crisis *WEO* projections indicate only a partial drift toward pre-crisis imbalances in the medium term.¹⁶ Moreover, even as imbalances were sharply unwinding, at the most stressful points of the crisis, the dollar tended to strengthen—in marked contrast to the pre-crisis concern that a disorderly depreciation of the dollar could accompany an abrupt unwinding of current account imbalances. In the aftermath of the crisis, it is more widely recognized that the episodic dollar strengthening reflected the large share of foreign currency borrowing that was funded in U.S. dollars: in times of stress when liquidity becomes constrained, such funding can dry up, leading to excess demand for dollars—even if the stress originates in the United States. The fact that the reduction in global imbalances did not follow the script of pre-crisis concerns may have encouraged a search for other factors to broaden the discussion of risks.

29. Second, the failure of efforts to rein in global imbalances before the crisis may have driven the search for alternative intellectual approaches. These efforts included numerous warnings, via bilateral surveillance, about the risks to countries’ domestic economies, as well as discussions of the adverse multilateral consequences of maintaining the pre-crisis policy status quo. These efforts culminated in a high profile multilateral consultation in 2006, in which the IMF sponsored an effort to induce the major economies driving global imbalances

¹⁴ The Annex provides relevant extracts from “Modernizing the Legal Framework for Surveillance—Building Blocks Towards an Integrated Surveillance Decision” IMF (2012b), where these issues are discussed in greater detail.

¹⁵ The U.S. current account deficit fell from 6 percent of GDP in 2006 to 2.7 percent in 2009; China’s current account surplus fell from 10.1 percent of GDP in 2007 to 5.2 percent in 2009 and to below 3 percent in 2011.

¹⁶ Speller and Thwaites (2011) project wider imbalances in the long term, however.

to adjust their policies to reduce such imbalances—but which did not prompt significant policy adjustments by the main protagonists.

30. Third, the 2007 “Surveillance Decision,” approved by the IMF Board in June 2007,¹⁷ envisaged more focused bilateral surveillance by the IMF over countries’ exchange rate policies, particularly when there was a presumption of exchange rate misalignment or manipulation that contradicted the countries’ obligations under the Fund’s Articles of Agreement.¹⁸ An important motivation of the Surveillance Decision was a perception among some members that the IMF was not adequately highlighting its own rules, let alone enforcing them. However, the Decision generated negative reactions in Board discussions on the issue before and after it was approved.¹⁹ The Decision does not seem to have influenced exchange rate policy in key cases, and it ultimately provoked some backtracking from what had been envisaged for the bilateral surveillance of exchange rates—partly because of the difficulties encountered in determining and agreeing upon the extent of exchange rate misalignments that IMF staff were tasked to estimate.²⁰ It also directed considerable attention to exchange rate policy at a time when the Fund arguably should have focused more effectively on financial sector vulnerabilities in major financial centers.

31. Finally, the emphasis on reserve accumulation may reflect an attempted reconciliation by Fund staff to the diverse views of influential countries. On the one hand, some country authorities firmly believed that the rigidity with which the Chinese currency was managed continued to represent a major distortion in the global economy, and that Fund analysis of this distortion—before and after the 2007 Surveillance Decision—could have been more effective. Officials from other countries believed just as firmly that excessive focus on the Chinese currency issue distracted the Fund from more pressing global vulnerabilities. The emphasis on risks from reserve accumulation may have represented an attempt to navigate between these views without constantly having to stress the contributory role of exchange rate misalignments.

32. In summary, the ineffectiveness of the Fund’s aforementioned efforts and instruments to impact policy appears to have prompted a parallel focus on the risks to the IMS of excessive reserve accumulation in the aftermath of the crisis.

¹⁷ See IMF (2007c).

¹⁸ Included in Article IV of the Articles of Agreement is a statement that: “... each member shall: avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members; ...”

¹⁹ Blustein (2012) provides a graphic account of the motivation and controversies surrounding the 2007 Surveillance Decision as well as the multilateral consultation.

²⁰ The 2011 “Triennial Surveillance Review”, IMF (2011c) argued for broadening discussions of external stability to include a range of pertinent factors beyond the equilibrium exchange rate, implicitly distancing itself from the 2007 Surveillance Decision.

33. In this context, it is worth noting that IMF multilateral surveillance in the form of *WEOs* and *GFSRs* was not overly influenced by the recent shift in emphasis, and Board discussions of the aforementioned papers addressing reserve accumulation and reserve adequacy did not result in consensus on a number of issues.²¹ Nonetheless, after the Board discussion of the “Assessing Reserve Adequacy” paper (IMF 2011b), an IMF paper on “Strengthening the International Monetary System: Taking Stock and Looking Ahead” (IMF, 2011e) indicated that: “... this new metric suggests significant scope in most countries for suspending and possibly reversing reserve accumulation ... The extent to which countries will be comfortable doing so depends importantly on the reliability of the insurance provided by the global safety net.” Such sentiments suggested to some country authorities that an effort to curtail reserve accumulation may be forthcoming from the IMF.

IV. WHY HAS THE FOCUS ON RESERVE ACCUMULATION NOT RESONATED?

34. Several aspects of IMF Management and staff concerns about reserve accumulation are considered problematic by key IMF stakeholders. This section assesses the reasons why. They range from conceptual to practical and include perceptions that elements of the analysis may be lacking in evenhandedness.

A. Grounds for Skepticism

35. **Addressing the symptom rather than the cause.** The added dimension of reserve accumulation may serve to highlight concerns about IMS stability for some audiences: for example, it is difficult to argue that the international monetary system would not be subjected to further risks, anticipated or not, if global reserve accumulation were to continue rising as rapidly as extrapolated. In this sense, extrapolations of reserve accumulation may serve to emphasize that recent trends were unsustainable. But as a comment in the Executive Board discussion of the IMF (2010e) paper put it, reserve accumulation is a symptom and not the cause of potential instability: although reserve accumulation may highlight potential threats to international monetary stability, these threats originate less from the extent of reserve accumulation than from the policies that underlie the accumulation. This, and the fact that the essential nature of the concerns stemming from global imbalances and reserve accumulation has not changed (Section II.B), has led some officials to question the value of shifting the discussion of risks towards reserve accumulation.

36. The motivation for highlighting risks to the IMS from excessive reserve accumulation appears to have been prompted at least in part by the failure of pre-crisis efforts to tackle the problems of global imbalances and by the targeting of the nominal exchange rate among key

²¹ For example, in the discussion of IMF (2010e), some Directors emphasized that: “...sound macroeconomic and financial policies, particularly by reserve issuers and other systemic countries, remain central to the long-term stability of the system” IMF (2010f). The discussion of IMF (2011b) also revealed differences of opinion: “Noting that consensus is lacking on what constitutes an adequate level of reserves, Directors considered a variety of analytical approaches can be informative in assessing reserve adequacy” IMF (2011d).

surplus economies (Section III above). But it is unclear to many observers why the initiatives on reserves would fare any better than the efforts before the crisis to reduce global imbalances, as there is less agreement on the problems posed by reserve accumulation than on the underlying factors driving the accumulation, or the current account imbalances it stems from. Further, the IMF's inability to influence the largest reserve accumulators—whether by focusing on the extent of currency misalignments, or on reserve accumulation—is thought to have undermined its credibility as a policy adviser or referee for other countries on the issue of reserves.

37. **Loss of clarity.** It is not difficult to argue that sustained intervention by one or more of the U.S.'s large trading partners can constrain market-driven real effective depreciation of the dollar, which in turn constrains adjustment of the U.S. current account deficit. This argument lies at the heart of the concern about how sustained intervention targeting the nominal exchange rate may have undermined needed adjustments in global imbalances.

38. The same argument is more difficult to make from the perspective of reserve accumulation. IMF policy papers and the aforementioned public statements by senior Fund officials have argued that the sustained demand for reserve currency assets has made it difficult for the reserve-currency countries to achieve fiscal and external balance. But from this line of reasoning, it is not clear why internal adjustment in the United States—for example, by fiscal adjustment that reduces the current account deficit—would not also result in smaller current account surpluses abroad, and therefore would not also reduce the demand for reserves.

39. **Lack of clarity in assessing the factors driving reserve accumulation.** It is difficult to find a clear discussion in IMF reports of the full consequences for reserve accumulation when major economies target their nominal exchange rates. In particular, China's policy of managing the value of its currency with reference to a basket has clearly driven its own reserve accumulation. But this policy impacts reserve accumulation outside China as well. As China has grown to become the world's largest exporter, it has also become a significant, if not the largest, trading partner of its neighbors and most other large economies. To the extent that such countries also do not rely on a purely floating exchange rate, their growing trade with China and the need to compete with China in third markets has influenced the extent of their intervention to limit their own effective exchange rate appreciation. This in turn contributes to reserve accumulation—as appears evident from the rise in emerging-market reserves in parallel to those of China (Figure 1 above).²² Moreover, the build-up of reserves in such countries may impact intervention policies even in countries with an intrinsic preference for a floating exchange rate—for example, if *relative* holdings of reserves are perceived by policymakers as a proxy of creditworthiness or policy credibility (Cheung and Qian, 2009).

²² This does not necessarily mean that such countries have been managing their exchange rates more tightly than in the past. Rather they are more inclined to intervene relative to a situation in which all major economies utilized a floating exchange rate.

40. The non-utilization of such analysis can undermine related IMF analysis and messages. For example:

- In the spillover report on China (IMF, 2011f), simulations of the impact of renminbi appreciation on global imbalances did not assume any parallel appreciation in other Asian or Chinese trading partner currencies—and thus appear to have underestimated the impact of such appreciation on global imbalances.
- Speeches by Management at times blurred the distinction between precautionary and non-precautionary reserve demand, with the result that growing reserves at the global level were imprecisely attributed to “the desire of many large emerging markets to self-insure against costly capital account crises” (IMF, 2010a), whereas most reserve accumulation by the largest accumulators in fact appears attributable to factors other than self-insurance, and the factors underlying reserve accumulation are subject to a range of interpretation.²³

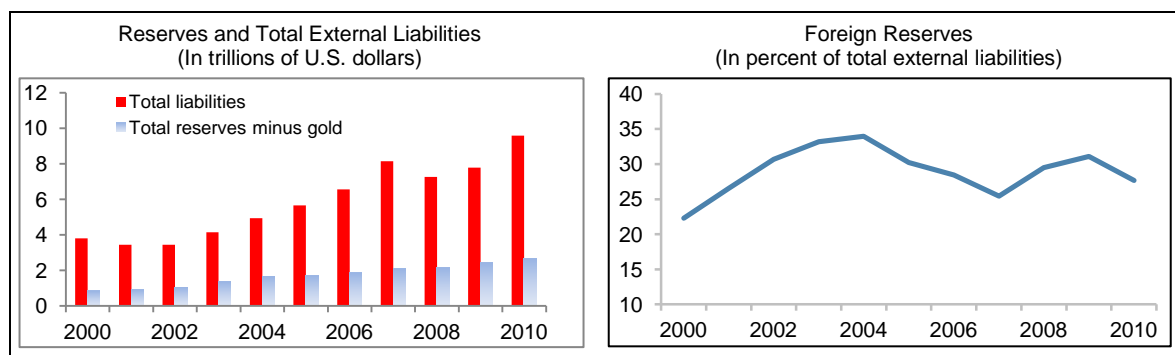
41. Indeed, the distinction between precautionary and non-precautionary reserve accumulation remains difficult to delineate. This renders somewhat perfunctory the finding in IMF (2011b) that most emerging markets maintain excess precautionary reserve holdings (or self-insure excessively), if what is categorized as precautionary reserve accumulation is significantly the by-product of exchange rate targeting. The finding may be correct if one’s assessment of reserve adequacy is confined to precautionary demand. But the relevance of, and resonance from, analysis that appears to downplay what are other important contributors to reserve accumulation is open to question.

42. **Differing perceptions of how to view reserve accumulation.** When papers by IMF staff discuss reserves in the context of IMS stability, reserves are generally measured against the size of the U.S. economy, since the concern of these discussions is the potentially unsustainable nature of recent and prospective reserve growth in relation to the economies of reserve currency issuers. By contrast, most country officials view their own reserves against the financial stocks and flows that are potential calls on these reserves, such as debt and debt service, equity market capitalization, and monetary liabilities, and hence the large potential of capital outflows to damage financial markets. Moreover, country-specific characteristics such as the contingent liabilities of the corporate sector stemming from its derivatives positions, or significant dollarization of the financial sector are examples of vulnerabilities that may prompt added reserve holdings. Indeed, for the major economies of East Asia excluding China, which include some of the largest reserve accumulators of the past decade, reserves remained relatively stable if measured against external liabilities, the latter defined

²³ For alternative perspectives on the factors underlying reserve accumulation, see Dadush and Stancil (2011), and Ghosh, Ostry, and Tsangarides (2012).

as the sum of foreign direct investment liabilities, portfolio equity liabilities, debt liabilities, and derivatives liabilities (Figure 3).²⁴

Figure 3. Reserve Accumulation in East Asia (Excluding China): How Excessive?¹



Source: Recreated from He (2011) using updated and extended version of the External Wealth of Nations Mark II database developed by Lane and Milesi-Ferretti (2007), IIP and IFS, IMF.

¹ Includes Hong Kong SAR, Indonesia, Japan, Korea, Malaysia, Philippines, Taiwan Province of China, Singapore, and Thailand. Total liabilities include FDI liabilities + portfolio equity liabilities + debt liabilities + derivatives liabilities.

43. Even from a global perspective, measuring reserve accumulation in terms of U.S. GDP when discussing the IMS is not entirely convincing: as the demand for investible assets grows, surplus countries could invest a larger proportion of their surpluses in assets other than government securities.²⁵ If this is the case, the public debt of reserve currency countries would comprise a diminishing proportion of surplus economies' public sector foreign assets, and thus the public debt implications for such countries need not be as dire as suggested in IMF (2010e)—and the appropriate variable for measuring global reserves should not be U.S. GDP, or other proxies for the securities of reserve currency countries.²⁶

44. Accordingly, it is instructive to view global reserve accumulation against a broader set of variables than U.S. GDP. Although a common understanding of global liquidity remains elusive,²⁷ comparing global reserves in the past decade to other relevant stocks and flows reveals a more nuanced view to the claim of excessive reserve accumulation (Figure 4). Reserves did increase at a faster pace than that of broad money growth in the world's principal reserve currency countries, notwithstanding faster increases in base money in these countries in the crisis aftermath. However, reserves remained a relatively small share of the

²⁴ See He (2011). This finding applies even if FDI is excluded from the definition of liabilities.

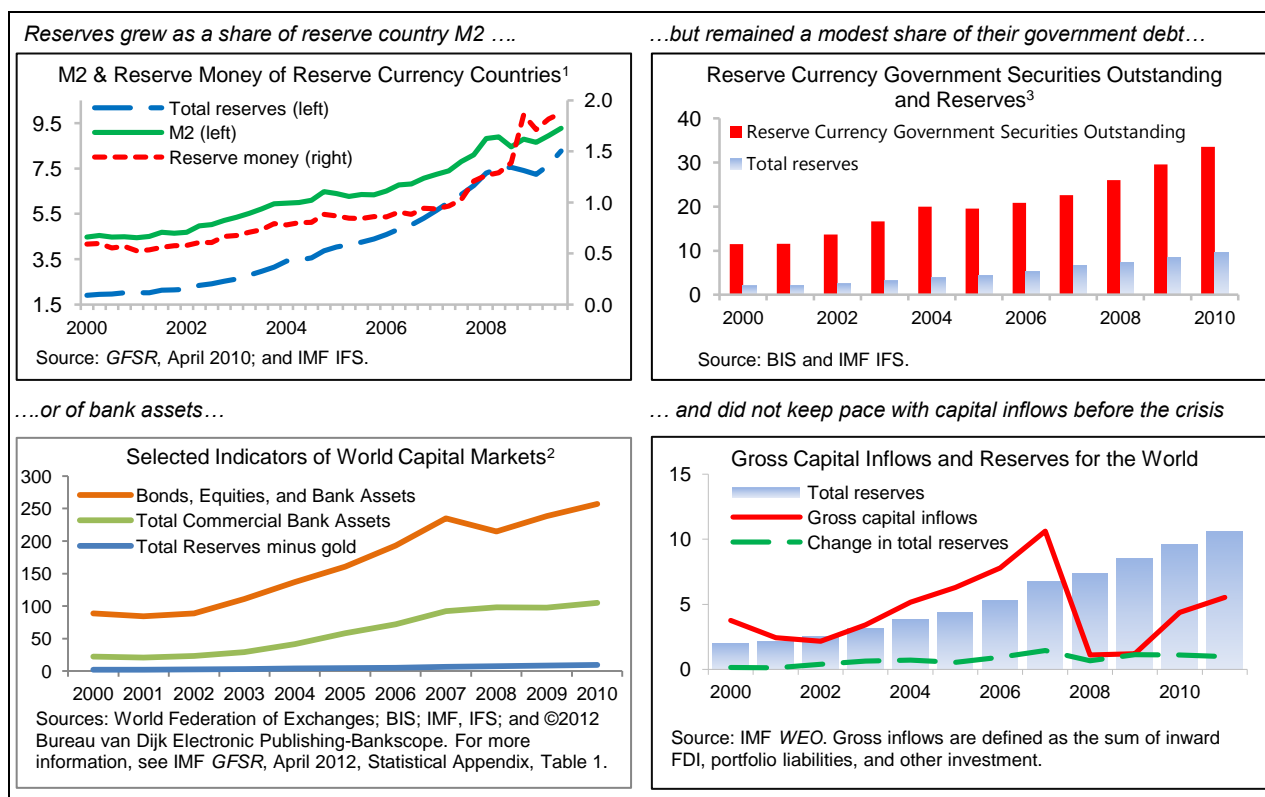
²⁵ Since the largest accumulators accumulate reserves beyond their precautionary needs, they are more likely to invest in riskier assets at the margin. Indeed, investment via sovereign wealth funds has grown rapidly; the Fall WEO (IMF, 2008b) projected that SWF assets would surpass official reserves in the “not-so-distant future.”

²⁶ A more basic critique of the claim that excess reserve accumulation would render reserve currency debt unsustainable is that government deficits in reserve currency countries are not dictated by the demand for their securities: these countries can independently decide to reduce or eliminate their fiscal deficits.

²⁷ See, for example, BIS (2011), Domanski and others (2011), and IMF (2011g).

government debt of these countries throughout the previous decade (a share which stabilized after the crisis). Looking beyond the government securities market, reserves accounted for less than 9 percent of commercial bank assets and less than 4 percent of the sum of bank assets, bonds and equities in 2010, IMF (2012c). Finally, before global capital flows collapsed in 2008, the stock of accumulated reserves was smaller than annual capital inflows.

Figure 4. Global Reserve Accumulation: How Excessive?
(In trillions of U.S. dollars)



¹ Sum of GDP-weighted reserve money and M2 for the euro area, Japan, the United Kingdom, and the United States.

² Bonds, Equities, and Bank Assets is the sum of stock market capitalization, international and domestic debt securities, and total commercial bank assets.

³ Reserve Currency Government Securities include securities from the euro area countries, Japan, the United Kingdom, and the United States.

45. There may be objections to the use of each of these comparisons; the purpose here is merely to illustrate that it is instructive to assess reserve accumulation against a broader set of indicators than U.S. GDP. Moreover, Section IV.B below suggests the need to take a broader view of financial markets beyond the government securities market if one is concerned about global financial stability. And since fluctuations in global liquidity appear to have been driven principally by the fluctuating leverage of global banks, the focus on reserves or reserve accumulation as a threat to global financial stability appears exaggerated if not misplaced.

46. **Unintended consequences.** The shift in focus from exchange rate policy to reserve accumulation could have produced unintended consequences. For example, the recent focus

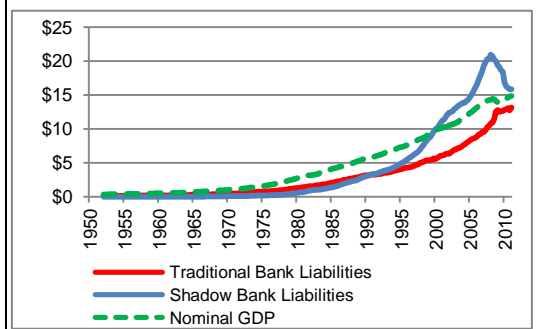
on excessive reserve accumulation has been on emerging markets. Yet Japan and Switzerland were the second and third largest reserve accumulators, respectively, during 2009–11. Intervention seems to have been warranted in both these cases: in Japan to combat episodes of sharp currency appreciation in a prolonged deflationary period; in Switzerland to combat massive capital-inflow-induced appreciation and the threat of deflation. A balanced discussion of domestic policy priorities including exchange rate policy would absolve these countries, whereas pointing to the dangers of excessive reserve accumulation makes it harder to justify the lack of criticism of reserve accumulation in these countries—or to criticize other countries whose reserve accumulation was far less.²⁸

B. A Perspective Too Narrow?

47. A number of officials perceive that the IMF’s analysis of capital flows—and by extension reserve accumulation—has not been evenhanded, in the sense that the focus of the Fund’s policy attention and advice has been on the options available to the recipients of private capital flow surges, whereas the factors driving such surges at source have not been addressed as comprehensively. The latter factors are thought by some officials to reflect the loosening of financial regulation and shifts in monetary policy in reserve currency economies, and the interaction between regulatory and monetary policies. In this view, understanding these interactions and their policy ramifications is important, especially since there are no costless ways of dealing with capital flow volatility from the recipients’ perspective. Furthermore, the IMF has not been as attentive to the accumulation of private foreign assets that are also the consequence of persistent current account surpluses, and that arguably have been more destabilizing than reserve accumulation. These views are elaborated upon below.

48. **Assessing the growth of finance and its determinants.** A starting point for such criticism is the observation that the financial sector, in particular its lightly regulated parts, has grown explosively in the major financial centers over an extended period. Figure 5 depicts the growth of financial sector liabilities in the United States, for which the rapid growth of lightly regulated shadow banking before the U.S. financial crisis is noteworthy. The financial sectors of major financial centers with smaller economies than the United States are larger relative to their own economies, and have tended

Figure 5. Traditional Bank Liabilities and Shadow Bank Liabilities in the United States (in trillions of U.S. dollars)



Source: Flow of Funds Accounts of the United States as of 2010:Q1 and FRBNY, as reported in Pozar and others (2010).

²⁸ IEO (2012) suggests that IMF bilateral surveillance was (rightly) not critical of Japan and Switzerland’s intervention policies during their periods of heavy reserve accumulation.

to expand faster.²⁹ A rapid rise in cross-border domestic currency assets and liabilities of euro area banks since the launch of the euro is also evident in Shin (2011), who, in the context of his “global banking glut” hypothesis, attributes the rise in part to the permissive risk management practices epitomized under Basel II. Shin’s broader hypothesis is that cross-border banking and the fluctuating leverage of global banks are the channels through which permissive financial conditions are transmitted globally.³⁰

49. Some officials and academics contend that such rapid growth of financial sectors is an important source for private capital flows, which in turn are an important contributor to reserve accumulation, as well as to asset market volatility more broadly in emerging markets. Moreover, the faster growth of largely unregulated shadow banking before the crisis suggests an inverse relationship between the stringency of regulation and the growth of the financial sector.

50. Recent IMF papers have begun to address some of these factors. In particular, a paper in October 2011 titled “The Multilateral Aspects of Policies Affecting Capital Flows” (IMF, 2011h) differs from most prior studies by focusing on the “push” factors driving capital flows, including with respect to prudential policies in advanced economies. The paper suggests that:

- The crisis is prompting a reconsideration of capital flows and the policies that affect them. The activities of global institutions and markets—some regulated and some not—can bear on the riskiness of flows.
- Capital inflows have been trending upwards in emerging markets, a trend which is expected to continue; the volatility in capital flows has also grown significantly.
- Funds originating in advanced economies dominate such investment in the large emerging markets.
- There is strong evidence that in the run-up to the crisis, and in its early stages, shortcomings in regulation and supervision allowed banks and other market participants regulated by advanced economies to take excessive cross-border risk that led to macro-financial instability in recipient countries.

²⁹ U.K. bank assets as a share of GDP were about five times the equivalent U.S. share in 2009 (Wolf, 2012).

³⁰ Carmassi and Micossi (2012) report that banks accumulated total liabilities up to 50 times their equity capital before the crisis.

- Past efforts by the Fund have focused primarily on the policies of the recipients of private capital flows, and more work and experience is needed to understand the multilateral effects in play.³¹

51. IMF (2011h) is a welcome addition to the Fund’s analytical repository, but does raise the question of why more such analysis was not initiated earlier—in light of the decades-long rise in the growth of the financial sector relative to output and trade in the world’s major financial centers, and the destabilizing impact that capital flow volatility can have on economic and financial market stability in emerging markets.³²

52. **Impact of monetary policy.** Another factor clouding the perception of evenhandedness is the Fund’s past reluctance to comment in the context of bilateral surveillance on the impact that the monetary policy of reserve currency countries can have on private capital flows and their volatility. Until recently, the Fund’s policies constrained its bilateral surveillance from comprehensively discussing spillovers from policy actions that impact the global economy. Spillover reports in 2011 and 2012 were conducted on a voluntary, pilot basis, pending an “Integrated Surveillance Decision,” which was approved by the Board in July 2012 (to take effect after six months).

53. IMF (2011h), as well as the discussion in the September 2011 *WEO* on “Spillovers from low policy rates in advanced countries” (IMF, 2011j), and the U.S. Spillover Report (IMF, 2011k), discuss a number of aspects of the impact of post-crisis monetary policy on capital flows. IMF (2011h) finds that although advanced-economy monetary policy is one of the prime drivers for capital flows, the lack of a case for taking multilateral implications into account shifts attention to other policy options.³³ This finding reiterates the paper’s conclusion that more effective regulatory and supervisory frameworks in large advanced economies could help to mitigate any increase in the riskiness of capital flows associated with expansionary monetary policy (IMF, 2011h).

³¹ For example, a previous IMF paper on managing capital inflows, IMF (2011i), did not mention shortcomings in financial regulation and supervision in advanced economies in its discussion of factors contributing to capital flows to emerging markets.

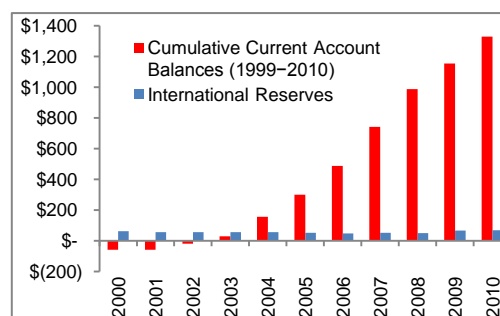
³² See also Dadush and Stancil (2011), who suggest that financial policies in reserve currency countries contributed to a “global liquidity glut” that led to a surge in capital flows to emerging markets. Most emerging markets tried to resist the resulting real exchange rate appreciation impetus (with varying degrees of success) via intervention that boosted their reserve accumulation. The authors suggest that this explanation of capital flow surges is complementary to the “global savings glut” hypothesis, which posits that increased savings in emerging markets forced down long-term interest rates in advanced economies.

³³ In this context, it should be noted that most formulations of the Taylor rule yield significantly negative policy rates for the United States for most of the period subsequent to the financial crisis, rendering it difficult to criticize U.S. interest rate policy in the aftermath of the crisis.

54. Less focus on private foreign asset accumulation as a source of instability. The

persistence of large current account imbalances is bound to result in the accumulation of net foreign assets by surplus economies, either by the public sector in the form of reserve or sovereign wealth fund accumulation, or by the private sector.³⁴ In contrast to the discussion of reserves, there appears to be little Fund analysis linking the accumulation of private foreign assets derived from sustained current account surpluses to global financial risks or vulnerabilities. Yet these funds are clearly significant, as illustrated by the large accumulation of current account surpluses vis-à-vis the relatively stable official reserves in just one country (Figure 6).

Figure 6. International Reserves and Cumulative Current Account Balances in Germany (In billions of U.S. dollars)



Source: World Economic Outlook, IMF.

55. Moreover, recent crises in the euro area and United States tend to confirm observations from past crises regarding the volatility of private as opposed to public capital flows in periods of crisis. Thus private capital flows largely financed government deficits and housing investments that became unsustainable in the wake of the euro area crisis. Evidence from the U.S. financial crisis indicates that to the extent that subprime collateralized debt obligations—and other innovative financial instruments whose value ultimately collapsed—were externally financed, they were dominated by private, not official, flows.³⁵ Official flows, by contrast, primarily flowed into U.S. government securities and the bonds of U.S. government sponsored enterprises. In contrast to the volatility of private capital displayed after the U.S. financial crisis, official capital flows remained relatively stable, and continued to finance a relatively stable proportion of the rising U.S. government debt after the crisis.

56. Should reserve concentration be of concern? The recent focus on risks from reserve accumulation thus represents a concern about the accumulation of assets by the public sector. In this context, it is worth noting that there are few, if any, relevant precedents for changes in the concentration of global reserves to trigger instability (Box 2). The discussion in Box 2 should not be interpreted as an assertion that large stocks of reserves (or problems arising from reserve management) cannot trigger instability; rather that the

³⁴ Especially prior to the financial crisis, concerns were raised about lack of transparency with respect to sovereign wealth fund (SWF) investment motives, given that individual SWFs may have large resources to invest relative to typical private asset managers. These concerns receded somewhat in the crisis aftermath as resources from a number of SWFs were mobilized to invest in distressed Western financial institutions at considerable short-term risk. While the precise value of SWF assets is not known, it is a small fraction of total assets under management, estimated by TheCityUK (2011) at \$117 trillion in 2010. The latter figure includes SWF assets of \$4.2 trillion.

³⁵ Borio and Disyatat (2011) note that that “[t]he focus on global current account imbalances misses the role of European banks in supporting the boom in U.S. housing credit and the subsequent collapse of such financing.”

concentration of global reserves, or changes in concentration, are not necessarily sources of instability. However, if such reserve concentration is regarded as a potential source of instability, the focus of policy attention should be on the largest, rather than all, reserve holders.

Box 2. Should Reserve Concentration Be of Concern?

China's share of global reserves had grown to 30 percent by 2011. Should this be a source of concern?

The most recent historical precedent (of a country with an initially even higher though declining share of world reserves) was the United States in the post World War II period through the 1960s, a period of relative stability in the IMS.

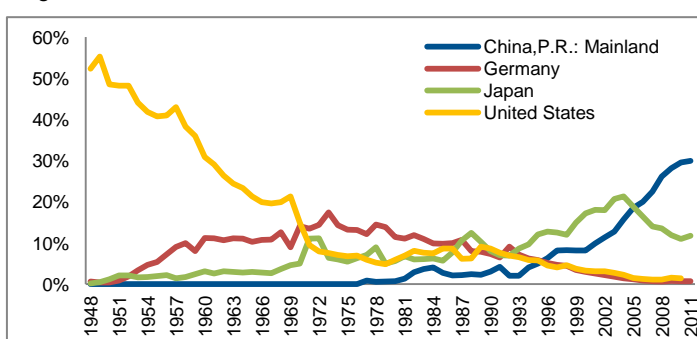
Perhaps the most prominent case in which rapid increases in reserve concentration severely damaged the global economy was during the interwar gold standard era, when France increased its share of world gold reserves from 7 percent to 27 percent between 1927 and 1932 and effectively sterilized most of this accumulation. This was matched by the tightening of monetary policy in 1928 by the United States, the world's largest gold holder at the time. Some analysts have suggested that such "gold hoarding" created an artificial shortage of reserves and compelled other countries to tighten their monetary policies as well, which in turn contributed to subsequent currency crises and banking panics (Friedman and Schwartz, 1963; Irwin, 2010).

But tightening monetary policy and gold hoarding by the United States and France in the interwar gold standard era would appear to have little bearing on today's IMS, which is characterized primarily by foreign exchange reserve holdings and flexible exchange rates between most of the major currencies, albeit with important exceptions. As previously noted, one of the IMF's concerns has been that a deflationary impact could result from a tightening of fiscal/aggregate demand policies in the United States without parallel adjustments in the surplus countries. But the critical factors underlying such a contemporary risk are the potential mismatches in adjustment of fiscal, aggregate demand, and exchange rate policies among major deficit and surplus economies that could trigger deflation; as with the other conceptual issues discussed in Section IV.A, reserve accumulation merely appears as a derivative of these policies.

The most obvious risk for the contemporary IMS would arise if a large reserve holder were to suddenly reverse policy and withdraw its investments from the debt instruments of a major reserve issuer. But since this would adversely impact the reserve holder through capital losses, it does not appear a pressing concern. Indeed, the larger the reserve holder, the more risk averse it is likely to be, given its greater stake in preserving stability.

Moreover, large reserves or a high reserve concentration are not necessary to destabilize the IMS—given the wide array of financial instruments available to even more modest asset holders. Ensuring incentives are aligned to the goal of promoting stability thus seems the critical factor.

Figure. Select Countries' Shares of World Reserves, 1948–2011



Source: IMF IFS.

57. From the discussion in this Section, it is not obvious why reserve accumulation should rank prominently in IMF analysis of global financial stability. Reserves are a fraction of the assets under management by the private sector. They are the assets of governments and central banks, who have an interest in maintaining both IMS stability and the value of their official assets held as reserves—and an abrupt withdrawal of their investments from a major asset category would be damaging on both counts. By contrast, the incentives facing the owners of the larger stock of private assets are more influenced by the short-term profit motive and by the need to maintain respectable returns relative to benchmark indices of investment performance. There is considerable historical precedent and analysis on why such incentives can lead to destabilizing behavior—suggesting that concerns about global financial stability should focus more heavily on private asset accumulation and capital flow trends, and the scope for policies to contain the risks accruing from them.

C. Practical Reasons for the Lack of Resonance

58. The practical problem with the recent emphasis on reserve accumulation is that it is unlikely to change policies: countries' own motives for accumulating reserves are likely to remain paramount, and when weighed against these motives the stability of the IMS—even if it did resonate as a legitimate concern from the excess reserves perspective—would likely remain a peripheral concern. In addition, the perception that countries with ample reserves were more successful in navigating the shocks from the recent financial crisis remains a powerful motivator for reserve accumulation.

59. This can be illustrated from the perspectives of the largest accumulators as well as of smaller economies. The largest accumulators are only too aware of the risks of accumulating excessive claims on the public sector liabilities of countries with actual or potential debt sustainability concerns. That they continue to do so reflects the preeminence of their economic policy objectives, which have necessitated intervention to prevent currency appreciation. Given these objectives, such countries appear unlikely to adjust their policies unless: (a) they judge that their reserve currency assets will inevitably diminish in value, for example because of default or debasement of the reserve currency; or (b) the cost of their intervention strategy becomes untenable domestically, for example, if it is not feasible to sterilize sufficiently to prevent a monetary expansion that leads to unacceptable inflation or asset price bubbles.³⁶

60. Such countries also face the dilemma of how to get off their present policy path even if they consider it to be unsustainable. They face the possibility of growing capital losses from allowing their currencies to appreciate against the currencies of the reserve issuers where their assets are held. From this perspective, the proposal to create an SDR-based

³⁶ The effectiveness of sterilized intervention in resisting real exchange rate appreciation particularly in the long run has been questioned in the academic literature.

reserve currency that could compete with the major reserve currencies (IMF, 2010e) would, by providing an alternative risk-free asset, *reduce* the risk associated with the present intervention policies of large accumulators, and could thereby reduce their incentive to allow more exchange rate flexibility.

61. By contrast, smaller economies do not perceive their reserve accumulation as relevant to concerns about the IMS, particularly as they observe the pace of global reserve growth and the miniscule contribution of their own policies to such growth. Furthermore, after the global financial crisis some advanced economies are rethinking their need for reserves, whereas intervention was previously not a major instrument of policy:³⁷

- Sovereign debt problems in the euro area have raised concerns about banking stability within as well as outside the euro area. For example, disruptions in the euro area interbank market could spill over as foreign currency shortages in banking systems. Some economies, including advanced economies, are debating whether to build reserves to cover potential liquidity needs of their financial sectors notwithstanding the moral-hazard objections to doing so.
- Newly perceived safe havens from the euro area crisis such as Switzerland have already been subjected to massive capital inflows and currency appreciation—and have in turn responded by intervening to counter these trends.
- The prospect of a sustained period of low policy rates in advanced economies has generated more concern in emerging markets about the prospect of capital flow volatility.
- Finally, as already noted, the inclination of countries to allow exchange rates to float freely in the presence of volatile capital flows is constrained by the perceived need to compete with countries that target their nominal exchange rates.

62. **The FCL and PCL/PLL as substitutes for holding reserves.** In analytical work and in Management speeches (e.g., IMF, 2010c; 2010d), IMF Management and staff have advocated the use of the FCL and PCL as instruments to limit reserve accumulation. However, the consistent message from country authorities is that they regard the FCL or PCL/PLL as complements rather than substitutes for holding reserves. This is the case for a number of reasons ranging from: the greater security and certainty of reserves vis-à-vis credit lines from an external agency; skepticism about the availability of IMF resources in the needed quantity in the event of domestic or systemic crises; and the stigma still associated with having to resort to an IMF program, even one with limited conditionality.

³⁷ These issues are discussed further in Banerji and Martinez (2012).

V. CONCLUDING OBSERVATIONS AND RECOMMENDATIONS

63. IMF Management and senior staff efforts to characterize the pace of reserve accumulation as a threat to the stability of the international monetary system have not been effective. They have weak analytical underpinnings and confuse symptoms with underlying causes of instability. A number of country officials perceive that pressure from influential Fund members contributed to the casting of reserve accumulation as a risk for the international monetary system—a perception that further undermines the credibility of this position.

64. The recent discussion of risks from reserve accumulation overlaps considerably with and does not add value to the pre-crisis IMF focus on risks of global imbalances. It also shifts policy attention to the reserve accumulators, whereas the global imbalances concern at least pointed to the need for adjustments by deficit and surplus economies alike.

65. A framework for assessing risks to global financial stability needs to incorporate the nature and drivers of global liquidity as an important element. This in turn requires a discussion of the nature of global asset holdings, the extent of leveraging and deleveraging that is feasible and permissible, and the incentives and constraints motivating major shifts in asset composition or capital flows. From this perspective, the risks from reserve accumulation, or an abrupt unwinding of investments by reserve holders, represent a rather marginal component of the threats to global financial stability.

66. Particularly since the global financial crisis, the IMF and others have made progress in assessing the broader gamut of risks to the global financial system. Yet the concerns expressed about excessive reserve accumulation have not been adjusted to incorporate insights from the discussion of broader systemic risks. On the contrary, large reserve accumulation was recently characterized as a symptom of malfunction inhibiting global economic and financial stability (IMF, 2012b). Accordingly, the suggestions below are aimed at placing the discussion of risks from reserve accumulation in a more appropriate framework.

67. **Embed the discussion of reserve accumulation in a more comprehensive treatment of threats to global financial stability, one that is informed by developments in global liquidity and financial markets, and that measures reserve accumulation more realistically.** The Fund needs to achieve a robust understanding of the multi-faceted risks afflicting the international monetary and financial system before assessing the risks, if any, from reserve accumulation. To accomplish this it would first need to better understand the nature and drivers of global liquidity, the factors that have led to rising and more volatile capital flows, and the contributory role of the decades-long weakening in the effectiveness of financial regulation evident in key financial centers. The interaction of these factors with the longer-standing concerns about the risks emanating from global current account imbalances,

and their role in aggravating recent global crises, needs to be elucidated. Subsequent paragraphs elaborate.

68. **Assess the sources of capital flow growth and volatility.** The rise and volatility of private capital flows remains a major motivator of reserve accumulation in emerging markets. To complement its advice to the recipients of capital flow surges, the Fund needs to assess the drivers of private capital flow growth and volatility, including the impact of regulatory policies in major financial centers and the monetary policies of reserve issuers. Recent work by the IMF is beginning to address these concerns, but tackling them more comprehensively would likely be of value and interest. Such work could assess why financial assets and liabilities particularly in global financial centers have risen relative to output or trade over several decades—which would in turn call for a discussion of the impact of the long-standing trend of less stringent financial regulation, supervision, and enforcement on the growth of the financial sector in general, and on leverage-driven risk taking in particular.

69. **Target the policy distortion directly, instead of through its symptom.** If current account imbalances are considered excessive, the proposed remedies should address the needed adjustments in exchange rate and other underlying policies; diverting attention towards a symptom of the imbalances—reserve accumulation—has not proved persuasive. It is also not productive to conflate the concern about inappropriate policies in a handful of economies that are large enough to impact global reserve accumulation, with the legitimate concerns of the vast majority of other economies about how capital flow volatility, global financial sector fragilities, and their own domestic vulnerabilities should shape their reserve needs. Emerging market economies in particular are less likely to be persuaded to allow their currencies to float freely if they are simultaneously confronted by capital flow surges and competitive pressure from major trading partners targeting their nominal exchange rates. Moreover, in its empirical work, the IMF needs to incorporate the fact that exchange rate policy rigidity in major economies can influence the management of the exchange rate in other economies, and hence can result in larger current account imbalances and faster reserve accumulation than would otherwise be the case.

70. **Tackle frontally the impact of global imbalances and the policies that sustain them.** Most mainstream economists and financial analysts would acknowledge that the need for stronger financial sector regulation and supervision in major financial centers was underappreciated before the onset of the recent financial crisis. Similarly, the propensity for asset markets to overshoot and damage the real economy as they adjust is now more widely acknowledged. By contrast, some economists and policymakers have tended to de-emphasize the role of global imbalances in deepening the crisis, and notable differences in perceptions remain among respected economists and policymakers about how global imbalances and the policies that sustain them have impacted the global economy. Particularly since the issue of global imbalances dominated the Fund's pre-crisis thinking about risks to the global economy, it would be beneficial to provide a definitive discussion of the strengths and weaknesses of the pre-crisis concerns and their relevance in the post-crisis environment.

71. **Undertake a more balanced assessment of global reserve accumulation.** The past decade witnessed rapid growth in most financial assets and liabilities—including official reserves and public debt, as well as banking assets and capital flows—that far outpaced the growth of national economies. Expansionary monetary policy in reserve currency economies in the aftermath of the crisis may have magnified these trends. Thus while global reserves grew rapidly in relation to U.S. GDP, so did most other global financial stocks and flows. In addition to measuring reserve accumulation against the economies of major reserve issuers, the pace of global reserve accumulation should be assessed relative to other relevant measures of global liquidity.

72. **The IMF should be at the forefront of providing credible analysis that is able to achieve greater consensus on the above issues.** To do so convincingly, it must allow its technical analysis to drive its conclusions. Further thought should be given on how to structure the Fund's institutional framework in order to strengthen the independence of such politically sensitive analysis.

73. **Relate reserve accumulation to country-specific vulnerabilities.** Estimates for the largest East Asian reserve accumulators (excluding China) indicate that their reserves collectively remained relatively stable when measured against a broad measure of their liabilities. This example suggests the need for careful country-specific analysis before proposing to constrain reserve growth at the country level. Furthermore, given recent financial market volatility and the possibility of foreign exchange shortages in the financial sector, aggravated by the sovereign debt crisis in the euro area, countries are now more intent on building up reserves than they were before the crisis, undermining warnings about the dangers of excess reserve accumulation. Deepening the understanding of how financial sector vulnerabilities can affect calls on foreign exchange, how to factor in the quality of financial sector regulation and supervision in reserve adequacy assessments, and how to avoid exacerbating moral hazard concerns with respect to banking systems are thus likely to remain fruitful areas for focus.

74. **Use caution in drawing lessons from IMS concerns for bilateral surveillance.** The IMF's work in the aftermath of the Asian crisis recognized that rules of thumb for reserve adequacy were only a starting point, and not a substitute for incorporating country-specific circumstances and their relation to global risk factors in determining reserve adequacy. The more recent IMF work, while continuing to emphasize the importance of country-specific circumstances, nonetheless proposes both minimum and maximum reserve levels based on data derived from cross-country observations. This downplaying of the importance of country-specific circumstances is perhaps the chief irritant to country officials charged with maintaining reserve adequacy.

75. **Country-specific vulnerabilities need to remain center stage in assessing reserve adequacy.** Proposing maximum reserve levels for countries might be warranted if it could be shown that their reserve holdings or pace of accumulation had adverse systemic implications. Absent this, the costs of high reserves are borne entirely by the individual country, and should not be a concern for the IMF other than out of domestic policy considerations, such as the fiscal costs of holding large reserves or the adverse monetary implications from sustained intervention in the foreign exchange market to limit currency appreciation.

Annex. The Build-Up of Reserves as a “Symptom of Malfunction”¹

“The effective operation of the international monetary system is observed when the elements it governs do not exhibit symptoms of malfunction. The IMS comprises official arrangements that directly control the balance of payments of members (both official and private flows). It consists of four elements: (i) the rules governing exchange arrangements between countries and the rates at which foreign exchange is purchased and sold; (ii) the rules governing the making of payments and transfers for current international transactions between countries; (iii) the rules governing the regulation of international capital movements; and (iv) the arrangements under which international reserves are held, including official arrangements through which countries have access to liquidity through purchases from the Fund or under official currency swap arrangements. As such, the IMS encompasses, but is broader than, the system of exchange rates. It can be regarded as operating effectively when the areas its four elements govern do not exhibit symptoms of malfunction. Such symptoms may include for instance (but are not limited to): an unstable system of exchange rates, persistent current account imbalances, volatile capital flows, or very large build-up of international reserves.

Global economic and financial stability is a broader concept than the effective operation of the IMS, best understood through examples of instability. Such examples include all the symptoms of malfunction of the IMS as defined above, but go beyond them, to include, for instance, situations such as global recessions and global financial crises. Global economic and financial instability may arise due to factors that could be: (i) related to the elements within the IMS (e.g., disorderly exchange rate adjustments, excessively volatile capital flows, etc.); (ii) other economic and financial factors outside the IMS (e.g., regulatory changes in a globally systemic financial center, commodity price shocks, interest rate shocks, sovereign debt defaults, collapse of a global systemically-important financial institution); and (iii) non-economic or financial factors (e.g., war, natural disasters).”

¹ From: Box 1 of: “Modernizing the Legal Framework for Surveillance—Building Blocks Toward an Integrated Surveillance Decision” (IMF, 2012b).

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