

Park, Yung Chul; Wyplosz, Charles

Working Paper

International monetary reform: A critical appraisal of some proposals

ADB Working Paper, No. 364

Provided in Cooperation with:

Asian Development Bank Institute (ADBI), Tokyo

Suggested Citation: Park, Yung Chul; Wyplosz, Charles (2012) : International monetary reform: A critical appraisal of some proposals, ADB Working Paper, No. 364, Asian Development Bank Institute (ADBI), Tokyo

This Version is available at:

<https://hdl.handle.net/10419/101143>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



ADB Working Paper Series

International Monetary Reform: A Critical Appraisal of Some Proposals

Yung Chul Park and
Charles Wyplosz

No. 364
June 2012

Asian Development Bank Institute

Yung Chul Park is distinguished professor of the Division of International Studies at Korea University, Seoul, Republic of Korea. Charles Wyplosz is professor of economics at The Graduate Institute, Geneva, Switzerland.

An earlier version of this paper was presented at the ADBI Annual Conference on Reform of the International Monetary System held in Tokyo on 2 December 2011.

The views expressed in this paper are the views of the author and do not necessarily reflect the views or policies of ADBI, the ADB, its Board of Directors, or the governments they represent. ADBI does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequences of their use. Terminology used may not necessarily be consistent with ADB official terms.

The Working Paper series is a continuation of the formerly named Discussion Paper series; the numbering of the papers continued without interruption or change. ADBI's working papers reflect initial ideas on a topic and are posted online for discussion. ADBI encourages readers to post their comments on the main page for each working paper (given in the citation below). Some working papers may develop into other forms of publication.

Suggested citation:

Park, Y. C. and C. Wyplosz. 2012. International Monetary Reform: A Critical Appraisal of Some Proposals. ADBI Working Paper 364. Tokyo: Asian Development Bank Institute. Available: <http://www.adbi.org/working-paper/2012/06/26/5100.international.monetary.reform.proposals/>

Please contact the authors for information about this paper.

Email: charles.wyplosz@graduateinstitute.ch

Asian Development Bank Institute
Kasumigaseki Building 8F
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

© 2012 Asian Development Bank Institute

Abstract

This paper reviews some of the current debates on the reform of the international monetary system. Despite its deficiencies, the United States (US) dollar will remain the dominant currency and Special Drawing Rights (SDR) cannot serve as either an international medium of exchange or a reserve currency. The International Monetary Fund (IMF) has changed its position to accept capital controls under certain circumstances. Refining control instruments better tuned to present day markets may bring about greater acceptance. The 2008–2009 global financial crisis has dimmed much of the earlier hope for the multilateralized Chiang Mai Initiative. The currency swap arrangements portend a new form of international cooperation. Finally, for the Group of Twenty (G20) to matter, the systemically important countries need to ensure the stability of their financial systems and economies.

JEL Classification: F32, F33, F42

Contents

1.	Introduction.....	3
2.	Future Role of the Dollar.....	4
3.	Special Drawing Rights.....	5
4.	Capital Controls and Exchange Regimes.....	6
4.1	Advocacy of Capital Controls	6
4.2	Procyclicality of Capital Flows	6
4.3	Effectiveness, Instruments, and Scope of Capital Controls	8
5.	Regional Liquidity Support Arrangement: The Role of the CMIM	9
6.	Swaps among Major Central Banks	11
7.	Cooperative Arrangements Among Major Central Banks	14
8.	Enhanced G20 Cooperation	16
9.	Conclusion.....	18
	References	20

1. INTRODUCTION

The international monetary system is changing. Globalization and the ascent of emerging markets are bringing to the fore a number of issues that are not new but have had little attention. They are also changing the balance of power in a system that retains the imprint of the Bretton Conference of 1944. A new impetus has come from the amazing occurrence of acute financial crises in the United States (US) and Europe. The shortcomings of the international monetary system have been studied in depth and the list of reform proposals is endless. At the same time, economic and political developments—both ongoing and predictable—change the agenda and reshape the realm of what is possible to achieve.

This paper reviews some of the current debates. Section 2 looks at the future role of the US dollar and concludes that despite all its deficiencies it will remain the dominant reserve currency. Section 3 examines the role of Special Drawing Rights (SDR) and whether they could serve as a reserve currency and asset. Section 4 reviews the background and merits of capital controls in a new global financial environment. Talks about an impending currency war have attracted attention once more to potentially disrupting capital flows. Exchange rate overvaluation is often followed by sudden stops and destructive reversals (Calvo and Reinhart 2000). A long tradition has called for the use of capital controls—preferably market-friendly—to discourage capital movements that are driven by herd behavior as opposed to economic fundamentals (Eichengreen, Tobin, and Wyplosz 1995). The International Monetary Fund (IMF) position has oscillated between firm hostility and reluctant acceptance. The IMF position has changed, as was seen at the Group of Twenty (G20) Summit in Seoul in November 2010. Refining the instruments, and making them better attuned to present day markets, may bring further changes to the conventional wisdom.

Section 5 discusses future prospects of regional monetary arrangements. The 2008–2009 global financial crisis dimmed much of the earlier hope that the Chiang Mai Initiative Multilateralized (CMIM) arrangement would become operational. The European debt crisis is still under way and may lead to a breakup of the eurozone. It is clear that deep regional monetary integration is more difficult than has been officially recognized so far. What is left then, of the idea that such arrangements are the way of the future? We take a critical look at this debate, pointing out that details crucially matter and that nuances are called for in coming up with conclusions.

Section 6 examines the prospect of the spread of swap agreements among central banks. Swaps have existed before but they have been activated on a wider scale than before in the aftermath of the collapse of Lehman Brothers. Does it portend a new form of international monetary cooperation? Section 6 explores this issue.

Section 7 deals with the creation in 2008 of the G20 that has been widely seen as an historical step. Three years since the G20 creation, this section focuses on the crises in some of the largest economies and argues that some countries are systemically large. The US subprime mortgage crisis brought about a worldwide recession and the European debt crisis could trigger a worse global crisis. For the G20 to matter, it should be able to ensure that the systemically important countries adopt correct strategies if and when their economic and financial situations become a threat to global prosperity. Section 8 concludes the paper.

2. FUTURE ROLE OF THE DOLLAR¹

To many economists and policymakers in both advanced and emerging economies, the international currency is under the control of a single country—the US. Even worse, the US has been running huge external deficits for more than a decade and is now the world's single largest debtor. Even more vexing, the global economy had already crashed in the late 1960s, inaction to which resulted in the collapse of the Bretton Woods system. The 2008–2009 global financial crisis and the ongoing eurozone sovereign debt crisis have renewed the effort to rebuild the international monetary system. The replacement of the Group of Seven (G7) with the G20 is a signal that the US and other developed countries have recognized a new reality. It is not surprising that one of first moves by the People's Republic of China (PRC) was to call for a new arrangement that will bring the dollar's supremacy to its long-anticipated end.

But everything written about the dollar is at best inaccurate, mostly plain wrong. The first aspect of the debate on the dollar that should be emphasized is that the dollar is nowhere near to losing its international status for a simple reason that there is no replacement. Gold has been a good investment. But as a currency, gold has long ceased to exist for a good reason: it is inconvenient. In a world where money is increasingly becoming electronic, going back to gold coins and bullion is outdated. The euro was often seen as the challenger, but now its survival is at stake.

A second aspect is that the dollar is the dominant currency for international trade invoicing and payments. The dominance matters little for anything but bookkeeping, though it is practical and less risky to deal in a country's own currency.

The third aspect attracting the most attention and matters the most is the foreign exchange reserves of central banks around the world. These reserves are not held in cash but mostly in US Treasury bills. The total amount, \$4,400 billion, is about ten times the value of dollars held outside the US. The dollar's share of foreign exchange reserves is currently about 60% and slowly declining. The trend, if continued, would imply that the dollar would be a minor reserve currency by 2025. The process might be sped up by the People's Bank of China, which holds about half of the world reserves and has made it known that it wants to reduce the share of dollars in its stockpile.

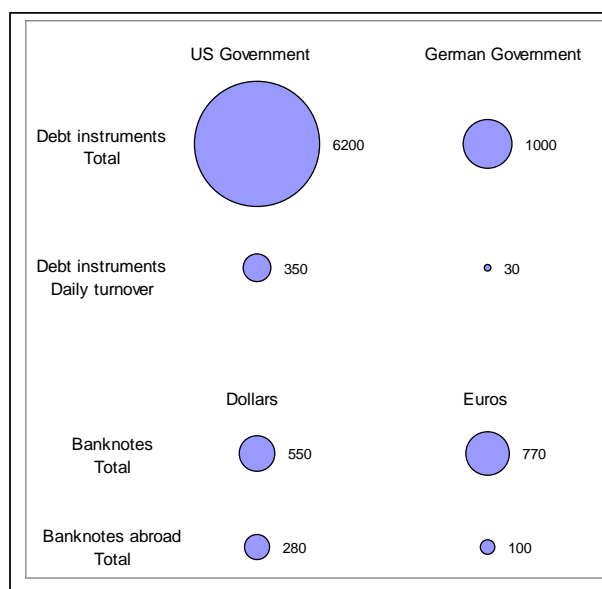
These trends, however, should not be assumed to continue forever. It is perfectly possible for the PRC authorities and others to acquire new reserves in currencies other than the dollar but that does not mean that they can go on forever—assuming that they will accumulate reserves—nor that they can turn around their current stock. The key reason is that there is no alternative, at least for the foreseeable future.

It is essential to remember that reserves are held in interest-yielding public debt instruments, not cash. Obviously, these must be safe instruments, which would exclude a large number of eurozone governments. The safest euro denominated instruments are issued by the German government. Central banks want these instruments to be safe and quickly sellable in case of emergency. Unless the market is deep enough, emergency sales may resemble fire sales that entail capital losses. The market for US Treasury bills is the world's deepest. The total value of existing US public debt instruments is nearing \$9,000 billion, of which \$500 billion is traded on an average day (Figure 1). German debt instruments amount to about €1,000 billion, with an average daily turnover of less than €30 billion. The situation is similar for French debt instruments. The US plays in a different league. Of course, things can change over time.

¹ Sections 2 and 3 draw on Wyplosz (2011).

Turnover can increase but German government debt will remain small, unless it is multiplied several times over, in which case it would achieve junk status.

Figure 1: Debt Instruments of the United States and Germany



Note: All values in billions of euro.

Source: Wyplosz (2010).

3. SPECIAL DRAWING RIGHTS

There has been much interest in the International Monetary Fund's (IMF) Special Drawing Rights (SDRs). This is not money; it is a right for central banks to obtain dollars, euros, or other currencies of wide international use. As such it can serve as a foreign exchange reserve but the total stock is currently worth \$320 billion, a trivial amount. Its value is more stable than that of its composite currencies, and this may be why some developing countries and development advocates have been calling for a massive increase in SDRs to offer an alternative to the dollar. Politically it makes little sense for the US to support such a move, but there is a deeper economic reason why SDRs will never fulfill the ambitions of its supporters. As a composite of other currencies, SDRs must be underwritten by the central banks that issue these currencies. New SDRs are effectively new dollars, euros, and yen, among others. But no one knows which currencies will be "drawn"—that is, effectively used—and when. No central bank will ever want to create large amounts of money on which it has no control. The appeal of SDRs—that they are not controlled by any national central bank—is also their fundamental weakness.

Over the years, some currencies are likely to achieve international status. A key requirement is that they should be issued by a large country. The yuan and the Indian rupee naturally come to mind. These are very long-term propositions. Not only must these economies grow considerably bigger, which they are likely to do, but they must also develop large financial markets, fully integrated in world exchanges, and their governments must issue top-rated public debt instruments. At this stage, neither the yuan nor the Indian rupee are fully convertible, and the PRC and Indian financial markets are not integrated. In addition, for various reasons, the financial credibility of their authorities is limited.

There are fears that a multipolar system will be unstable. The idea seems to be that asset holders might be tempted to move between reserve currencies. Just as depositors can run on

banks, individual central banks would trigger runs on a particular reserve currency as soon as they would be concerned about safety, returns, or possibly even for political reasons. The experience so far, with two reserve currencies, does not bear out these fears. Central banks, at least the large ones, behave prudently because they stand to be the first to suffer capital losses from a rapid shift in the currency denomination of their reserves. There is a strong case to be made for the global village to have a global currency issued by a world central bank. But to whom would this central bank report? Until this question is answered, our monetary world will not look very different from the current one.

4. CAPITAL CONTROLS AND EXCHANGE REGIMES

4.1 Advocacy of Capital Controls

In a number of recent papers, the IMF advocates for capital controls under certain circumstances to reduce the volatility of capital inflows (Ostry et al. 2010; 2011; Habermeier, Kokenyne, and Baba 2011). This break with the long-standing tenet of free capital mobility at the IMF reflects the growing concerns that global investors have become increasingly prone to displaying excessive optimism or pessimism and herding as they often overreact to market developments—both favorable and unfavorable. This overreaction often poses a danger of amplifying procyclicality of capital inflows to create bubbles and set off an asset market boom–bust cycle as it often in emerging economies.

Faced with this potential damage inflicted by a sudden surge in capital inflows, the IMF argues, policymakers in emerging economies may be justified in imposing controls on those flows—in particular risky forms of foreign borrowing—to prevent a large and unsustainable appreciation of the exchange rate and to fend off a currency or banking crisis that may ensue. While the implementation of monetary, fiscal, and macroprudential policies should always be the first line of defense, Ostry et al. (2010) argue that “appropriately designed controls on capital inflows could usefully complement them in certain circumstances, especially in the face of temporary inflow surges” (p.11).

In order to moderate capital inflows, policymakers in emerging economies may impose taxes and unremunerated reserve requirements (URR) and special licensing requirements on external borrowing. More drastic measures would include outright limits or bans on foreign borrowing. Capital controls may cover all or differentiate between different forms and maturities of flows—bonds, equities, foreign direct investments (FDI), and short-term versus long-term instruments. For instance, Hahm, Mishkin, Shin, and Shin (2010) make a distinction between core- and non-core banking sector liabilities. The latter is defined as the sum of foreign exchange liabilities and wholesale bank funding, which are good indicators of the vulnerability to a crisis—a collapse in the value of the currency and a credit crisis.

Ostry et al. (2010) are also specific and restrictive about the conditions under which capital controls may be called for and effective at the same time. If a country has an adequate level of reserves, its exchange rate is not undervalued, and it is faced with transitory flows, “then use of capital controls—in addition to both prudential and macroeconomic policy—is justified as part of the policy toolkit to manage inflows” (p.5).

4.2 Procyclicality of Capital Flows

It is well documented in the literature that capital flows are procyclical as they are positively and highly correlated with output growth in emerging economies (Kaminsky, Reinhart, and Vegh

2005; Shin 2010). In a global economy that has seen a sharp increase in the volatility and volume of cross-border capital movements as a result of deeper integration of financial markets of economies both at the regional and global level, financial disruptions in one country could easily spill over into neighboring economies—including those with strong economic fundamentals and sound financial systems—thereby destabilizing their financial systems and economies. Financial markets opening has combined with the collective action problem—a pervasive feature of financial industries—to make capital flows highly procyclical in emerging economies.

When an economy enters into an upswing phase of the business cycle, financial institutions expand their lending in the belief that credit risk has decreased. Since traditional retail deposits (core liabilities) do not keep pace with asset growth, banks turn to other funding sources—domestic and international wholesale funding markets (noncore liabilities)—to finance their lending, causing a surge in capital inflows.² A large share of lending is often then allocated to the financing of housing and commercial estate, setting off a boom and a bubble in the real estate market.

Credit expansion feeds, and is often fed, by the asset market boom. Financial institutions may realize that their lending operations could indeed create an asset market boom, sowing the seeds of a bubble, which will eventually burst. It would be in their interest to restrain their lending collectively, but there is no market mechanism that could bring about such a collective action problem among financial institutions.

The expansion or boom phase will eventually come to an end and the economy will enter a contraction phase of the business cycle. At this point, foreign lenders become concerned about credit risk and begin to recall the existing loans while refusing new credit extensions. The result is a sudden stop of capital inflows and worse, large capital outflows. Since all foreign financial institutions and other lenders do the same, they end up deepening the contraction.

Ostry et al. (2011) consider that controlling inflows would moderate outflows of foreign capital as well, thereby mitigating the procyclicality of foreign borrowing to prevent asset market booms, bubbles, and busts. This assumption is neither warranted nor backed by evidence. Controls on capital inflows are highly ineffective in preventing the sudden stop or reversal of the flows, unless they are accompanied by controls on outflows. This is because when foreign lenders and investors deleverage and head to the exit during a downturn phase of the economy or in response to, for instance, adverse external shocks such as the eurozone debt crisis, the size of potential capital outflows is given by the existing stock of foreign liabilities.

When the economy cools off, the subsequent fall in risk tolerance, the tightening of financing constraints, and the plummeting of asset prices that are often the sources of a market's overreaction, encourage foreign banks to cut off credit lines and to refuse to roll over short-term loans. Foreign investors may cash in their holdings of bonds and equities. Depending on the steepness of the downturn, emerging economies may lose access to global wholesale funding markets. As a result, these economies are likely to experience shortages of reserve currency liquidity. Withdrawing controls on capital inflows, as proposed by Ostry et al. (2010; 2011), may succeed in discouraging the outflow of foreign capital that was subjected to capital control at its entry, but it may not prevent the outflow of a broad category of other existing foreign liabilities and foreign investments in domestic equities. This reversal in capital inflows may dictate intervention to control outflows of foreign capital. That is, if there is a need for controlling capital inflows, there is also a need to control capital outflows. Capital controls should be deployed as a

² Hahm, Mishkin, Shin, and Shin (2010) use disaggregated series by non-core liabilities in Korea to find that, relative to core liabilities, non-core bank liabilities are more procyclical on various measures.

countercyclical policy. As argued below, however, there are no effective measures for capital outflows.

Some capital control measures introduced by a number of emerging economies suggest that they may not be effective in reducing the aggregate volume, but they lengthen the maturity of inflows.³ But this does not mean that the inflow control could slow down outflows during the downturn phase of the business cycle. This is because controls on inflows may lengthen the maturity of new inflows, but not that of the stock of existing external funds, which is likely to dwarf the former in the short run after capital controls are imposed.⁴ In addition, investors exposed to a country risk may hedge by taking short positions, which is equivalent to capital flows (Dooley 1996).

4.3 Effectiveness, Instruments, and Scope of Capital Controls

The effectiveness, instruments, scope and intensity of capital controls as a means of moderating capital inflows have long been—and will continue to be—controversial issues to which neither theory nor empirical evidence has been able to provide definitive answers, in particular in the context of the re-imposition of controls by countries that already have largely open capital accounts.

Controlling outflows is not easy to implement in the short run. Furthermore, if investors expect that outflow controls will be implemented during a sudden stop episode, foreign investors may choose an even shorter maturity or avoid altogether the country as a destination for investment. This is one reason why emerging economies whose currencies are not internationalized accumulate foreign exchange reserves to deal with shortages of reserve currency liquidity and sudden capital outflows.

The danger is that emerging economies will rely on rules of thumb based on experiences of other countries and adopt disparate control systems that encourage regulatory arbitrage. It is important therefore that the G20, in cooperation with the IMF, sets the rules and conditions under which capital controls can be activated.

Controls on inflows are of little use in taming capital outflows, in particular in times of a crisis. During the 2008–2009 global financial crisis, the markets overreacted to the deteriorating conditions, creating liquidity crises in both developed and emerging economies. When an economy is engulfed in a crisis, free floating often fails to serve as a first line of defense, because a large depreciation of the exchange rate triggered by outflows could put it on an implosive trajectory.

In a crisis situation, the global wholesale funding market is likely to freeze up, international commercial banks may refuse to rollover their short-term reserve currency loans to emerging economies, which could suffer more if foreign investors dump their holdings of securities at a loss. In 2008, the Republic of Korea (henceforth Korea) offered government guarantees to foreign lenders and withdrew withholding tax on foreign holdings of domestic bonds to stem the tide of capital outflows, but to no avail (Park 2009).

When signs of recovery appeared from the liquidity crisis triggered by the Lehman Brothers collapse, once again large amounts of foreign capital started flowing into the Korean economy. Concerned about the consequences of these inflows, Korea's policymakers imposed three

³ In the case of Chile and Colombia, De Gregorio, Eichengreen, Ito, and Wyplosz (2000) and Cardenas and Barrera (1997) show that controls had some success in tilting the composition of inflows toward less vulnerable liability structures.

⁴ This point is also made by Calvo (2010).

measures of capital inflow control: caps on foreign exchange forward positions of domestic banks and branches of foreign banks in October 2010;⁵ a withholding tax on interest income (14%) and capital gains (20%) from foreign investments in domestic bonds in January 2011, which had been exempted in 2008; and a macroprudential stability levy on August 2011.

It is too early to analyze the effects of these measures—in particular those of the macroprudential stability levy—largely because of the deleveraging of European lenders and investors with the deepening of the eurozone debt crisis that has further complicated empirical analyses. The effect of the withholding tax started biting two months after the imposition and lasted for about five months. During this period, however, much of the effectiveness of the tax was offset by a surge in equity inflows (Park 2012).

These experiences suggest that most emerging economies cannot by themselves prevent unexpected and speculative reversal of capital inflows. This opens up an important role for the G20. A solution would be the adoption of macroprudential controls on capital outflows by acting at the source, focusing on lending to emerging economies by large global financial institutions. Another solution would be to relate capital requirements to the exposure to emerging economies. Such a control system at source may reduce the burden of imposing capital controls on the part of emerging economies, make it easier to monitor flows of international short-term lending, and stabilize such lending.

The G20 could also establish a system of gathering and assessing information on capital movements between regions—possibly even between countries—to help emerging economies to prepare for a sudden reversal in capital inflows. A possibility is to permit automatic access to the new lending facilities at the IMF such as the Flexible Credit Line (FCL) and the Precautionary Credit Line (PCL) when signals outflows emerge. In the end there is no effective measure other than creating a global liquidity support system to cope better with the capital outflow problem, which is discussed in the next section.

5. REGIONAL LIQUIDITY SUPPORT ARRANGEMENT: THE ROLE OF THE CMIM

The 1997–1998 Asian financial crisis marked a watershed in regional economic cooperation and integration in East Asia. It brought to the fore the need for cooperation and coordination in policy among the countries in the region in preventing future crises. Realizing this need, the thirteen countries from the region that include the ten members of the Association of Southeast Asian Nations (ASEAN), the PRC, Japan, and Korea—a group known as ASEAN+3—agreed to establish as a first step toward regional cooperation a system of bilateral currency swaps, known as the Chiang Mai Initiative (CMI). It was designed to provide liquidity support to the member countries suffering from a short-run balance of payment problems. Two years later, they launched another program—the Asian Bond Markets Development Initiative (ABMI)—for the integration of East Asia's regional capital markets.

⁵ Banks sometimes fund their long-term won-dollar forward positions by borrowing dollars short term to avoid the foreign exchange risk. The interest rate differential between home and foreign markets brought about a large increase in short-term dollar loans to finance investments in forward dollars sold by ship builders and other domestic firms in 2011. In response Korea's policymakers imposed limits on currency forward positions by domestic banks to 50% of their equity capital while restricting foreign banks' positions to 250%. On 19 May 2011 the ceiling on the foreign exchange forward position by local branches of foreign banks was cut from 250% to 200% while the ceiling for domestic banks from 50% to 40%. The new ceilings took effect from 1 June, with a one-month grace period until 1 July.

Since then, the ASEAN+3 countries have converted the CMI into a multilateral currency swap agreement—CMI Multilateralization (CMIM)—that covers all members with a total amount of \$120 billion for liquidity support. They have also put forward a proposal for doubling the size of the CMIM. The progress in the ABMI has been slow, but it has been instrumental in the creation of the Asian Bond Funds (ABF) I and II, created a regional credit guarantee system, and has been exploring the possibility of constructing a regional clearing and settlement system for cross-border bond transactions. After years of discussion and negotiation, in 2011 ASEAN+3 established the ASEAN+3 Macroeconomic Research Office (AMRO) based in Singapore, whose job is expected to maintain surveillance of the CMIM and support its full operation.

Unlike the PRC and Japan, ASEAN as a single entity and Korea could be both potential lenders to and borrowers from the CMIM. Given their size, they would benefit more from regional economic stability. They could serve as mediators between the PRC and Japan on a wide range of issues on which the two countries cannot agree. Not surprisingly, there was a general consensus that they should play an active role in promoting ASEAN+3 as a framework for regional integration in East Asia.

However, the 2008–2009 global financial crisis has changed this view. It has prompted calls for a review of exchange rate policies and on the strategy for regional financial and monetary cooperation within ASEAN+3. In fact, the global financial crisis was the first opportunity to test the effectiveness of the CMIM. The outcome of the test has not been reassuring. Although it was in dire need for liquidity in 2008, Korea did not consider approaching the CMIM for a short-term loan. In fact none of the ASEAN+3 members suffering from a liquidity drought did, because the amount of liquidity that could be drawn was too small to impress currency speculators and it was not available immediately because of the cumbersome drawdown procedure. Neither the PRC nor Japan was prepared to offer any liquidity assistance.

From the beginning, the leadership problem stemming from the lack of cooperation between the PRC and Japan—the two dominant economies that cannot agree on many regional issues—has constrained the role of ASEAN+3. It has hampered the expansion and consolidation of the CMIM. It has become more tenuous with the rise of the PRC as a global economic power, making cooperation between the PRC and Japan more complicated and hence casting doubt on the future viability of ASEAN+3. In this setting, ASEAN and Korea finds dwindling room for acting as a mediator reconciling the conflicting interests of the PRC and Japan.

The 2008–2009 global financial crisis has diminished interest in regional monetary and financial cooperation among the members of ASEAN+3. Not surprisingly, the implementation of the two main initiatives under the ASEAN+3 framework—the CMIM and the ABMI—has been moving very slowly. It may be also true that many of the structural weaknesses of the eurozone that were laid bare by the systemic risk posed by the sovereign debt crisis and the lack of consensus in supporting members under extreme market pressure have made the ASEAN+3 members rethink the merits and viability of regional monetary cooperation in East Asia with a greater degree of heterogeneity among the countries than in Europe. There have also been other regional developments that have contributed to weakening and reducing the scope of the integration movement in East Asia.

As the second largest and most advanced economy in the region, Japan was at the forefront of coalescing regional efforts for economic integration. Japan advocated the creation of an Asian Monetary Fund during the 1997–1998 Asian financial crisis. It also took the leadership in launching the ABMI and in promoting the introduction of a regional currency unit similar to the European currency unit (ECU) as a means of stabilizing bilateral exchange rates of ASEAN+3 members. But in recent years plagued by deflation, a strong yen, slow growth, and political

instability, Japan has been relinquishing its role as a leader of economic integration in East Asia.

The PRC can and should provide leadership for expanding and consolidating ASEAN+3 as a framework for regional economic integration, but it has been increasingly preoccupied with its global role. The PRC policymakers may see little benefits that can be drawn from participating in East Asia's regional integration.⁶ Perhaps for this reason together with the fact that the PRC has become a major trader with an increasing financial clout, it has shown more interest in global than regional issues such as the reform of the international monetary system.

As Eichengreen (2009) points out, the PRC might not have to participate in or lead the promotion of any regional arrangements to attain greater political and economic influence. Instead of trying to emulate the European approach to regional integration, all it has to do is to wait. The longer it waits, the greater will be its economic position in the region. The huge export market it presents to the other members of ASEAN+3 will induce them to integrate with the PRC. The yuan will eventually emerge as East Asia's dominant currency. In all likelihood the PRC will do more than just wait. Although it will be reticent in regional integration at the level of ASEAN+3, it will be much more active in deepening its economic relations with ASEAN, which the PRC regards as its natural sphere of influence with strategic interests. As discussed below, this will be the most conspicuous development.

Regional arrangements such as the CMIM could be an important component of the global liquidity support system, but little is known on how it should be structured and managed to be a reliable source of short-term liquidity. The G20 may address the viability of establishing similar arrangements in other regions. But before endorsing other regional arrangements, the G20 will need to undertake a review of the size and operational details of the CMIM together with its links with the IMF to determine whether it could be an effective regional mechanism.

Now that the European Union (EU) has decided to construct the European Stability Mechanism (ESM), which can be seen as a sort of European Monetary Fund operated independently from the IMF, new questions will arise as to what type of links between the regional institutions and the IMF would be appropriate and how their activities could be coordinated to consolidate and improve the efficiency of a global safety net. The G20 may need to undertake a review of the size and operational details of the CMIM together with its links with the IMF to determine whether it could be an effective regional mechanism.

6. SWAPS AMONG MAJOR CENTRAL BANKS

One of the lessons of the 2008–2009 financial crisis is that global financial markets are highly susceptible to the failures associated with information asymmetry. Overreaction—euphoria, or excessive pessimism—and herding of market participants can trigger uncontrollable chain reactions, including the sudden reversal of capital inflows that can provoke a liquidity crisis. Fears of such liquidity crises have been one of the reasons for holding large amounts of reserves for self insurance in emerging economies (Figure 2). It would also alleviate the need for capital controls.

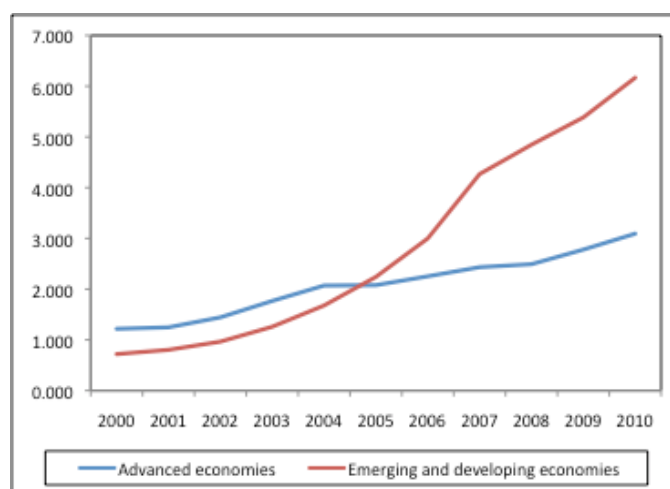
Imagine that a global central bank is created and that it assumes the role of lender of last resort. It would make sure that liquidity in the global economy is adequate, that the prices of globally traded assets are not too volatile, and that liquidity crises do not occur. It would also prevent

⁶ A recent empirical analysis by Park and Song (2011) shows that among the East Asian economies, the PRC is likely to benefit the least from regional monetary integration.

runs on banks—at least the systemically important ones.⁷ Since it is highly unlikely that the global economy will be ready for a global central bank soon, a second best solution needs to be found, and this should be a global liquidity safety net. In addition to its role during a crisis, a global safety net could alleviate the fear of being afflicted by liquidity shortages.

Of course, we already have a global safety net, the IMF. One problem that undermines the IMF's role is the perception—borne out of direct experience—that the IMF sets unnecessarily harsh, sometimes even intrusive, conditions for its lending. Another problem is that liquidity can vanish extraordinarily quickly, as the 2008–2009 crisis has shown. Support must therefore be available in a matter of days, sometimes even less than a day. This is impossible if an agreement must first be negotiated with the IMF and then approved by its Board.

Figure 2: Foreign Exchange Reserves (\$ trillion)



Source: Currency Composition of Official Foreign Exchange Reserves (COFER). <http://www.imf.org/external/np/sta/cofer/eng/index.htm> (accessed 22 November 2011).

The IMF has fully recognized these shortcomings. In response, it has created three new facilities: Flexible Credit Lines (FCL), Precautionary Credit Lines (PCL), and High Access Precautionary Arrangements (HAPA). An FCL can be disbursed very fast—since it is largely designed for liquidity crises—and has no conditionality attached to its loans, but it requires prequalification, based on high standards of policymaking. Three emerging economies have qualified so far (Colombia, Mexico, and Poland) and many others would qualify if they applied. A PCL, which also requires prequalification, concerns countries that do not quite qualify for an FCL and has limited conditionality with fast disbursement. A HAPA is available for countries that do not quite meet the PCL criteria and is an accelerated standard standby arrangement available to prequalified countries (Costa Rica, El Salvador, and Guatemala have been approved).

Are more or other arrangements needed? One problem with the existing ones is that a stigma effect is attached to anything that looks like having to borrow from the IMF, and this has deterred further applications. This stigma effect is likely to diminish over time and there could be

⁷ The IMF uses a definition of global liquidity that is a sum of GDP-weighted M2 or reserve money for the four reserve currencies—the dollar, the euro, the yen, and the pound (IMF 2010). For recent discussions on global liquidity see also BIS (2011) and IMF (2011a).

a collective effort, for example, within the G20, to encourage more applications, including from the developed countries since they have discovered that they are not immune from requiring IMF help. A more serious problem concerns the amounts available from the IMF. Globalization means that the size of financial markets has grown at a steep rate over the last decade. The need for emergency liquidity has grown in proportion, in fact more. The possibility for investors to take huge negative positions means that liquidity needs may become near infinite.

Stigma and near-infinite needs explain why a number of central banks have agreed on swap arrangements following the Lehman Brothers collapse. In 2008, the US Federal Reserve (the Fed) established currency swap lines of unlimited amounts with the central banks of the eurozone, the UK, Japan, and Switzerland. In 2009, six more central banks of developed economies were added to the list. The Fed also offered swap lines to the central banks of four other emerging economies—Brazil, Mexico, Singapore, and Korea.

In September 2011, the Fed and other major central banks agreed to auction allotments of dollars to the European Central Bank, which would then use the new money to support large European banks suffering from shortages to be issued against euro denominated collateral and repaid, with interest, in dollars. The table below shows swap transactions among these banks in November 2011. The managing director of the IMF, Christine Lagarde, welcomed this coordinated decision by saying “the path to recovery needs collective action by both political leaders and central banks. What we saw today was exactly what is needed. It shows central banks will do whatever it takes to restore stability” (IMF 2011b).

Korea was one of the four large and systemically important emerging economies that established swap lines with the US in October 2008.⁸ The arrangement was limited to \$30 billion, however. Korea also enlarged previously agreed swap arrangements with Japan to \$70 billion and the PRC, to 360 billion yuan. Park (2011) argues that the Fed–Bank of Korea swap, although of limited size, stopped the run on the won because it was provided by the de facto global lender of last resort. This raises the question whether a similar support (in terms of size and availability) provided by the IMF could have been as effective.

⁸ Korea has become one of 14 countries having such a temporary reciprocal currency arrangement with the US.

Table 1: Swap Arrangements in November 2011 (\$ Million)

	9 November 2011	Operations during week ending 16 November 2011			16 November 2011
	Outstanding (A)	Matured (B)	Drawn (C)	Terms*	Outstanding (A-B+C)
Bank of Canada	0	0	0	N.A.	0
Bank of England	0	0	0	N.A.	0
Bank of Japan	2	2	1	7-Day, 1.1%	1
	100	0	0	N.A.	100
European Central Bank	505	505	500	7-Day, 1.08%	500
	1,353	0	395	84-Day, 1.09%	1,748
Swiss National Bank	0	0	0	N.A.	0
Total	1,960	507	896	N.A.	2,349

A. Total value of swaps that has been settled, but has not yet matured as of, and including, the date at the top of the column.

B. Total value of swaps that was unwound during the week. The "week" begins on the business day immediately following the date referenced in A through the week ending date.

C. Refers to the total value of swaps that have settled during the week, but have not yet matured.

* Annualized interest rate of the transaction. Only includes terms for transactions referred to in "C". N.A. = Not available.

Source: Board of Governors of the US Federal Reserve System. Central Bank Liquidity Swaps.
http://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm

These swap lines were set up in emergency. None of the participants considered applying to the IMF. Stigma was certainly a powerful motive. Indeed, the knowledge that, say, Switzerland was asking for IMF support could have triggered a massive, quite possibly fatal, run on its two large banks. It must also be the case that the resources of the IMF were deemed too slim for the task.

The fact that these arrangements were put in place quickly and worked efficiently may suggest that there is no need for further reform in this direction. This would ignore that the agreements only concerned advanced countries, with the sole exception of Korea. As globalization deepens and emerging economies grow, more countries may need to establish swap lines with the providers of international currencies. How could that be organized?

7. COOPERATIVE ARRANGEMENTS AMONG MAJOR CENTRAL BANKS

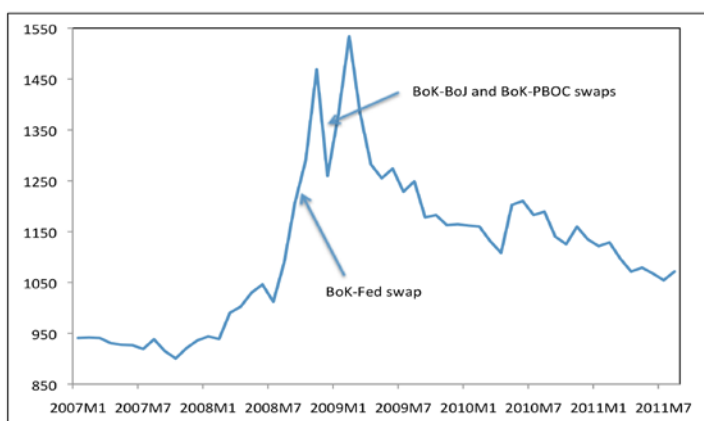
The swaps will involve providers of liquidity and countries that are potentially users. One lesson of the global financial crisis is that today's providers may be tomorrow's users, and vice versa. This means that the swap agreements should be able to work both ways. The swaps should concern currencies that are used in financial systems since the purpose is to keep up short-term borrowing by banks and financial institutions when private lenders suddenly withdraw. For many years to come, the dollar and the euro—assuming that it will survive the ongoing crisis—will remain the main currencies needed, but the pound sterling, the yen, and the Swiss franc play a non-negligible role. This implies that the Fed and the European Central Bank (ECB) will serve as the de facto global lenders of last resort and providers of emergency liquidity, alongside the Bank of England, the Bank of Japan, and the Swiss National Bank. Other central banks will join either because they hold large reserves that they are willing to mobilize, or because their own financial systems may face sudden stops. The list could include the central banks of Canada,

Australia, and New Zealand, and, of course, the central banks of emerging economies that are active in international finance.

The swaps could be permanent agreements or they could be activated in times of emergency along an agreed-upon template. The key issues are: amounts, maturity, and interest rate. Maturity and interest rates could be similar to those for the IMF's FLC, which swaps are meant to complement because of the required size. In principle, swaps are most effective when they are provided in unlimited amounts because this is what it takes to convince the markets that the situation is under control. On the other hand, unlimited swaps raise serious moral hazard issues, to which we return below. It is interesting that, in the case of Korea in 2008, the amounts were limited and not even very large, and yet they seem to have been effective.

Park (2011) shows that the won turned around after the Fed offered a swap to the Bank of Korea. This is strong evidence but we know that markets are forward looking and that they often need some signal to coordinate divergent expectations. An alternative interpretation of this episode runs as follows. By the time of the swap agreement with the Fed, in October 2008, the won had already suffered a severe depreciation, and it was clearly undervalued. The markets must have expected a turnaround. The agreement probably started to reinforce this impression, and yet the won kept depreciating (Figure 3). A month later, a first rally occurred but fizzled out. Two weeks later swaps with Japan and the PRC were concluded and yet the won depreciated again until, finally, it started a durable appreciation phase.

Figure 3: The Won–Dollar Exchange Rate



Notes: BoJ = Bank of Japan; BoK = Bank of Korea; Fed = US Federal Reserve; PBOC = People's Bank of China.

Source: ECOS. <http://ecos.bok.or.kr/> (accessed 19 March 2012).

It is not clear whether the end of depreciation came because of the swap agreements or because “what goes up must come down” (a correction of sharp undervaluation). At least, the limited swaps did not produce immediate effects, as one sees when the commitment is unlimited.

If the G20 countries were to take the initiative and establish swap agreements among themselves, it would send a clear signal that member countries are prepared to avert any impending liquidity crisis. Naturally, there is a moral hazard concern. A liquidity backing could reduce discipline in managing macroeconomic policy and in overseeing banks and other financial institutions. Some guarantee will be required. This brings us back to the IMF's prequalification process of the FCL and PCL facilities. This observation suggests that unlimited swap agreements could be associated with these facilities. Prequalified countries would have

access to a first line of defense, the IMF facilities, in case of external imbalances and to unlimited swaps in case of liquidity withdrawal.

8. ENHANCED G20 COOPERATION

In 1971, US Treasury Secretary John Connolly disappointed his colleagues by telling them that US monetary policy only concerns itself with US domestic considerations. Forty years later and following the creation of the G20, has the situation changed? Brazilian claims that the US was waging a currency war through its second round of quantitative easing (QE2) elicited exactly the same answer from the Fed. On the other hand, successive G20 summits have shown European leaders under pressure from their peers to take more determined steps to deal effectively with the sovereign debt crisis.

An early decision by the G20 had been to ask the IMF to play a referee role in dealing with exchange rate disputes. In practice so far, the IMF has been asked to examine whether the yuan is overvalued and it conducts a yearly mutual assessment process (MAP) exercise that seeks to outline what optimal policy coordination could be. This is meant to be soft coordination, relying primarily on peer pressure.

Before each G20 summit, the IMF releases a series of MAP documents. To prepare these documents, the G20 authorities provide the IMF with their own forecasts of main macroeconomic developments, directly related to their current and anticipated policy decisions. The MAP reports provide a critical evaluation of these forecasts. They also evaluate the policies from the angle of international cooperation and make suggestions to those countries that, in the view of the “good referee”, they could do more to act collectively. The recent MAP reports are straightforward in their assessments. They provide ammunition for any G20 member who wishes to criticize the others in the spirit of peer pressure.

Soft coordination has been experimented with previously. The G7 too operated on this basis. Most assessments of the G7 conclude that it almost never succeeded in changing national noncooperative policies.⁹ The main exception is the 1978 decision that Germany and Japan would play the role of world economic locomotive by adopting expansionary fiscal policies because they had room for maneuver. Kenen, Shafer, Wicks, and Wyplosz (2004) note that this high point of international coordination “continues to be debated, especially in Germany where it was widely seen as the cause of a pickup of inflation in 1979” (p 9). A good case can be made that it was a positive step at the time but was overtaken by the second oil shock in 1979. This was the main impetus for a revival of inflation in Germany.

Another example of soft coordination is the European Union’s adoption in 2000 of the Lisbon ten-year strategy. The objective was to encourage countries to adopt politically difficult supply side policies, using peer pressure as a counterweight to national vested interest pressure. The strategy involved annual reports evaluated by the European Commission almost exactly in the same way as the MAPs. These reports were on the agenda of annual summits mainly devoted to the Lisbon strategy. The mid-term Kok Report (EC 2004) warned that the strategy was not working but failed to elicit changes. By its final target date of 2010, the strategy was officially recognized as a failure (and yet it was relaunched as Europe 2020). The lesson is clear: political leaders are highly reluctant to criticize each other regarding their conduct of domestic policies. This reluctance could be overcome if important external forces are involved. The ongoing

⁹ The G7 was more successful as a tool to provide guidance in matters of international institutions, in particular regarding the IMF (its instruments and governance). This also applies to the G20, which has promptly changed voting rights and expanded IMF resources.

debate between the PRC and the US on the yuan policy is one example of a perceived large external force. So far, peer pressure has been relatively low and ineffective. The 2011 Cannes Summit has also illustrated the limits of soft coordination. It took place during a period of acute debt crisis in the eurozone. In fact, the crisis overtook the agenda, which is normal since a worsening of the situation is bound to have severe global repercussions. Acute peer pressure was exercised on the Italian Prime Minister Berlusconi who accepted IMF oversight, without applying for a loan and signing any agreement. Yet, none of the crucial decisions to be taken by the European leaders has been taken, either during or after the Cannes Summit. In particular, the ECB, which holds the key to end the crisis, was either not pressured or able to resist pressure. The “euro is your problem” is probably the answer given by the ECB President who attended the summit.

Because of its historical importance, this particular event encapsulates most of the important issues of international cooperation. In an ideal world, the summit would have articulated publicly before the meeting the steps that it deemed necessary to be taken by the European leaders to stop the debt crisis and they would have committed to follow these recommendations. This would have required that some non-eurozone countries prepare the required document or that an independent secretariat makes a proposal. The earlier route is arguably intrusive, but the latter one exposes one of the weaknesses of the situation. The G20 does not have a secretariat of its own, intentionally so. The IMF’s MAP report could have played that role, but stayed well away from taking such a step. This left the leaders with the responsibility of deciding how far they would go with peer pressure.

Without a clear view on what it would take to solve the European debt crisis, they limited their mutual criticism to confronting Italy, which was at the time in acute crisis. They did not even press the Italian leader for explicit commitments but delegated the task to the IMF. Enhanced monitoring of Italian policies is unlikely to be needed for the IMF to formulate policy recommendations. The gesture is more symbolic than practical and, quite possibly, hastened the downfall of Prime Minister Berlusconi. Thus peer pressure had a political impact, but did not result in a well thought out design of policy cooperation. Proper use of the G20 should instead involve policies, not indirect impact of national politics, no matter how justified there are. This will make the G20 leaders more prudent with each other.

The experience with the G20 so far confirms what was learned from the G7 experience: it is most unlikely that soft coordination can be effective. Growing interdependence implies that the externalities are becoming more numerous and more sizeable, and therefore enhances the case for policy coordination. Effective coordination means that individual countries would accept to carry out policies that they would not choose otherwise. This can be in their best interest because of externalities, but internalization is often perceived as a loss of sovereignty. In fact, a systematic internalization of international externalities is a loss of sovereignty. Examples of successful systematic internalization that raise global welfare include World Trade Organization (WTO) membership and Europe’s Single Market, which take the form of international treaties that are binding national legislation.

As far as macroeconomic policies are concerned, in the absence of hard coordination that takes the form of international treaties, softer coordination among sovereign countries requires rules and procedures. The reason is that ad hoc responses to particular problems—such as a currency weakness or a financial crisis—involve high transaction costs that most often will exceed the benefits from one-off coordination. There are rules that govern IMF membership. The IMF has accumulated expertise and has real time information on the macroeconomic situation in its member countries. It can make recommendations but these are rarely taken to heart in the absence of conditionality. In fact, the influence of its recommendations seems inversely proportional to country size, because there are no rules.

On the other hand, a number of countries can be labeled systemically important. Policy errors in the eurozone stand to impose major costs to the global economy. The Fed's quantitative easing has important externalities worldwide as does the PRC's large savings rate. A sovereign debt crisis affecting the Japanese economy will have important ramifications. In the decades to come, this group of systemically important countries (SICs) stands to expand. These are the countries for which transaction costs of effective coordination are likely to be smaller than the global costs of policy errors. The SICs must be subject to rules and procedures.

Like the G7, the G20 is a self-appointed group that pretends to exercise world leadership. As such, it lacks legitimacy. Its leadership would be more acceptable if membership came with explicit responsibilities toward the rest of the world. It would seem natural, therefore, that G20 membership should entail the acceptance by its member countries that they are deemed SICs and, as such, that their economic policies are a matter of interest to all countries. This could lead to a re-adjustment of the G20 membership as some countries might choose not to accept to be bound by collective decisions.

The MAP exercise has given the IMF some authority to make recommendations to the G20 countries, and therefore to the SICs. Three more steps are required. First, these recommendations should be presumed to be binding. At present, the G20 leaders may or may not debate the MAP reports. In practice, it seems that each one uses selected parts of these reports to buttress their views and chooses to ignore the parts that they does not like. The procedure could be changed by requiring that the IMF's managing director present recommendations that each member country would, in principle, be asked by the peers to follow. These should not be the routine observations that are currently cluttering the MAP reports. The recommendations should concern systemically important risks.

Second, the IMF should be made more independent. Suggestions to that effect are presented in De Gregorio, Eichengreen, Ito, and Wyplosz (1999). Currently, the executive board members are explicitly representing their governments. This makes the board highly politicized and subject to the criticism that developed countries hold excessive power. The result is the zero-sum-game, and therefore with conflicting discussions about the redistribution of voting rights. An independent IMF would be depoliticized and judged on the quality of its work. This would be achieved by making the board similar to central bank boards. Clearly, then, the board should be accountable to its members. This would require turning the IMF into a supervisory board that would meet regularly, say once every three months, to discuss reports from the managing director, the *primus inter pares* of the executive board.

Third, the IMF's recommendations should be seen as the best policy options. The IMF's track record includes numerous successes but also some mistakes. In response to its widely criticized interventions during the 1997–1998 Asian financial crisis, the IMF set up the Independent Evaluation Office (IEO), which has produced many reports, some pinpointing serious policy errors. These reports, however, do not have consequences. Raising the status of the IEO and linking board members to its findings stands to inject more self-criticism in the organization.

9. CONCLUSION

At this stage of the debate on the reform of the international monetary system, few proposals seem appealing and agreeable to both advanced and emerging economies alike. Even some countries such as France that have been at the forefront of leading the reform, are no longer as vocal as they were before. Paradoxically, the dollar's role as the dominant reserve currency has been reinforced as the eurozone economies are struggling to keep the single currency

arrangement alive. The dollar is the worst international currency, except for all the others. Not surprisingly, the talk of elevating the status of SDRs has been going nowhere. Brazil, Russia, India, and China (a group known as BRICs) meet intermittently to advance and articulate their causes including the creation of a BRICs development bank, but seldom agree on anything of substance. The leaders of ASEAN+3 will continue to promise a bright future of regional economic integration in East Asia against their past poor performance. In this confusing state of global economic affairs, the IMF has made inroads into bringing itself back onto the center stage of global economic management.

The future of the international monetary system will depend on the prospects for recovery in the eurozone. If the eurozone economies emerge from the ongoing crisis with regained competitive strength, the discussion on the reform of the international monetary system and the need for the G20 process will fade away as the world currency arrangement and economic management will be shaped by a three-polar system consisting of the US, the PRC, and the eurozone. On the other hand, if the eurozone crisis is prolonged, both advanced and emerging economies will have to turn to the G20 summit as the only international forum where they could agree on what is to be done, although few of their decisions will be enforceable. In this state of confusion and uncertainty the global economy will muddle through without knowing where it is going. Only when it hits an iceberg as it did in 2008, will the G20 leaders sober up and restart the reform of the international monetary system.

REFERENCES

- Bank for International Settlements (BIS). 2011. Global Liquidity: Insights from the BIS Statistics. Notes for a Meeting of the G20 Subworking Group on Global Liquidity Management. 25 March.
- Calvo, G. A. 2010. Controls on Cyclical Capital Inflows: Some Skeptical Notes. Paper prepared for the XXXI Latin American Network of Central Banks and Finance Ministries, IADB, 22–23 April.
- Calvo, G. A. and C. Reinhart. 2000. When Capital Inflows Come to a Sudden Stop: Consequences and Policy Options. In P. Kenen and A. Swoboda, eds. *Reforming the International Monetary and Financial System*. Washington DC: IMF.
- Cardenas, M. and F. Barrera. 1997. On the Effectiveness of Capital Controls: The Experience of Colombia During the 1990s. *Journal of Development Economics*. 54 (1). pp. 27–57.
- De Gregorio, J., B. Eichengreen, T. Ito, and C. Wyplosz. 1999. *An Independent and Accountable IMF: Geneva Report on the World Economy 1*. Geneva: International Centre for Monetary and Banking Studies/London: Centre for Economic Policy Research.
- Dooley, M. 1996. A Survey of Academic Literature on Controls Over International Capital Transactions. IMF Staff Papers 43. pp. 639–687.
- Eichengreen, B. 2009. The Dollar Dilemma. *Foreign Affairs*. 88 (5). pp. 53–68.
- Eichengreen, B., J. Tobin, and C. Wyplosz. 1995. Two Cases for Sand in the Wheels of International Finance. *Economic Journal*. 105. pp. 162–172.
- Habermeier, K., A. Kokenyne, and C. Baba. 2011. The Effectiveness of Capital Controls and Prudential Policies in Managing Large Inflows. IMF Staff Discussion Note SDN/11/14.
- Hahm, J-H., F. S. Mishkin, H. S. Shin, and K. Shin. 2010. Macroprudential Policies in Open Emerging Economies. Paper prepared for the Bank of Korea.
- International Monetary Fund (IMF). 2010. Global Liquidity Expansion: Effects on “Receiving” Economies and Policy Response Options. In *Global Financial Stability Report: Meeting New Challenges to Stability and Building a Safer System*. pp. 119–151. Washington, DC: IMF.
- IMF. 2011a. *Measuring Global Liquidity*. Technical Note for G20 Subworking Group on Measuring Global Liquidity.
- IMF. 2011b. Statement by IMF Managing Director Christine Lagarde on Central Banks Coordinated Dollar Liquidity Action. IMF Press Release No. 11/336. 15 September.
- Kaminsky, G. L., C. M. Reinhart, C. A. Vegh. 2005. When It Rains, It Pours: Procyclical Capital Flows and Macroeconomic Policies. In M. Gertler and K. Rogoff, eds. *NBER Macroeconomics Annual*. pp. 11–82. Cambridge, Massachusetts, US: MIT Press.
- Kenen, P. B., J. Shafer, N. Wicks, and C. Wyplosz. 2004. *International Economic and Financial Cooperation: New Issues, New Actors, New Responses: Geneva Report on the World Economy 6*. Geneva: International Centre for Monetary and Banking Studies/London: Centre for Economic Policy Research.

- European Commission (EC). 2004. *Facing The Challenge. The Lisbon Strategy for Growth and Employment*. Report from the High Level Group chaired by Wim Kok. Luxembourg: Office for Official Publications of the European Communities.
- Ostry, J. D., A. R. Ghosh, K. Habermeier, M. Chamon, M. S. Qureshi, and D. B. S. Reinhardt. 2010. Capital Inflows The Role of Controls. IMF Staff Discussion Note SPN/10/04.
- Ostry, J. D., A. R. Ghosh, K. Habermeier, L. Laeven, M. Chamon, M. S. Qureshi, and A. Kokenyne. 2011. Managing Capital Inflows: What Tools to Use? IMF Staff Discussion Note SDN/11/06.
- Park, Y. C. 2009. Global Economic Recession and East Asia: How Has Korea Managed the Crisis and What Has Learned. Working Paper 209. Institute for Monetary and Economic Research, The Bank of Korea. November.
- Park, Y. C. 2011. The Role of Macroprudential Policy for Financial Stability in East Asia's Emerging Economies. In E. Prasad, ed. *The Role of Macroprudential Policy for Financial Stability in East Asia's Emerging Economies*. Washington DC: The Brookings Institution.
- Park, Y. C. and C-Y. Song. 2011. RMB Internationalization: Prospects and Implications for Economic Integration in East Asia. *Asian Economic Papers*. January.
- Park, Y. C. 2012. A Macroprudential Approach to Financial Supervision and Monetary Policy in Emerging Economies. *KDI Journal of Economic Policy*. 34 (1). pp. 3–27.
- Shin, H. S. 2010. Procyclicality in Advanced and Emerging Economies. ADBI Distinguished Speaker Seminar. Tokyo. 25 August.
- Wyplosz, C. 2010. The Dollar is the Worst International Currency, Except for all the Others. *What Matters*. 12 January. pp. 1–3.