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MONETARY SYSTEM
AFTER THE
FINANCIAL CRISIS**

by Ettore Dorrucci
and Julie McKay



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ABSTRACT

The main strength of today's international monetary system – its flexibility and adaptability to the different needs of its users – can also become its weakness, as it may contribute to unsustainable growth models and imbalances. The global financial crisis has shown that the system cannot afford a benign neglect of the global public good of external stability, and that multilateral institutions and fora such as the IMF and the G20 need to take the initiative to set incentives for systemically important economies to address real and financial imbalances which impair stability. We draw this core conclusion from a systematic review of the literature on the current international monetary system, in particular its functioning and vulnerabilities prior to the global financial crisis. Drawing from this analysis, we assess the existing and potential avenues, driven partly by policy initiatives and partly by market forces, through which the system may be improved.

JEL codes: F02, F21, F31, F32, F33, F34, F53, F55, F59, G15.

Key words: International monetary system, international liquidity, financial globalisation, global imbalances, capital flows, exchange rates, foreign reserves, surveillance, global financial safety net, savings glut, Triffin dilemma, International Monetary Fund, Special Drawing Rights, G20.

EXECUTIVE SUMMARY

The current international monetary system is highly flexible in nature compared with past systems, as its functioning (e.g. supply of international liquidity, exchange rate and capital flow regimes, adjustment of external imbalances) adapts to the different economic conditions and policy preferences of individual countries. This flexibility has facilitated a rapid expansion in world output and the most marked shift in relative economic power since the Second World War, accommodating the emergence of new economic actors and accompanying the transition of millions out of poverty.

At the same time, a series of financial crises in emerging market economies and, most recently, a major global crisis emanating from advanced economies have prompted several observers to ask whether the system's adaptability harbours vulnerabilities. In particular, the main issuers and holders of international reserve currencies appear to be entwined in a symbiotic relationship accommodating each others' domestic policy preferences. The pursuit of country-specific growth models that seek to maximise non-inflationary domestic growth over a short run perspective has led certain systemically important countries to pay insufficient regard to (i) negative externalities for other countries and/or (ii) longer-term macroeconomic and financial stability concerns. This implies that uniquely domestically-focussed growth models may have played a part in the accumulation of unsustainable imbalances in a globalised world.

A rich body of literature produced in recent years has supported, from different angles, the (not undisputed) conclusion that this neglect of the longer-term impact of domestic policies was one of the root causes of the global financial crisis. In a number of economies, monetary, exchange rate, fiscal and structural policies may have contributed – in combination with a number of shocks (e.g. Asian and dotcom crises) and long-standing factors (e.g. lack of welfare state in emerging market

economies) – to a global glut of both liquidity and planned savings over investment. This was coupled with growing demand for safe financial assets that far exceeded their availability, thereby exerting strong pressure on the financial system of advanced economies such as the United States. The main symptoms of this vulnerable environment were the persistence of abnormally low risk premia and the accumulation of global imbalances. The latter included not only real imbalances in savings/investment and current account positions as mirrored in net capital flows, but also rising *financial* imbalances (e.g. excessive credit expansion and asset bubbles) arising from aggressive risk-taking and soft budget constraints, in association with large-scale cross-border intermediation activity regardless of the sign and size of current account positions. This hazardous environment, together with inadequate regulation and supervision, provided the setting which fostered the well-known “micro” factors (e.g. poor financial innovation, excessive leverage) that produced the immediate trigger of the crisis.

Today, the domestic policy incentives in most key economies seem largely unchanged in spite of the global crisis. In this context, the real problem with the current international monetary system is not given by the particular national liability that serves as international currency, as some argue, but rather by the fact that the system does not embed sufficiently effective *incentives* for disciplining policies to help deliver “*external stability*”. External stability – as it is referred to by the International Monetary Fund (IMF), or “sustainability”, in recent G20 language – is a notion closely intertwined with that of domestic stability; it can be defined as a global constellation of cross-country real and financial linkages which does not, and is not likely to, give rise to disruptive and painful adjustments in, for example, exchange rates, asset prices, output and employment. It can be regarded as a *global public good*, because it is both non-rivalrous (consumption by one does not reduce consumption possibilities for others) and non-excludable (no-one can be

excluded from enjoying the benefits), which typically leads to under-provision of the good. In practice, if external stability is assured, all countries benefit from it; if not, all are likely to suffer from the incapability of the system to avert or remedy (“internalise”) the negative externalities of domestic policies.

In the absence of counterincentives to policy behaviour that undermines external stability, unsustainable growth models not only tend to fuel the credit and asset price booms that precede financial crises – as was the case prior to the summer of 2007 and may well be the case in future – but might also, over the long run, undermine the confidence that is the basis for the reserve asset status of national currencies. As a result, the pursuit of policies that are inconsistent with external stability may eventually lead, even in today’s world, to a contemporary version of the Triffin dilemma.

Given this general assessment, the core policy question then becomes: who provides what incentives for the promotion of external stability? We identify two major avenues: (1) *cooperative policy actions*, with the G20 as the leading forum for policy impulses and the IMF the main institution to promote implementation, alongside regional frameworks where possible; and (2) *market-driven developments*. These avenues are complementary and both are necessary, but the less the first avenue is pursued, the greater the pain that the second avenue may bring about in the transition phase.

Starting with cooperative policy actions, while we examine all options currently debated or pursued (see Table 4 on p. 33), we are of the view that the most important measure is to improve the *oversight* of the system. This in turn has two major dimensions: risk identification, and enhanced “traction”, especially for the systemically most important economies. In short, improved oversight requires (I) increasing the focus on cross-country linkages by strengthening not only multilateral (IMF and regional) *surveillance* but also the

mutual assessment of policies of systemically important economies. As Raghuram Rajan put it, countries need to understand that if they want a platform from which to weigh upon the policies of others, they must allow others a platform to weigh upon their policies; (II) embedding external stability clearly and unambiguously in the heart of IMF and G20 processes of risk identification, including the definition of *indicative guidelines* against which persistently large imbalances are to be assessed. This would allow each country and currency area to indicate and offer up for scrutiny the whole package of policy measures – including greater exchange rate flexibility where needed – that it intends to pursue in order to make its contribution to external stability over a realistic time horizon; (III) paying due attention to *financial imbalances* and the macro-prudential dimension of oversight; and (IV) enhancing *traction* by understanding the root causes of poor implementation rates and addressing them with appropriate, often soft power, instruments. These may include persuasion, external assistance, peer pressure, even-handedness, transparency, direct involvement of top officials, “comply or explain” procedures, greater independence and more inclusive governance of the IMF, as well as direct communication with – and enhanced accountability to – country (and world) citizens.

The system also requires a *global financial safety net* to tackle episodes of international contagion (akin to that following the collapse of Lehman Brothers), to be designed in such a way that it does not exacerbate moral hazard. This would help emerging market and developing economies in particular to deal with external shocks resulting in sudden stops in capital inflows and the drying up of foreign currency liquidity. As a by-product, a global financial safety net might also, over time and with experience, provide an incentive to reduce the unilateral accumulation of official reserves for self-insurance purposes. IMF assistance to cope with excessive capital flow volatility would lean in the same direction.

Finally, more *market-driven developments* could also help to change the incentives for policy-makers. For instance, further progress in domestic financial development in emerging market economies – as a result of both market forces and proper policy measures – would not only increase their resilience to changes in capital flows, but also create incentives for greater policy discipline in reserve currency issuers: the availability of credible investment alternatives would constrain the build-up of the excesses that characterised the pre-crisis years.

INTRODUCTION

A lively debate on the international monetary system (IMS) has developed in policy and academic circles over the past few years. Two broad groups of questions have stood out:

- Do some features of the current IMS contribute to the build-up of serious economic and financial imbalances that eventually result in disruptive and painful processes of market adjustment? In particular, did the IMS contribute to the macroeconomic environment that facilitated the “micro” unfolding of the global financial crisis which started in summer 2007?
- And, if the answer to these questions is “yes”, to what extent are the ongoing initiatives to strengthen the IMS in response to the crisis changing it for the better? Are there reasons to believe that certain IMS-related risks remain unaddressed, which might sow the seeds for the next crisis? If so, what market developments and further policy initiatives and reforms are needed to strengthen the IMS?

The current debate on the IMS has generated a rich literature exploring, more specifically, whether (i) the characteristics of the current IMS give rise to incentives that promote the build-up of global imbalances, and if so, what are the implications for global stability; (ii) the persistence of the US dollar as the dominant international currency still implies an “exorbitant privilege” for the issuing country and/or a Triffin-type dilemma for the IMS;¹ (iii) an IMS based on national reserve currencies should become more multipolar in nature or be complemented by a global supranational reserve currency; (iv) exchange rate anchoring and the accumulation of foreign assets by the official sector of emerging market economies present net costs or benefits; (v) the high global demand for safe debt instruments has put unsustainable pressure on the financial system; and (vi) excess capital flow volatility and contagion stemming from external shocks can undermine the functioning of the IMS.

The replies to these questions remain very contentious and open in nature, but they are crucial to assessing the desirability of any policy measure regarding today’s IMS. The policy initiatives under discussion are wide-ranging, from enhanced surveillance to mutual policy assessment, from the introduction of a global financial safety net to the promotion of domestic financial development in emerging market economies, from calls for greater exchange rate flexibility and lower unilateral accumulation of foreign reserves to changes in the international role of the special drawing rights (SDRs) of the IMF.

This paper consists of two main sections. Section 1 puts forward a possible definition of the IMS and assesses the literature and policy debate on the current system and its link to global macroeconomic and financial stability, thereby addressing some of the questions above. On the basis of this analysis, Section 2 discusses the possibilities for achieving a more stability-oriented system that are being pursued or debated in the process of international cooperation, with particular emphasis on one avenue – improved oversight over countries’ policies in order to ensure IMS stability – which, in view of the IMS’s pliability, is essential and deserving of further attention and progress, as recognised by the work programmes of the G20 and the IMF.

Note that this study is centred on how to improve the international monetary system. The main focus is on macroeconomic aspects, not financial market reforms which, though crucial, go beyond the scope of this study. Also, the article focuses on crisis prevention rather than crisis resolution, though we acknowledge that crisis resolution arrangements (including regional arrangements, private sector involvement, etc.) may influence ex-ante market and sovereign behaviour.

¹ The “Triffin dilemma” as formulated in Triffin (1961) refers to the dilemma that the issuer of an international reserve currency may face if it is required to run repeated and large balance of payments deficits in order to accommodate the global demand for reserves, while on the other hand seeking to preserve confidence in its currency so that it retains its value (which is a key requirement for a reserve currency).

I THE LINK BETWEEN THE CURRENT INTERNATIONAL MONETARY SYSTEM AND GLOBAL MACROECONOMIC AND FINANCIAL STABILITY

I.1 THE CONTOURS OF THE INTERNATIONAL MONETARY SYSTEM

I.1.1 A SUGGESTED DEFINITION OF AN INTERNATIONAL MONETARY SYSTEM

An international monetary system can be regarded as (i) the set of conventions, rules and policy instruments as well as (ii) the economic, institutional and political environment which determine the delivery of two fundamental global public goods: an *international currency* (or currencies) and *external stability*. The set of conventions, rules and policy instruments comprises, among other things, the conventions and rules governing the supply of international liquidity and the adjustment of external imbalances; exchange rate and capital flow regimes; global, regional and bilateral surveillance arrangements; and crisis prevention and resolution instruments. The economic, institutional and political environment encompasses, for example, a free trade environment; the degree of economic dominance of one or more countries at the “centre” of the system; the interconnectedness of countries with differing degrees of economic development; some combination of rules versus discretion and of supra-national institutions versus intergovernmental arrangements in the management of the system; and a given mix of cooperation and conflict in the broader political environment.

Regarding the two fundamental public goods, the first – an *international currency* or currencies – allows private and public-sector agents of different countries to interact in international economic and financial activity by using them as a means of payment, a unit of account or a store of value. The second global public good – *external stability* – refers to a global constellation of cross-country real and financial linkages (e.g. current account and asset/liability positions) which is sustainable,

i.e. does not, and is not likely to, give rise to disruptive and painful adjustments such as disorderly exchange rate and asset price swings or contractions in real output and employment.²

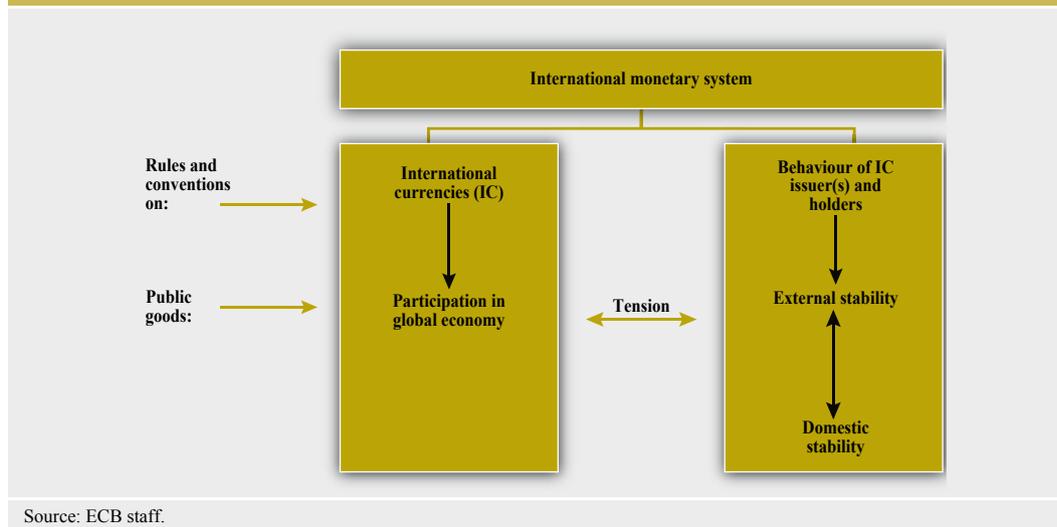
These two elements meet the definition of global public good because they are – at the global level – non-rivalrous (consumption by one country does not reduce the amount available for consumption by another) and non-excludable (that is, it is not possible to prevent consumption of that good, whether or not the consumer has contributed to it), which creates a free-rider problem. This leads to an under-provision of the good, because there is no incentive to provide it – that is, the return to the provider is lower than the cost of providing the good. The implication is that if the IMS functions properly, all countries benefit, but if it works badly, all countries are likely to suffer.³

The two public goods provided by the IMS are intertwined, as depicted in Chart 1. The currency of a country or monetary union gains international status only if foreigners are *willing* to hold assets denominated in this currency, which requires the delivery of the second public good with respect to that currency: external stability. Market participants will accept to hold one or more international currencies only to the extent that they believe that the “core issuers” are pursuing policies that will ensure they can always repay their debts.

2 The notion of external stability is identified by the IMF as the core objective of surveillance in its 2007 Decision on Bilateral Surveillance over Members’ Policies (IMF (2007b)). IMF (2010) further clarifies that “the Fund’s responsibility is narrowly cast over the international *monetary* system. This concept is limited to official arrangements relating to the balance of payments – exchange rates, reserves, and regulation of current payments and capital flows – and is different from the international *financial* system. While the financial sector is a valid subject of scrutiny, it is a second order activity, derived from the potential impact on the stability of the international monetary system.” Accordingly, in this paper we consider the international financial system only to the extent that it impacts on IMS stability. At the same time, it should be stressed – as we do in Section 1.2 – that especially today it is very difficult to disentangle the monetary from the financial component, as in practice they are closely intertwined.

3 In the literature on the IMS, a similar use of the notion of “public good” can be found in, among others, Eichengreen (1987) and Camdessus (1999).

Chart 1 International monetary system: a stylised picture



This circularity may, under certain circumstances, entail some tension – or even a conflict or dilemma – between the status of international currency and external stability. This is illustrated in Chart 1:

From a *monetary perspective*, the main source of liquidity to the global economy is the increase in the gross claims denominated in international currencies. However, *excessive* global liquidity may erode confidence in one or more international currencies if associated with unsound policies in the economies that issue those currencies. This calls to mind the long-standing “Triffin dilemma” (see footnote 1), although its dynamics look very different today from those in the Bretton Woods times (Triffin 1961), as discussed in Section 1.1.2.

From a *balance-of-payments perspective*, the same circularity may imply a tension between deficit “financing” and “adjustment”: the success of any IMS ultimately depends on the willingness of foreign investors to *finance* the core issuers, but also on the readiness of borrowers (i.e. issuers) to *adjust* possible imbalances of any nature if and when they become unsustainable. This readiness presumes in turn two complementary elements. First, any adjustment has to be *symmetric* for the system

to work properly; hence the readiness of the currency issuer to adjust must be matched by the readiness of its creditor countries to adjust. And second, given that external imbalances are the mirror image of domestic imbalances, external adjustment requires – sometimes painful – *domestic* adjustments (Bini Smaghi 2008).

There is no single way to address this *possible* – though not inevitable – tension between the two public goods, and indeed many different forms of IMS have existed over time. Some have put the emphasis on adjustment and restricted the availability of international money. Others have made it easier to create international liquidity and finance possible imbalances, thereby reducing the need for adjustment, thought this can put external stability at risk if the imbalances become too large.

1.1.2 THE CURRENT INTERNATIONAL MONETARY SYSTEM IN COMPARISON WITH PAST SYSTEMS

The current IMS took shape in the years following the Asian crisis (1997-98) and the advent of the euro (1999). This system can be seen as an evolution from the two previous systems, the Bretton Woods system of fixed exchange rates and the subsequent system centred on three major floating currencies

(the US dollar, Japanese yen and Deutsche Mark), on which Box 1 provides more detail. Its start was marked by two major developments. The first was the materialisation of a revitalised US dollar area, encompassing the United States and a new group of key creditors which, unlike in the previous phase, had become systemically important: namely, certain economies in emerging East Asia – especially China – and the Gulf oil exporters. Dooley, Folkerts-Landau and Garber (2003) labelled this arrangement the “revived Bretton Woods” or “Bretton Woods II”. We will in turn refer to the current IMS as the “mixed” system, to highlight the assortment of floating and fixed currency regimes of its core actors. The second development was the advent of a major monetary union with a new globally important floating currency, the euro, which – despite some weaknesses inherent in its status as a “currency without a state” – has rapidly become a credible alternative to the US dollar, though without undermining its central role in the IMS.

A core feature of the mixed system is that, in contrast to the Bretton Woods system, there are *no longer any rule-based restrictions* (e.g. a link to gold) *on the supply of international liquidity*. It should be noted that, under the

current IMS, the supply of international liquidity does not necessarily require the accumulation of current account imbalances, as predicted by the Triffin dilemma. This deserves mention because until 2006-07 the supply of US dollars was associated with US current account deficits that were high and rising (Chart 2). Owing to global financial markets, however, reserve-issuing countries should be able to provide the rest of the world with safe and liquid assets while investing in less liquid and longer-term assets abroad for similar amounts. This would result in maturity transformation in the financial account of the balance of payments while maintaining a balanced current account or, at any rate, a sustainable current account deficit/surplus (Mateos y Lago, Duttagupta and Goyal (2009)). By looking at *gross* in addition to *net* assets and liabilities, it is also possible to gauge the importance of other actors in the current IMS, namely the financially mature advanced economies, which are engaged in large-scale cross-border intermediation activity regardless of the sign of their *net* capital flows, i.e. their current account (Borio and Disyatat 2010). This is a very important and often overlooked aspect as external stability depends on the sustainability not only of the current account (i.e. the savings/investment positions)

Chart 2 The US current account under three international monetary systems

(percentages of GDP)



Sources: Federal Reserve Bank of Saint Louis, Global Financial Data and ECB calculations.

Notes: For a description of the two previous systems and of the present “mixed” system, see Box 1 and Section 1.1.2., respectively.

but also of *gross* capital flow patterns and the underlying asset/liability positions (see Broner, Didier, Erce and Schmukler (2010) for an analysis of the importance of gross flows from the 1970s until the present day). Today more than ever, the stability of the IMS is closely related to the stability of the international financial system through this nexus. And indeed many prefer to talk about an international *monetary and financial* system, given the difficulty of disentangling the two elements.

If the accumulation of imbalances under the current IMS is not intrinsic to the supply of international liquidity, which other feature of this system has given rise to them? In our view, the mark of the mixed system is that, unlike the Bretton Woods system, it does not embed sufficiently effective policy-driven or market-driven disciplining devices to ensure external stability – the second public good that an IMS ought to deliver.

First, many have argued that there is a bias in a number of systemically relevant countries to accumulate unsustainable current account imbalances in the medium to long run (*external real imbalances*). In the main issuer of international currency, the United States, the tendency to accumulate deficits has reflected, among other factors, stimuli to domestic demand based on easy credit in normal times and strong macroeconomic support in crisis times. This has been also possible because global investors have been willing to provide financing to the United States through unconstrained accumulation of US dollar assets, given the scarcity of equally credible alternatives.⁴ In so doing, they have acted as the “bankers of the United States”, turning on its head the constellation which prevailed under the Bretton Woods system, when the United States acted as banker of the world. This financing has not always been driven purely by market considerations, but also by government decisions – such as the maintenance of *de jure* or *de facto* pegs to the US dollar in the face of appreciation pressures on the domestic currency, leading to reserve accumulation on a scale going beyond purely precautionary motives.

In this context, a problem arises when the core issuers and main accumulators of reserve currencies fail to adopt sustainable models of growth and instead follow models – leading to over-consumption in the former and over-saving in the latter (*domestic real imbalances*) – which help fuel the booms that precede financial crises. The ensuing indebtedness of the reserve issuers – or, within the more balanced euro area, of individual members of the Monetary Union as long as it lacks a proper architecture for crisis prevention and resolution – may over the long run undermine the confidence that is the basis for the reserve asset status, according to Mateos y Lago et al. (2009). This is the classic “Triffin dilemma” revisited. In the words of Gourinchas and Rey (2005), “Triffin’s analysis does not have to rely on the gold-dollar parity to be relevant. Gold or not, the spectre of the Triffin dilemma may still be haunting us!”

In the current IMS, however, focusing on real imbalances is not sufficient to understand the causes of the global financial crisis. By extending the analysis of financing dynamics from *net* to *gross* capital flows, it is evident that prior to the crisis European banks played a key role in the external funding of the credit boom that occurred in the United States (see Whelan, 2010). This raises the complementary issue (reviewed in Section 1.2.4) of whether today’s IMS has become *too elastic*, i.e. lacking “anchors ... that can prevent the overall expansion of ... external funding from fuelling the unsustainable build-up of financial imbalances”, regardless of whether such imbalances are coupled with savings/investment and current account (i.e. real) imbalances or not. Financial imbalances are the outcome of too soft budget constraints on the private and official sector, and are here defined as “overstretched balance sheets that support unsustainable expenditure patterns, be these across expenditure categories and sectors, ... current account positions or in the aggregate” (both quotations from Borio and Disyatat, 2010).

4 The expressions “exorbitant privilege” and “dollar trap” have been coined to depict this situation from the viewpoints of the United States and its creditors respectively.

All in all, it appears that, at least until the onset of the financial crisis, the main actors in the IMS paid no regard to the provision of external stability that should have been safeguarded by (i) the adjustment of external/domestic real imbalances and (ii) anchors such as not too loose monetary policies preventing the accumulation of unsustainable financial imbalances. A number of intertwined factors drove this *benign neglect* of global imbalances under the mixed system until the financial crisis. These factors overrode the early warnings that had emanated from the IMF-led multilateral consultations (2006-07) and repeatedly from G7 and G20 statements, Annual Reports of the Bank for International Settlements and elsewhere. They were also not stymied by IMF surveillance exercises which, following the 2007 Decision on Bilateral Surveillance over Members' Policies, were focused on securing external stability. These driving factors included (see Section 1.2 for analytical detail):

- The view, increasingly popular until 2007, that global imbalances were just the endogenous outcome of optimising market forces and structural developments, implying that external and balance sheet positions should not become policy targets. In particular, the apparent sustainability of the mixed system was attributed to financial innovation, financial account liberalisation, a declining home bias all over the world and persistent differences in the level of financial development between mature and emerging market economies. It was maintained that these features favoured the channelling of savings from surplus to deficit economies – especially the United States given the international role of the US dollar and the higher liquidity of US financial markets compared with those of other advanced economies, such as the euro area.
- Mutual strategic dependence between the United States and China not only in the economic but also in the political and military fields (Paulson 2008).

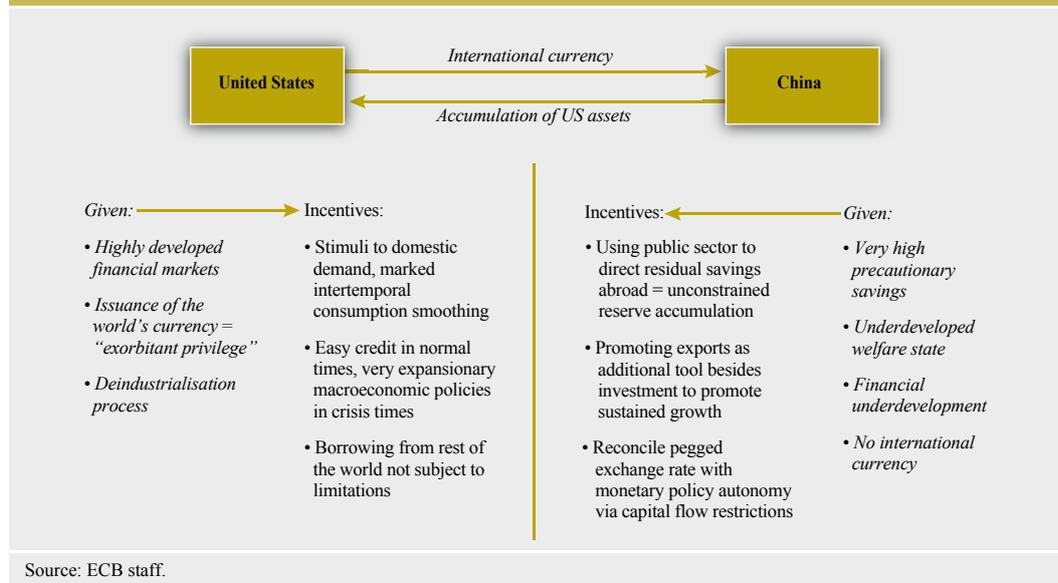
- The belief that the competitiveness problem posed by intra-euro area imbalances was purely “internal” in nature, without causing any downside risks to financial stability. Moreover, most governments in the euro area were playing down the importance of fiscal discipline and regional surveillance in a monetary union, with market participants endorsing this by under-pricing sovereign risk until the 2010 European sovereign debt crisis.

Most importantly of all, economic policies under the mixed system were, and to a large extent still are, shaped by a *system of incentives*. Three incentives are highlighted below.

First, certain countries with a floating currency, primarily the *United States*, and certain countries with a managed currency, especially *China*, had several domestic incentives that led them to ignore the implicit “rules” of the adjustment mechanism (see Rajan (2010) for a thorough analysis). This led to a conflict between short-term internal policy objectives and preserving external/domestic stability – a conflict which, at least until the financial crisis, was usually resolved in favour of the short-term internal policy objectives. Chart 3 briefly summarises the system of incentives in the bilateral relations between the two core actors of the mixed system.

A second, related incentive was that short-term oriented macro policy stimuli were producing results prior to the onset of the crisis. The economies making the largest contribution to external imbalances (e.g. the United States, China and Russia) were until 2007 also those outperforming comparable countries in terms of real GDP growth, without engendering inflationary pressures. Interestingly, the correlation between output growth and the size of the current account imbalance was much higher in these economies than elsewhere: as a rule, the more that their actual growth outstripped trend growth, the higher were, as a by-product, their trade and current account

Chart 3 The two core actors in the mixed system and their policy incentives



imbalances (Dorrucci and Brutti 2007). In view of this growth performance, policy makers would have faced opposition in proposing a shift to a more sustainable and medium-term-oriented growth path. Alan Greenspan (Chairman of the US Federal Reserve Board at the time) observed that “the trade deficit is basically a reflection of the fact that the whole world is basically expanding” (Greenspan, 2006). Henry Paulson (then US Treasury Secretary) captured the short-term dilemma between imbalances and growth in the United States by stating: “The trade balance is a problem ... but the current situation is better than no deficit and no growth at the same time”.⁵ He did not mention, however, the longer-term dilemma between imbalances, financial stability and, ultimately, growth (as discussed in Section 1.2).

Finally, imbalances within the *euro area* were allowed to grow because some members believed themselves (mistakenly in hindsight) to be shielded from the repercussions of lax domestic policies and poor financial market regulation. Markets encouraged them in their belief by largely ignoring sovereign risk within the euro area and financing the public and private sectors in certain euro area countries at relatively low interest rates. In the event, intra-euro area surveillance was not sufficiently effective as it too fell victim to the belief that divergences in countries’ external positions were benign in a monetary union in the same way as they were considered to be benign at the global level (Bini Smaghi 2010a).

⁵ Quotation from “Financial Times Deutschland” (translated), 1 June 2006, p. 18.

Box I

**THE INTERNATIONAL MONETARY SYSTEM AFTER THE SECOND WORLD WAR UNTIL THE LATE 1990S:
A BRIEF OVERVIEW**

The Bretton Woods system (1944-1973)

The *Bretton Woods* system was a formal international monetary system based on very transparent and predictable rules as well as on a US dollar that was “as good as gold”. The system’s key feature was that currencies were pegged to the US dollar and the US dollar in turn represented a fixed amount of gold. Hence, the supply of international liquidity – defined at that time as gold and reserve currencies – was restricted by the link to gold. And it was exactly because of this feature that external imbalances adjusted. An important feature was that adjustments took place through changes in quantities, namely a correction in domestic demand in both deficit and surplus countries. Adjustments through prices, i.e. exchange rate realignments, while possible, rarely happened.

Using the exchange rate as a channel of adjustment was, however, always a temptation. Faced with large shocks, it offered a potentially more palatable option than lengthy and costly internal adjustment. At the end of the 1960s, the largest of all shocks – the Vietnam War – eventually led to the collapse of the system. Its financing in the United States was associated with expansionary policies that in turn resulted in high inflationary pressures. In the course of the 1960s, US dollar-denominated reserve assets lost 40% of their purchasing power. As a result, the creditors to the United States, mainly Germany and Japan, became increasingly reluctant to finance the war by accumulating reserves denominated in US dollars.

In consequence, the Bretton Woods system eventually collapsed as the core country was insufficiently committed to abiding by the rules, which meant maintaining the value of the US dollar in terms of gold. It should be remarked, however, that the composition and the magnitude of the US balance of payments imbalance was not problematic per se. The US current account remained in healthy surplus between the early 1950s and the late 1970s (see Chart 2). Rather, the imbalance consisted mainly of large long-term capital outflows from the United States, especially foreign direct investment by US multinationals, as the US acted as the “banker of the world”. It imported short-term capital in the form of bank deposits and Treasury bills and bonds, and exported longer-term capital. The resultant accumulation of net long-term foreign assets by the United States reassured foreign investors, and hence the system did not collapse because of excessive US indebtedness.

The post-Bretton Woods phase (1973-1998): the “Flexible system”

After the Bretton Woods system an informal, market-led system evolved, which was centred on three floating currencies, the US dollar, the Japanese yen and the Deutsche Mark (the “G3”). There was another new ingredient to it: a gradual liberalisation of cross-border capital movements due to the growing recognition of markets’ positive role in the international allocation of savings. Owing to the floating currencies and freer movement of capital, it was expected that the financing and adjustment of external imbalances between the United States, Japan and Germany would happen quasi-automatically. Market forces were expected to exert the necessary discipline on economies, and force policy-makers to adopt adjustment measures when needed.

With the benefit of hindsight, we can say that this system worked to a certain extent. Its basic features – free-floating currencies and free capital flows – are still with us today. But the system did not always function smoothly. There were several major episodes of excessive volatility among the three major currencies– and even episodes when these currencies were clearly misaligned, which prompted unilateral and/or concerted central bank intervention in the 1980s and 1990s. Moreover, it became apparent that exchange rate adjustment, while necessary, did not by itself lead to the complete adjustment of global imbalances.

It should be stressed that this system was flexible only at its centre, i.e. between the “G3” currencies and those of a few other advanced economies. At its periphery, small open economies, advanced and emerging alike, often needed a strong nominal anchor. They opted for more or less heavily managed exchange rates vis-à-vis the US dollar or, in Europe, the Deutsche Mark. However, this very often produced (temporary) periods of calm interspersed by (sometimes severe) disruptions, as the many currency crises experienced in the 1980s and 1990s, notably in emerging market economies, confirm.

1.2 THE DEBATE ON THE ROLE PLAYED BY THE INTERNATIONAL MONETARY SYSTEM IN THE GLOBAL FINANCIAL CRISIS

1.2.1 OVERVIEW

There is widespread agreement that the financial crisis was both triggered and propagated by failures within the financial system. More open, however, remains the debate on its underlying causes. Bearing in mind that one-size-fits-all explanations fail to reflect the complexity of what happened, we focus here on the lively

debate about the role played by the IMS. Various studies, outlined in Table 1, support the conclusion that way in which the IMS functioned was, directly or indirectly, one of the root causes. Specific contributions focus on different aspects but, taken together, can – despite different emphases and some mutual inconsistency – provide policy-makers with a “macro” narrative of the crisis that complements the “micro” (financial sector based) narrative. In brief, the story told by these contributions is the following, as also depicted in Chart 4:

Chart 4 Root causes of the financial crisis: one interpretation

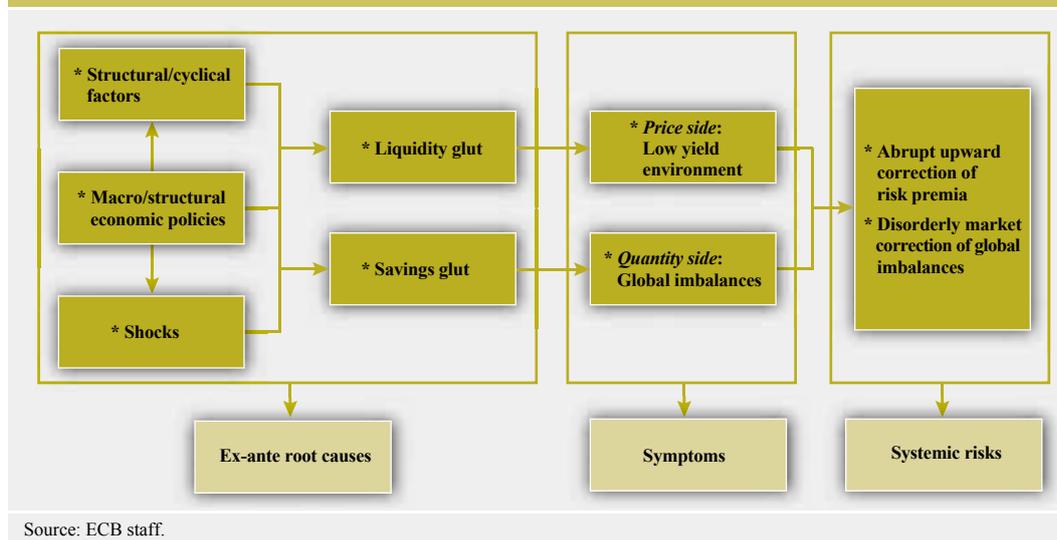


Table I Literature on the macro and structural root causes of the financial crisis, partly related to the functioning of the IMS

Strand of literature	Key point made	Some references (not exhaustive)
Savings glut, investment drought	Planned savings, exceeding investment at the global level, inundated financial markets because of both a <i>glut in gross savings</i> and a <i>drought in investment</i> . “Too much capital chasing too little investment” contributed to the low-yield environment and the real interest rate conundrum prior to the crisis. ¹⁾	- Bernanke (2005) - IMF (2005) - Trichet (2007) - Bean (2008) - Rajan (2010)
Safe assets imbalance	The world had (and still has) insatiable demand for safe debt instruments that put strong pressure on the US financial system and its incentives. This view, while linked to the savings-glut literature (since both contain the idea that creditor countries demanded financial assets in excess of the capacity to produce them), emphasises the notion that the <i>safe assets imbalance</i> is particularly acute because emerging markets have very limited institutional ability to produce such assets.	- Caballero (2006, 2009a and b) - Mendoza, Quadrini, and Rios-Rull (2007) - Caballero, Farhi and Gourinchas (2008) - Caballero and Krishnamurthy (2009)
Liquidity glut	<i>US policy rates</i> in the 2000s have been <i>consistently below the levels predicted by the Taylor rule</i> , i.e. below what historical experience would suggest they should have been, thereby contributing to the low-yield environment and declining risk aversion. Since it is monetary policy that ultimately sets the price of leverage, excessively loose monetary policies contributed to <i>credit expansion and an excessive elasticity of the international monetary and financial system</i> . Low policy rates worldwide reflected the interplay of very low global inflation and the belief that monetary policy was about containing consumer price inflation, not asset price inflation. There is a link between <i>liquidity glut, global imbalances and the low-yield environment</i>	- Taylor (2007 and 2009) - Bank for International Settlements (BIS) (2008) - Borio and Disyatat (2010) - Borio (2009) - Borio and Drehmann (2008 and 2009) - Alessi and Detken (2008) - Obstfeld and Rogoff (2009) - Bracke and Fidora (2008) - Barnett and Straub (2008) - Bems, Dedola and Smets (2007)
Reserve accumulation and capital flowing “uphill”	<i>Reserve accumulation</i> and, more generally, <i>capital flowing “uphill”</i> (i.e., from developing and emerging market economies to more mature economies) contributed significantly to the compression of bond yields and to the United States' ability to borrow cheaply abroad, thereby financing a housing bubble.	- Obstfeld and Rogoff (2009) - Literature reviewed in Eurosystem (2006) - Warnock and Warnock (2007)
Insufficient implementation of structural policies as another key contributor to the preconditions for the crisis	The materialisation of excess savings and the fact that they were reinvested abroad by the official sector was partly attributable to structural factors such as (i) the propensity of residents of certain high growth developing countries to accumulate precautionary savings in the absence of <i>welfare provision</i> , (ii) <i>demographic factors</i> , (iii) <i>financial underdevelopment</i> and (iv) in China, <i>corporate governance</i> issues that induce firms to retain too high a proportion of savings. Some of these structural factors could have been addressed by proper policies implemented over sufficiently long time horizons.	- Bracke, Bussière, Fidora and Straub (2008) - Dorrucchi, Meyer-Cirkel and Santabàrbara (2009)
Link between macro root causes of the financial crisis and the unfolding of the micro causes	<i>Various explanations</i> (e.g. according to Caballero, when the demand for safe assets began to rise above what the US financial system could naturally provide, financial institutions started to search for ways to generate low-risk, preferably triple-A-rated assets out of riskier products. Complex, securitised and highly-rated instruments were created, which in the event were vulnerable to default from a systemic shock)	- Caballero (2009a and b) - Coval et al. (2009) - Trichet (2009a and b) - Bini Smaghi (2008) - Rajan (2010) - Taylor (2009) - Portes (2009)

1) For a contrarian view, see Hume and Sentance (2009).

As with any system under strain, it is the symptoms that signal there is a problem. In the IMS prior to the crisis, the warning signs of escalating systemic risk were primarily twofold: on the price side, historically low risk premia and, on the quantity side, the accumulation of global imbalances as defined in Section 1.1.2. The low-yield environment and the “benign neglect” by policy makers of the mounting global imbalances under the current IMS played a key role in producing “the flood of money lapping at the door of borrowers” (Rajan 2010). This resulted in overstretched household and bank balance sheets and fuelled the underpricing of risks and overpricing of assets, especially in housing markets. It also encouraged the development of complex financial products that were hard to assess for risk management purposes. More generally, there was a widespread deterioration in lending standards and credit quality, increased leveraging activity and burgeoning financial intermediation.

The core macroeconomic conditions that gave rise to the low-yield environment and growing global imbalances were set by a global excess of planned savings over investment (further discussed in upcoming Section 1.2.3) as well as of liquidity (see upcoming Section 1.2.4), coupled with strong global demand for, and insufficient supply of, safe and liquid financial assets (Section 1.2.5).

As we will illustrate, the savings/liquidity glut was to a significant extent also the outcome of macroeconomic and structural policies which – in the absence of policy attention on external stability in the current IMS – reinforced or insufficiently countered the effects of a combination of shocks and structural/cyclical factors on saving/investment, current accounts and financial imbalances.

Although the form, timing and sequencing of the crisis had not been fully anticipated, there was nonetheless widespread awareness among policy-makers that the macroeconomic conditions for some form of disorderly adjustment of house and asset prices, exchange rates and balance

of payments positions were in place (Visco, 2009a and b). Since the crisis, the domestic incentives underlying the macroeconomic and structural policies of the main participants in the IMS have not fundamentally changed and once again, economic policies appear to be more influenced by short-term goals than the objective of balanced and sustainable growth (see e.g. Bini Smaghi, 2008; Blanchard and Milesi-Ferretti, 2009; Visco, 2009 a and b; and Rajan, 2010).

The literature on the IMS and the financial crisis is reviewed in the next four sections. We first focus on the debate regarding the role played by the US dollar as an international currency during the crisis, i.e. on the first of the aforementioned IMS public goods, (in Section 1.2.2). We then review the debates surrounding the savings glut (Section 1.2.3), the liquidity glut (Section 1.2.4) and related policy failures. Finally, turning to the role of more structural factors, we focus on the literature regarding asymmetric financial globalisation (Section 1.2.5).

1.2.2 THE RECENT LITERATURE ON THE US DOLLAR, THE “EXORBITANT PRIVILEGE” AND THE TRIFFIN DILEMMA

Three interpretations of the role played by the US dollar in the financial crisis and, more generally, in the prevailing IMS can be identified in the literature. In overview, according to the first interpretation, the crisis was driven solely by “micro” failures in the financial system; the international role and status of the US dollar was and will remain unchallenged. Under the opposite view, the role played by the dollar in the IMS would have precipitated the crisis, and the world can no longer rely on an international currency issued by a single country. An intermediate view – broadly shared by the authors – is that the nature of the IMS contributed to the macroeconomic and financial environment that gave rise to the crisis. It was not the supply of international currency by the United States as such that was the problem; but rather the lack of policy-disciplining devices aimed at fostering external stability. In the words of Kregel (2010), “the basic problem is not the particular national

liability that serves as the international currency but rather the failure of an efficient adjustment mechanism for global imbalances". These three views are now explored in more detail.

ONE VIEW: UNCHALLENGED DOLLAR IN AN UNCHALLENGED IMS

According to this view, the nature of the current IMS was "at best, an indirect contributor to the build up of systemic risk", whereas "the main culprit (...) must be seen as deficient regulation" (IMF 2009a). Proponents argue that net capital flows to the United States were a stabilising rather than destabilising force even at the peak of the crisis, and point out, as evidence, that the United States did not and has not since experienced external funding problems. Also, on the empirical front, they note that there is no evidence that any of the features in the current IMS led to the build-up in vulnerabilities prior to the crisis (IMF 2009b).

The advocates of this view tend to lay emphasis on the post-Lehman episode of US dollar appreciation described in Box 2, and stress that one of its most unusual features was the extent to which the US dollar remained relatively immune to an extraordinarily severe financial crisis originating in the issuing country. As risk aversion rose rapidly and a widespread process of deleveraging began, the flight to safety and liquidity led to a sharp appreciation of the dollar, and the US current account deficit began shrinking, not as a result of a fall in capital flows, but owing to a contraction in aggregate demand brought on by *domestic* financial problems (combined with a collapse in world trade and world oil prices).

More generally, this view stresses that the international predominance of the dollar remains unchallenged. For instance, in the literature it is highlighted that the dollar:

- remains a central currency in the exchange rate regimes of third countries (see e.g. evidence in Ilzetzi, Reinhart and Rogoff, 2008);
- still accounts for the largest share of foreign currency reserves reported to the IMF, although it declined from almost 73% in mid-2001 to 61.5% in the first quarter of 2010. (It should be noted, however, that this decline mostly reflects dollar depreciation, which raised the value of other currencies in reserve portfolios, see Goldberg, 2009; After adjusting for exchange rate fluctuations, the drop in the US dollar share occurs only after 2007 and turns out to be much less pronounced, see Table 2);
- is used in international trade, especially in the East Asia-Pacific region and in primary commodities trading, to a degree well beyond what would be commensurate with trade with the United States (Goldberg and Tille, 2009);
- is by far the main currency in foreign exchange market turnover (BIS, 2007 and 2010), and has declined only slightly in international financial markets as currency of denomination of debt securities issued outside countries' own borders. In particular, the dollar remains the primary financing currency for issuers in the Asia-Pacific region, Latin America and the Middle East (ECB, 2009).

Table 2 The currency composition of world foreign exchange reserves, in constant exchange rates

	(percentages)								
	2002	2003	2004	December			March		
				2005	2006	2007	2008	2009	2010
USD	60.8	63.4	65.1	63.0	63.9	64.7	63.3	62.2	60.2
EUR	29.6	27.6	25.9	27.7	26.8	25.9	27.0	27.3	28.4
JPY	5.1	4.4	4.2	4.3	3.9	3.6	3.0	3.0	3.1
GBP	2.6	2.4	2.8	3.2	3.5	3.8	4.4	4.3	4.6
Other	1.9	2.2	2.0	1.8	1.9	2.0	2.3	3.2	3.7

Sources: IMF and ECB calculations.

Note: Constant exchange rate figures have been computed using the last available quarter as the base period.

Several reasons have been put forward to explain the international dominance of the US dollar, including inertia effects, network externalities, the unrivalled size and liquidity of US financial markets, and the fact that most emerging market economies, now key actors in world trade and the most important contributors to global output growth, still have much less developed financial sectors (see upcoming Section 1.2.5). In particular, when emerging economy central banks and sovereign wealth funds started accelerating the pace of accumulation of foreign assets, about ten years ago, they had few alternatives to investing in the safe assets of mature economies, mostly in the United States.

THE OPPOSITE VIEW: THE “TRIFFIN DILEMMA”

At the opposite end of the spectrum of views, a number of authors, including Governor Zhou of the People's Bank of China (2009), have argued that the recent financial crisis has to be understood against the backdrop of *inherent* vulnerabilities in the existing IMS. According to this strand of the literature, the main issuer of international currency, the United States, can only satisfy the global demand for liquidity if it overly stimulates domestic demand, but this is likely to lead ultimately to debt accumulation, which in turn will eventually undermine the credibility of the international currency, and hence its status as a reserve currency. This is the already mentioned “Triffin dilemma”. Indeed, proponents of this view argue that the reserve issuer has a tendency to create excess liquidity in global markets, thereby leading the international currency to depreciate over the longer run.

In this interpretation the emphasis is put on the alleged tendency of the US dollar to depreciate over the longer run, rather than on the post-Lehman episode. The main conclusion is that “the Triffin Dilemma (i.e., the issuing countries of reserve currencies cannot maintain the value of the reserve currencies while providing liquidity to the world) still exists” (Zhou, 2009): while the current account deficits experienced by the United States since the collapse of the Bretton Woods system

are seen as the main source of creation of international liquidity, it is argued that such deficits progressively erode confidence in the US dollar as an international currency.

The conclusion drawn by this strand of the literature is, therefore, that the global economy cannot, and hence should not, rely any longer on a currency issued by a single country. Instead, a substitute, non-national, international currency is needed.

INTERMEDIATE VIEW

Under this heading, the basic proposition is that the current IMS is not inherently flawed, and that it can be maintained *as long as* reserve issuers and holders conduct sound, medium-term-oriented policies for well-balanced growth.

First of all, it is argued (unlike under the “traditional Triffin view”) that global financial markets make it possible for reserve-issuing countries to provide safe and liquid assets to the rest of the world while investing a similar amount of assets abroad, and hence maintain sustainable current account positions. Therefore, according to this view, the accumulation of global imbalances in recent years (i) is not necessary for the functioning of the current IMS and (ii) does not, in itself, provide a rationale for finding a substitute for the US dollar as the dominant reserve currency. Indeed, a number of authors (see Habib, 2010, most recently) have provided evidence that, thanks to strong returns on net foreign assets and favourable valuation effects, the international investment position of the United States is more sustainable than one would infer from the past accumulation of US current account deficits.

This is not to deny that under the current IMS, problems may arise from the insufficient *availability* of international currency. In particular, major external shocks (e.g. such as that of the collapse of Lehman Brothers) may produce unsustainable capital flow volatility, especially for emerging market economies, that disrupts the smooth functioning of the IMS. Addressing this problem calls for the enhancement of domestic

financial systems in emerging market economies as well as the global “financial safety net” (defined as the system of multilateral, regional and bilateral facilities which aims to cushion the contagion ensuing from major external shocks). These measures would not require a major overhaul of the IMS but could be actively pursued *within* the current system (as discussed ahead in, Section 2.2.1)

However, proponents of the intermediate view identify a link between the functioning of the IMS and the financial crisis. This link is given by the inadequacy of policy-disciplining devices inherent in the IMS (as already mentioned in Section 1.2), which we now examine in analytical detail in the next three sections on the savings glut, the liquidity glut and uneven financial globalisation.

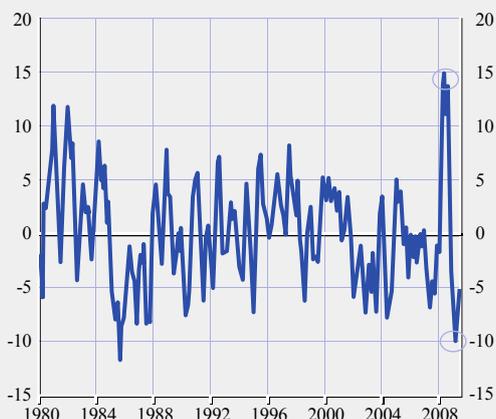
Box 2

THE COURSE OF THE US DOLLAR DURING THE MOST CRITICAL PHASE OF THE FINANCIAL CRISIS

The period between September 2008 (collapse of Lehman Brothers) and early 2010 was characterised by an extraordinary episode of rise and fall in the US dollar (see Chart A), which is quite revealing about the functioning of the IMS. Despite the fact that the global financial crisis started in US financial markets, investors initially flocked to the US dollar as a safe haven, and only began to express trust in alternatives as global financial conditions normalised. The large private portfolio inflows into the United States after September 2008 reflected both the repatriation of funds by US residents to repay debts and a flight to safety in the global scramble for liquidity (McCauley and McGuire, 2009). As a result, from a near all-time low in early 2008, the real effective exchange rate of the dollar returned to its long-term average one year later, before subsequently falling back (Chart B).

Chart A Swings in the US dollar

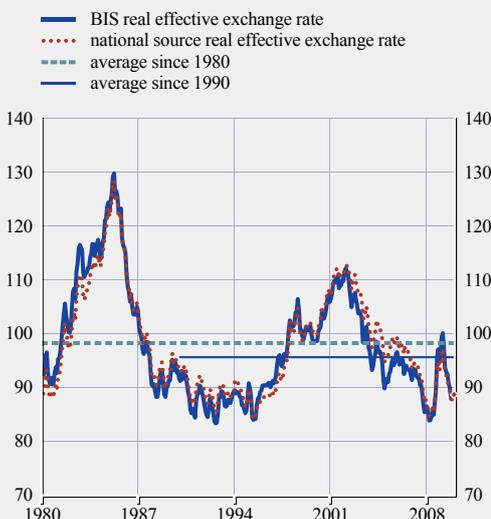
(on the vertical scale: real effective exchange rate change over the last six months, rolling window)



Sources: Federal Reserve System and ECB calculations.
Notes: Index with 26 currencies. Last observation: November 2009.

Chart B Real effective exchange rate of the US dollar

(Q1 1999 = 100)



Source: Federal Reserve System.
Notes: Last observation: December 2009.

After September 2008, the US dollar appreciated against all major currencies except for the Japanese yen (Chart C.a), whereas six months after March 2009 it had depreciated bilaterally against nearly all major trading partners (Chart C.b).

Chart C Change in the US dollar versus selected currencies

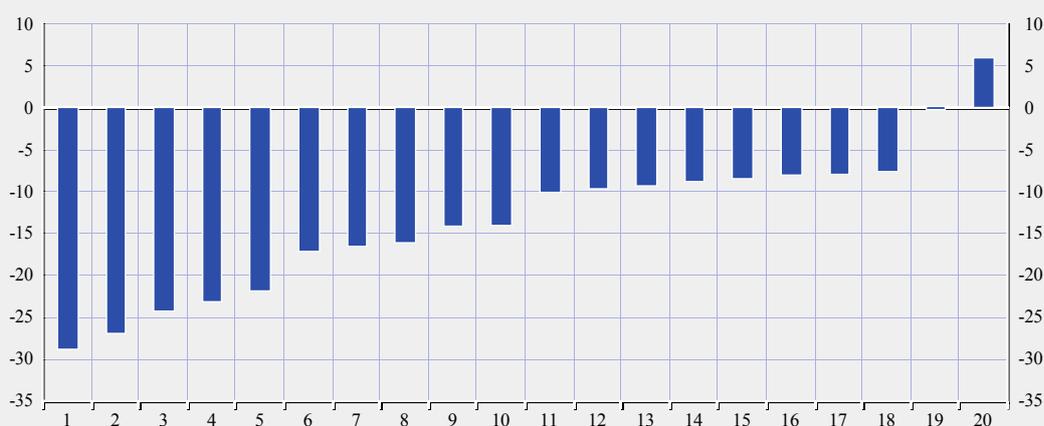
(percentage changes)

(a) 12 September – 28 November 2008



- | | | | |
|---------------------|---------------------|-----------------------|----------------------|
| 1 Japanese yen | 6 Singapore dollar | 11 Euro | 16 Mexican peso |
| 2 Renminbi | 7 Swiss franc | 12 Pound sterling | 17 Turkish lira |
| 3 Thai baht | 8 Indian rupee | 13 Canadian dollar | 18 Brazilian real |
| 4 Taiwanese dollar | 9 Russian rouble | 14 South African rand | 19 Indonesian rupiah |
| 5 Malaysian ringgit | 10 Argentinean peso | 15 Australian dollar | 20 Korean won |

(b) 10 March 2009 – 25 January 2010



- | | | | |
|----------------------|-------------------|---------------------|----------------------|
| 1 Australian dollar | 6 Canadian dollar | 11 Indian rupee | 16 Japanese yen |
| 2 South African rand | 7 Turkish lira | 12 Euro | 17 Malaysian ringgit |
| 3 Korean won | 8 Mexican peso | 13 Swiss franc | 18 Taiwanese dollar |
| 4 Brazilian real | 9 Pound sterling | 14 Singapore dollar | 19 Renminbi |
| 5 Indonesian rupiah | 10 Russian rouble | 15 Thai baht | 20 Argentinean peso |

Source: ECB.
Note: + denotes a nominal appreciation of the US dollar.

1.2.3 SAVINGS GLUT AND REAL IMBALANCES

According to this strand of literature, in the years preceding the crisis the world economy experienced the emergence of a situation where the amount of income that economic agents *planned* to keep as savings exceeded planned investment at the global level. This view is expressed in various differing but complementary versions: the “savings glut” and “investment drought” hypotheses (Bernanke, 2005 and IMF, 2005, respectively; Rajan, 2010, also uses the expression “global supply glut”), the idea of “too much capital chasing too little investment” (see Trichet 2007), as well as the literature on strong global demand for, and deficient supply of, liquid and tradable financial assets (Caballero, 2006 and subsequent literature reviewed in Section 1.2.5).

The interpretation is frequently used to explain why low real interest rates persisted even after the Federal Reserve System started raising policy rates in June 2004, thus engendering a fall in term spreads – a phenomenon that was labelled the “interest rate conundrum” (Greenspan, 2005 and 2007). Aside from the “conundrum”, the low-interest rate environment has also been attributed to accommodative monetary policies, which were one of the factors contributing to the “liquidity glut”, as discussed in the next section.

Low interest rates, coupled with limited volatility, created an environment that encouraged a global “search for yield” and the progressive build-up of systemic risk both via a widespread underestimation of risk and competitive compression of risk premia to abnormally low levels. This “under-pricing of the unit of risk” (Trichet 2009a, 2009b) contributed to the micro causes of the crisis. An elaboration of the transmission from the macro to the micro dimension falls outside the scope of this paper, but some contributions focusing on this issue are provided by Trichet (2009), Bini Smaghi (2008), Caballero (2009b), Rajan (2010), Taylor (2009), Portes (2009), “The Economist” (2009), and IMF (2009b).

In keeping with the view, the global glut of planned net savings was associated not only with exceptionally low risk premia on the price side, but also, on the quantity side, with the accumulation of saving/investment imbalances *within* several systemically relevant countries, and current account imbalances *among* them, which many analysts deemed to be unsustainable over the medium to long run (see e.g. Bracke, Bussière, Fidora and Straub, 2008). The most tangible manifestation of these imbalances was the “Lucas puzzle” of capital increasingly flowing “uphill” from certain systemically relevant emerging market economies to certain financially developed economies (see Section 1.2.5 for a discussion). Warnock and Warnock (2007) show that this contributed significantly to the compression of bond yields in the United States.

From the *policy perspective*, two key systemic risks were identified, namely an abrupt upward correction of historically low risk premia on the price side, and a disorderly unwinding of real imbalances on the quantity side. These risks were discussed repeatedly from the second half of 2003 onwards, at G7 and G20 summits and BIS and OECD-based meetings, as well as in the IMF-led multilateral consultation on global imbalances, which also identified a list of policy actions to be undertaken to unwind the imbalances (IMF 2007a). Yet, policy courses in individual countries often persisted unchanged, or at any rate, policy changes implemented in the years preceding the crisis fell far short of those recommended in international fora (in both cases swayed by the system of incentives discussed in Section 1.1.2). Three cases illustrate. (See Catte, Cova, Pagano and Visco, 2010, for empirical evidence).

First, reserve accumulation continued unabated. After the Asian and Russian crises, several emerging market economies pursued export-led recoveries,⁶ in certain cases supported by persistently undervalued exchange rates held down by unilateral foreign exchange interventions. The ensuing reserve accumulation,

6 See Rajan (2010) for an analysis of the underlying motives.

unprecedented in size, was an important factor accompanying the emergence of large external surpluses in several emerging market economies, which were invested in mature financial markets. Crucially, in light of the crisis, the extraordinary pace of reserve accumulation contributed to artificially lowering US yields.⁷ More generally, reserve accumulation beyond optimality thresholds created substantial distortions, costs and risks at the global, regional and domestic levels, which are summarised on Table 3.⁸ On the other hand, it should be also emphasised that in many emerging economies the build-up of foreign reserves was mainly driven by a desire to unilaterally self-insure against future crises – a desire exacerbated by a lack of trust in multilateral approaches to crisis prevention and resolution.

Notwithstanding this important self-insurance objective, on which we will come back in Section 2, the fact remains that by 2007 the level of reserves in many countries had risen well above optimality thresholds. Reserves exceeded all available measures of foreign reserve adequacy, not only the traditional benchmarks (three months of imports and the Greenspan-Guidotti rule) but

also M2 or model-based benchmarks (Chart 5). The high and rising level of global reserves signalled a problem in the international monetary system and the increased risk of a disorderly unwinding. It pointed to a need for surplus countries to pursue greater exchange rate flexibility in effective terms, and to rebalance domestic demand on a permanent basis (Bini Smaghi 2010b). It also called for the international community to introduce more globally efficient forms of foreign currency liquidity provision to cope with contagion from external shocks, thereby complementing, and over time replacing, national reserve accumulation for precautionary purposes (see Section 2).

Second, expansionary *fiscal policies* may have also played a role in fuelling the imbalances, at least in the United States, according to some observers. Kraay and Ventura (2005) note that the US current account deficit, which had begun shrinking in the wake of the bursting of the dotcom bubble in 2001, started rising again

7 A rich body of literature reviewed in Eurosystem (2006) provides detail.

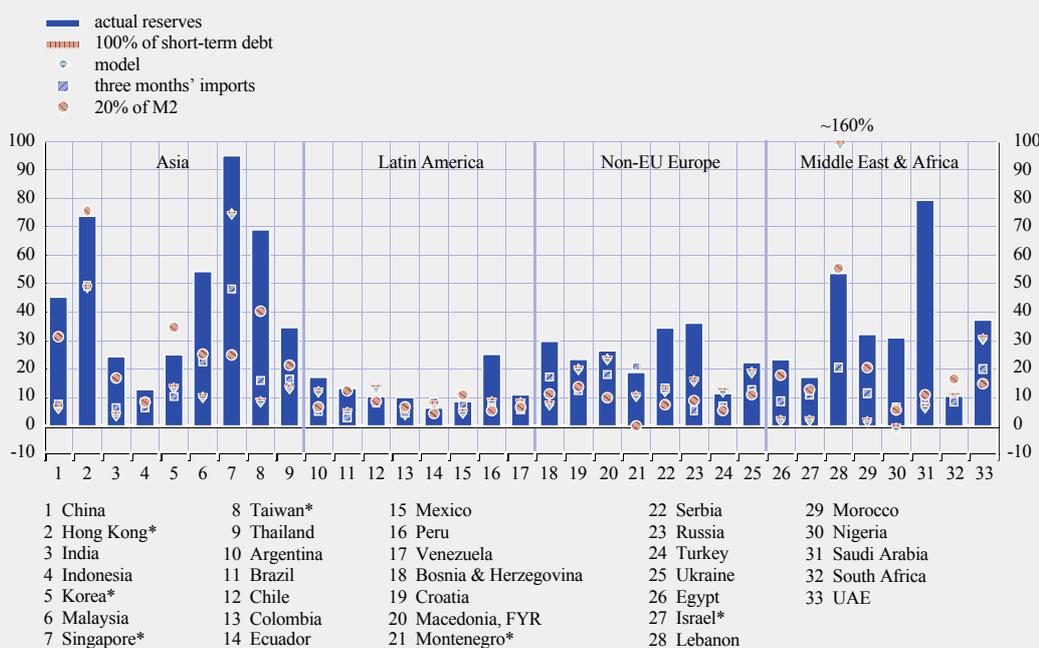
8 See Bini Smaghi (2010b) for a review.

Table 3 Medium-term distortions, costs and risks of reserve accumulation beyond optimality thresholds

	Distortions, risks and costs
Global level	Reserve accumulation corresponds to a large-scale re-allocation of capital flows organised by the public sector of the accumulating countries. This produces major distortions in the global economy and international financial markets and can have negative implications for: <ul style="list-style-type: none"> (i) <i>global liquidity conditions</i>, by possibly contributing to an artificially low yield environment (ii) <i>the potential for build-up of asset price bubbles</i>, to the extent that reserve accumulation is not sufficiently sterilised (iii) <i>global exchange rate configurations</i>, including the risk of misalignments (iv) <i>trade flows</i>, to the extent that reserve accumulation becomes the equivalent of a protectionist policy subsidising exports and imposing a tariff on imports
Regional level	Reserve accumulation by a major economy in one region may contain currency appreciation in competitor countries in the same region when this is needed. This: <ul style="list-style-type: none"> (i) <i>constrains the degree of flexibility of the other currencies</i> in the region, (ii) <i>may magnify capital flow volatility</i> in the other region's economies in a context of misaligned exchange rates
Domestic level	Reserve accumulation can: <ul style="list-style-type: none"> (i) <i>undermine a stability-oriented monetary policy</i> if the monetary policy of the anchor country is more expansionary than domestically required (ii) <i>hamper the market-based transmission of monetary policy impulses and the development of the domestic financial market</i> (iii) <i>be costly</i> as reserves have a relatively lower return and involve sterilisation costs (iv) <i>distort resource allocation, impede service sector development and constrain consumption and employment</i> by unduly favouring the tradable sector at the detriment of the non-tradable sector (v) <i>affect income distribution and consumption growth</i> by unduly damaging the household sector as a result of artificially low interest rates on deposits in a financially underdeveloped economy

Chart 5 Foreign reserve adequacy ratios versus actual reserves in emerging market economies

(percentage of GDP; 2007)



Source: Mileva (2010).

Notes: 1) Model calculations based on Jeanne and Rancière (2008). This is a dynamic general equilibrium model in which (i) official reserves are held not only for debt rollover during financial crises but also to alleviate potential output losses; (ii) the opportunity cost of holding reserves is calculated as the difference between the interest rate on long-term external debt and the return on US dollar reserves.

2) Short-term debt is on a remaining maturity basis, except for the economies marked with an *.

3) It should be noted that the M2 benchmark is currently not relevant for e.g. China, as this country has strong controls on capital outflows. Rather, the benchmark indicates the *potential* domestic drain on reserves in the event of an episode of capital flight *after* China liberalises its financial account.

following the drastic switch to expansionary fiscal policy by the Bush administration – a move that was not associated with major Ricardian effects, and thus engendered the “twin deficits”.

Third, there were insufficient *structural reforms* to address domestic and external imbalances. Focusing on emerging market economies, it should be highlighted that the materialisation of excess savings reinvested abroad by the official sector via reserve accumulation was not only a feature of the initial years following the Asian crisis, but has persisted in several emerging market economies also thereafter. Although the *ability* to save arose due to rapid rises in incomes, productivity and, in certain countries, commodity prices, the *propensity* to save and the *allocation of savings* were significantly affected by structural factors, in particular:

- (i) the propensity of residents of some developing countries to accumulate precautionary savings in the absence of welfare provision;
- (ii) a high adult-to-child ratio in China which forces higher saving by adults;
- (iii) domestic financial underdevelopment (see Section 1.2.5);
- (iv) corporate governance issues in countries such as China, where the dividend policy to a large extent prevents the high profits of state-owned enterprises from becoming part of the investing households’ wealth.

Some of these structural factors could have been partially addressed by appropriate policies implemented over sufficiently long time

horizons, as Bracke, Bussière, Fidora and Straub (2008) discuss. For instance, greater provision of public goods in emerging market economies (such as social security) would have reduced the uncertainty which fuelled precautionary savings.

POPULAR VERSUS SOPHISTICATED VERSIONS OF THE SAVINGS GLUT

A “popular” version of the savings glut hypothesis has been frequently used in the policy debate, and rightly criticised in the literature. This version focuses only on the countries with large current account surpluses, and argues that these surpluses were a product of excess savings which, via *net* capital outflows, directly depressed global long-term interest rates. This is a simplification that cannot be fully reconciled with evidence. Rather, when the analysis is extended to *gross* capital flows, it becomes apparent that European banks played an even larger role in financing the credit boom in the United States than the emerging market economies with a surplus. In other words, most of the gross portfolio inflows fuelling the US housing bubble originated in the private sector rather than from reserve accumulation in the official sector (Borio and Disyatat, 2010; Whelan, 2010). This is an important (and often still overlooked) aspect. Indeed, in the years preceding the crisis there was no shared awareness in the international policy community that private foreign investors of several mature economies were allocating a substantial share of their assets in US mortgage-backed securities and similar structured assets.

A more sophisticated, and harder to refute, version of the savings glut hypothesis rests on three important facets of excess savings:

- First, the notion of excess savings refers to total *planned* savings in excess of planned investment, not to actual savings which always have to equal investment at world level. While the *ex-post* sum of current account balances is by definition zero at the global level – hence the existence of surpluses in some countries does not by itself reveal anything about likely shifts in

global planned savings over investment – the savings glut notion is *ex ante* in nature, and hence not really measurable.

- Second, the focus in the savings glut hypothesis is on *overall* global excess savings. These savings encompass not only those originating from surplus economies but also those from any *other* sources, above all the multinational corporate sector as a result of cross-country balance sheet adjustments, for example as happened in the wake of the dot.com crisis.
- Third, the glut in *net* savings originated not only from gross savings (e.g. China), but also from a drought in gross investment. In particular, IMF (2005) emphasises the dramatic fall in investment that ensued in emerging East Asia other than China following the 1997-98 crisis.

Borio and Disyatat (2010) provide another important critique of the savings glut literature, namely that explaining the low *market* interest rates entirely through the saving/investment framework is misleading in *monetary* economies such as the existing ones, where the market for *financing* of deficit expenditure plays a direct key role in determining interest rates. As a result, market interest rates do not necessarily match the *natural* rate implied by the savings glut hypothesis. In the build-up of the financial crisis, in particular, interest rates arguably fell *below* the natural rate. This implies that the low interest rate environment *is not solely* attributable to the savings glut, but also to factors such as accommodative monetary policies which contributed to the liquidity glut discussed in the next section.

1.2.4 THE LIQUIDITY GLUT, FINANCIAL IMBALANCES AND EXCESS ELASTICITY OF THE INTERNATIONAL MONETARY SYSTEM DURING THE “GREAT MODERATION”

The main argument put forward in this strand of the literature is that accommodative monetary policies in certain advanced countries – especially the United States and Japan – were

a key driver of very low short-term interest rates and excess credit expansion in the years prior to the crisis. Alongside other factors, such accommodative policies did contribute to abundant liquidity and very low yields over the maturity spectrum. In particular, US policy rates in the 2000s were consistently below the levels predicted by the Taylor rule and by the levels expected based on historical experience (BIS, 2008; Taylor, 2007 and 2009; “The Economist”, 2007). Rather, low yields were the outcome of the interplay of specific policy decisions and broader explanatory factors, for instance:

- (i) the sharp cut in policy rates undertaken to counter the 2001 recession and the effects of the events of 11 September 2001 (from 6.5% in January 2001 to 1% in June 2003) were not followed by equivalent interest rate increases as the economy recovered, partly because of the increasingly jobless nature of US recoveries and the belief that tighter monetary policy could suppress a pick-up in employment;
- (ii) the (mistaken) expectation that the positive effect of the productivity shock emanating from the “new economy” in the 1990s would continue at a sustained pace in the 2000s, which called for an accommodative stance even in the years when the shock was fading away;⁹
- (iii) very low global inflation associated with the “Great Moderation” discussed below;
- (iv) the belief that monetary policy has no role to play in curbing asset price rises (see e.g. Borio and Lowe (2002); Borio and Drehmann (2008 and 2009); Alessi and Detken (2008); and IMF (2009a).

If, as Borio and Disyatat (2010) observe, “it is monetary policy that ultimately sets the price of leverage in a given currency area”, too loose monetary policies would have contributed to an excessive credit expansion and undue “elasticity of the current international monetary

and financial system”. On the basis of this interpretation, a body of empirical literature has developed to explain the link between the liquidity glut, global imbalances and the low yield environment. For instance, Bracke and Fidora (2008) provide econometric evidence showing that accommodative monetary policies are responsible for a large part of the variation in *both* imbalances and financial market prices. Barnett and Straub (2008) find that, historically, monetary policy shocks (along with private absorption shocks) are the main drivers of current account deterioration in the United States. Bems, Dedola and Smets (2007) also show that a widening US current account deficit partly reflects US monetary policy shocks.

According to a more comprehensive, thought-provoking view (Borio 2009), the years of the Great Moderation preceding the crisis were characterised by three developments which were of considerable significance for the environment within which financial instability arose:

- First, a number of positive *supply shocks* in the global real economy – above all, the entry of around 3 billion workers from emerging economies into the global workforce – raised global potential output growth while keeping inflation down. Low inflation in turn justified the very low interest rate environment, thereby indirectly encouraging credit and asset price booms.
- Second, widespread *financial liberalisation* means that the global economy was no longer held back by limited access to credit, but rather from having too few assets in which to invest. That is, the global economy shifted from being credit-constrained to being asset-constrained. Significantly, it

⁹ However, in the literature there is some disagreement as to whether US monetary policy had really become too loose after 2002, as the Taylor rule would suggest. Critics of the Taylor rule argue that: (i) it is not clear to what extent the Taylor rule is really “optimal” and can, therefore, be used to make a normative statement about how monetary policy should have reacted; (ii) the Federal Reserve System stance at that time was justified by the need to insure against the risk of deflation associated with the bursting of the dotcom bubble (see e.g. IMF (2009a)).

also meant that booms and busts in credit and asset prices were more likely, leading to economic fluctuations.

- Third, *the success of inflation targeting* and, more generally, the anchoring of inflation expectations meant that first signs of an unsustainable economic expansion no longer became visible in higher inflation (which would have led to monetary policy tightening) but rather in large and ultimately unsustainable increases in credit and other financial imbalances (the “*paradox of credibility*”).

These changes in the “tectonic plates” (Borio 2009) of the global economy and the ensuing “fault lines” (Rajan, 2010) made the world more vulnerable to the build-up of serious *financial* imbalances, such as overextensions in private sector balance sheets as a result of aggressive risk-taking. In actual fact, the interplay of the globalisation of the real economy, financial liberalisation and the credibility of anti-inflation regimes – three developments which were undoubtedly beneficial per se – changed the functioning of the global economy in ways that were initially not well understood, and raised new, unexpected challenges that eventually undermined the ability of policy-makers to fully safeguard the benefits of the Great Moderation. Ultimately, the Great Moderation turned into a “Great Illusion”, as Borio (2009) provocatively observes.

1.2.5 THE IMPLICATIONS OF UNEVEN FINANCIAL GLOBALISATION

In Section 1.2.3 it was mentioned that financial underdevelopment in most emerging market economies was a key structural feature causing local excess savings to be invested abroad by the official sector. This issue deserves further deepening, and is reviewed here with reference to both the analysis in the literature and the policy implications.

ANALYSIS IN THE LITERATURE

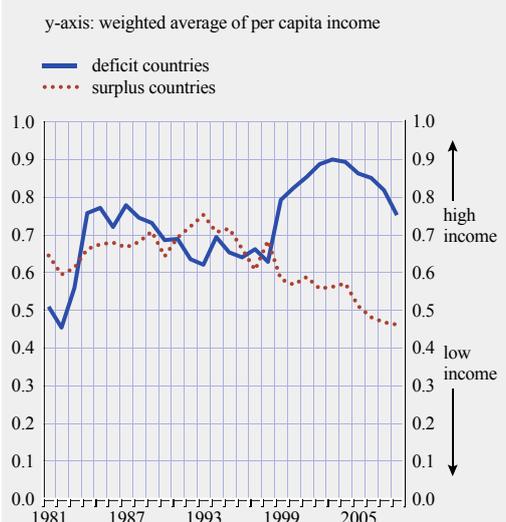
Under the mixed system, the income per capita of the group of countries with current account

surpluses (which includes some rich countries such as Germany and Japan), i.e. recording net outflows of capital, has been lower than that of the group with current account deficits (see Chart 6). This observation runs contrary to conventional economic models, and poses somewhat of a puzzle.

According to standard theory, financial integration between two groups of economies with different levels of economic development – which may be labelled “high income per capita countries” (HICs) and “low income per capita countries” (LICs) – is expected to lead to net capital flows “downhill” from the HICs to the LICs, since the rate of return on capital and potential growth should be higher in the LICs. This expected outcome could be called a “first-order effect” (Bini Smaghi, 2007), i.e. the initial consequence of financial integration.

Chart 6 Weighted average income per capita in the two groups of countries with current account deficits and surpluses

(1981-2008)



Source: IMF World Economic Outlook.

Notes: The sample includes 83 countries. The vertical axis measures the weighted average of per capita income in the two groups of countries recording, respectively, current account surpluses and deficits. To this end, the sample has been split into these two groups for each year of the period 1981-2008. For both groups, the share of each country in the group's total current account balance has been calculated and then multiplied by the relative income per capita of the country concerned, in turn measured as a share, ranging between zero and one, of the income per capita of the richest country in the sample in each year. Data have been adjusted for different levels of purchasing power.

However, recent experience with financial integration under the mixed system has shown the opposite, as aggregated net capital flows travelled “uphill” to advanced economies from emerging market economies (notwithstanding some exceptions, such as emerging market economies in central and eastern Europe). An important qualification is that in *net* terms, *private* capital has continued to flow to the LICs, as conventional models predict, but this has been outweighed by *official* capital directed by emerging market economies to advanced economies.¹⁰

Some recent contributions to the economic literature have argued that a second-order effect may be the main reason for the “uphill” flows (see Bini Smaghi, 2007). Underdeveloped financial markets in emerging economies result in borrowing constraints¹¹ for their consumers and firms. This impedes consumption smoothing over time as well as the financing of several profitable investment opportunities, thereby holding back domestic demand. As a result, high-growth emerging economies with underdeveloped financial markets are expected to produce, other things being equal, excess savings to be channelled abroad.

In line with this interpretation, several authors (e.g. Caballero, 2006, 2009a and b; Caballero, Farhi and Gourinchas 2008) claimed that fast-growing emerging market economies have sought to store value in financial assets that they do not produce, and, by doing so, they have contributed to a global shortage of supply of financial assets. Indeed, while emerging economies have experienced a large increase in their disposable income, they have not been able to create financial assets, i.e. to sell rights to future output, owing to their financial underdevelopment. In this context, the fact that HICs have been supplying financial assets to those emerging market economies that are unable to produce their own helps to explain HICs’ financial account deficits.¹²

Kroszner (2007) points out that the majority of emerging economies recorded current account

deficits until the mid-1990s despite having even less-developed local financial systems at that time. Just as in the savings glut debate, the shift from current account deficit to surplus in emerging market economies can only be fully understood by looking at the shocks to their output growth and total savings that occurred after the mid-1990s, in particular: (i) the Asian crisis, which resulted in a negative demand shock followed by greater reliance on export-led growth; and (ii) two positive supply shocks in the 2000s – a productivity shock and rising commodity prices – to which the domestic demand of several emerging market economies did not fully adjust owing to the aforementioned structural factors that were feeding precautionary extra savings to be channelled abroad.

Differences in the degree of financial development can also help explain the direction and nature of investment, i.e. why, as already mentioned, net private capital tends to flow to LICs, as one would expect, whereas the official sector accounts for most capital that is directed to HICs via the accumulation of foreign assets by central banks and sovereign wealth funds. According to Eurosystem (2006), whatever the origin of excess savings in emerging market economies, they tend to be channelled abroad by the official sector for three main reasons that are partly related to financial underdevelopment: (i) the inefficiency of the private sector of most emerging market economies in channelling

10 The expression “private capital” refers here to the financial account of the balance of payments net of “official capital”, in turn defined as changes in reserve assets plus any other capital flows triggered by the public sector (e.g. from/to sovereign wealth funds).

11 The term “borrowing constraints” should be understood as referring to a broad and complex set of financial market features. In particular, low domestic financial market liquidity tends to result in high domestic asset price volatility, thus creating incentives to invest abroad rather than domestically. Moreover, information asymmetries (due e.g. to lenders having insufficient knowledge of borrowers) reduce the investment opportunities that can be financed in a profitable way, thus forcing extra savings to be channelled abroad. Limits on consumer credit also contribute to containing domestic demand by limiting consumer spending.

12 While some of these authors have focused on a country’s ability to *supply* assets, others have highlighted the link between financial underdevelopment and savings, hence the *demand* for financial assets (see Mendoza, Quadrini and Rios-Rull (2007) for the latter approach).

savings abroad; (ii) the presence, in some countries, of asymmetric capital controls discouraging portfolio capital outflows; and (iii) the desire to create “national buffers” against future financial crises by accumulating foreign exchange reserves.

In line with the literature summarised above, econometric analyses conducted by Chinn and Ito (2005 and 2008) as well as Dorrucci et al. (2009) also support the idea that financial underdevelopment in emerging market economies has been an important structural factor contributing to the accumulation of global imbalances.

POSSIBLE POLICY IMPLICATIONS OF CATCHING UP BY EMERGING MARKET ECONOMIES IN FINANCIAL SECTOR DEVELOPMENT

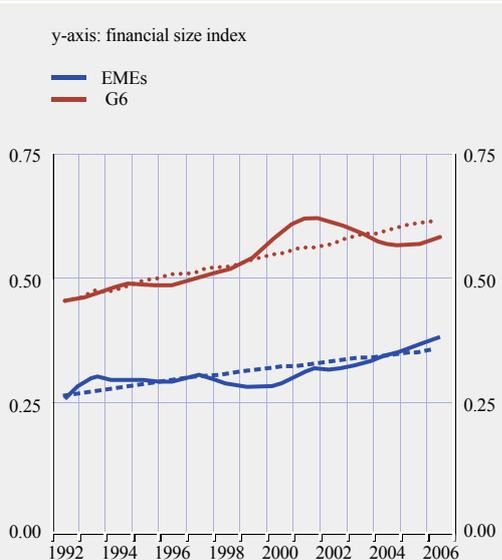
Dorrucci, Meyer-Cirkel and Santabárbara (2009) have developed a number of indices of domestic financial development which show that the scope for “financial catching up” in emerging market economies is still substantial. However, they also show that this process may have

already started in certain countries. Charts 7 and 8 illustrate some interesting results:

- Chart 7 highlights that, the size of financial markets in emerging market economies taken as a whole shows some (limited) convergence towards that of advanced economies between 2002 and 2006 (i.e. between the bursting of the dotcom bubble and the year before the financial crisis).
- Chart 8 shows for selected emerging financial markets that (i) most grew in relative size between 1992 and 2006; and (ii) Korea, Saudi Arabia and India have been clearly converging, in recent years, towards a benchmark based on G7 economies excluding Canada (G6).

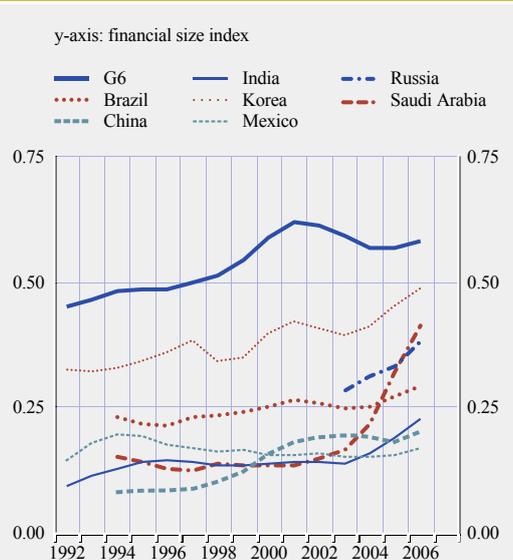
As Charts 7 and 8 confirm, this process of financial convergence, at least in some emerging market economies, seems to have been *significantly influenced by financial crises* affecting either advanced or emerging market economies. Looking ahead, the size of emerging

Chart 7 Index of financial market size: all emerging economies compared with benchmark advanced economies (G6) (1992-2006)



Sources: E. Dorrucci, A. Meyer-Cirkel and D. Santabárbara (2009). Notes: The index of financial market size is a sub-index of a broader index developed by the authors. EMEs stands for emerging market economies.

Chart 8 Index of financial market size: selected emerging economies compared with benchmark advanced economies (G6) (1992-2006)



Sources: E. Dorrucci, A. Meyer-Cirkel and D. Santabárbara (2009). Note: The index of financial market size is a sub-index of a broader index developed by the authors.

financial markets may well rise relative to the size of advanced economies after the financial crisis. Owing to the crisis, the financial sector in several mature economies, in particular in the United States, is de-leveraging and ultimately needs to shrink – a process which is already underway. In addition, especially since 2010 (i.e., after the negative spillover effects of the crisis on emerging market economies have faded away) foreign and domestic investors have been looking with renewed interest into investing in emerging financial markets. This has already led to a remarkable rise in capital flows to emerging market economies, which can be seen as a factor contributing to their financial development.

In consequence, the distance between HICs and LICs in terms of domestic financial development can be expected to narrow further in the years to come. As financial sector development becomes more even globally, the ability of any financially developed country to borrow extensively from the rest of the world, and thus accumulate massive levels of external debt *ad infinitum*, will likely be reduced over time (as funding costs become punitive). With increasingly attractive alternatives made possible by the opening up of financial accounts and financial market development, mature economies will no longer be able to smooth consumption, share risk abroad and finance increasingly larger current account deficits for any amount, under any circumstances and over any time horizon. In a world characterised by a greater degree of financial symmetry, there would be far less likelihood of the accumulation of imbalances that occurred prior to the global financial crisis.

2 AFTER THE CRISIS: HOW TO SUPPORT A MORE STABLE INTERNATIONAL MONETARY SYSTEM

Several avenues are being debated, and some of them already pursued, in the process of international cooperation with a view to setting the right incentives for the creation of a more stable IMS (Table 4).

Some avenues are aimed at enhancing the delivery of the first IMS public good – the supply of international currency – through developments in, or even the creation of, currencies other than the US dollar as international currencies (discussed further in Section 2.1). These are complemented by initiatives to tackle the problems related to the accumulation of precautionary reserves by countries that are most exposed to capital flow volatility (discussed further in Section 2.2).

But the most important avenues are, in our view and for the reasons given in Section 1, those aimed at better delivering the second IMS public good – external stability – by improving the oversight of the system and its traction especially on the key issuers and holders of international currencies. The key challenge in this regard is to create incentives for individual countries to take full account of the collective benefits that would arise from the implementation of sounder and longer-term-oriented policies consistent with macroeconomic and financial

stability (discussed further in Section 2.3). Whilst most of these avenues are to a large extent policy-driven, one should not overlook the crucial impact that more market-driven developments can have in shaping the IMS over the longer run (see Section 2.4).¹³ All these avenues are outlined in Table 4 and further discussed in the next sections.

2.1 ADDRESSING VULNERABILITIES RELATED TO THE SUPPLY OF INTERNATIONAL CURRENCIES

2.1.1 TOWARDS A TRULY MULTIPOLAR CURRENCY SYSTEM?

One strand of the literature argues that the US dollar, while remaining the main international currency well into the future, may at some point become less dominant – i.e. “first among equals” in the words of Eichengreen (2009) – for instance because the euro may gain further market share and the relative importance of the Chinese renminbi will very likely grow over time (see e.g. Bénassy-Quéré and Pisany-Ferry, 2011).

According to this literature, such a process would ultimately enhance the IMS to the extent that international investment would be spread more evenly, thereby mitigating distortions in interest

¹³ Note that the focus is on possible measures by the official sector to bolster international monetary stability to avoid crises, especially those of a systemic nature. Hence, we do not focus on crisis resolution issues, which go beyond the scope of the paper.

Table 4 Possible avenues for a more stability-oriented international monetary system

Vulnerabilities in:	Therapy	Progress so far	Potential
(1) Supply of international currencies	* Currency competition = <i>Multi-currency IMS</i> * Basket currency = <i>SDR-based IMS</i> * Supranational fiat currency = <i>Bancor-based IMS</i>	+ = -	++ ? -
(2) Precautionary demand for international currencies	* Global financial safety net * More IMF involvement in capital account	+ =	+ +
(3) IMS oversight	* Focus on cross-country linkages (<i>IMF, G20, regional</i>) * Current account indicative guidelines * Dampen non-precautionary reserve demand * Enhancing financial surveillance * More traction on major IMS actors	+ + - + -	++ ? ? ++ ?
4) Market discipline	* Financial development in EMEs * Re-pricing of sovereign risk, etc.	+	+++

rates. It could also impose greater policy discipline on reserve issuers for two main reasons. First, the “exorbitant privilege” currently enjoyed by the United States would be distributed across more countries and currency areas, thereby becoming less important for individual reserve currency issuers (IRC 2010). The perceived “affordability” of global imbalances would diminish as a result. And second, this shift to a multipolar currency system process would by definition be associated with financial globalisation becoming more even in nature, with the policy implications already discussed in Section 1.2.5.

However, the literature also stresses that there is a genuine risk that the *transition* to a truly multipolar currency system would engender prolonged phases of higher exchange rate and asset price volatility as the currency composition of e.g. foreign reserves, private sector portfolios and international payments adjusts. It is, therefore, argued that it would be very important that the shift towards a more multipolar currency system were (i) gradual, as has been the case with the changes observable since the advent of the euro (see Table 5); (ii) as smooth as possible; and (iii) driven by autonomous and independent decisions of private and official agents, rather than by forms of policy design that would likely bring about unintended consequences. Insightful proposals as to how the transition to

a system with multiple international currencies could be smoothly managed are provided in Eichengreen (2011).

Looking ahead, while gradualism is indeed likely to persist (thanks to factors such as inertia and network externalities, which tend to support the incumbent currencies), the literature has identified many variables that may play a crucial role in the possible shift towards a multipolar currency system. In the case of the euro, the two most important variables will probably be the mutual consistency of euro area policies in the aftermath of the 2010-11 sovereign debt crisis – which should be embedded in a strengthened governance framework – and the ability of the euro area to reduce the fragmentation of its capital markets – which hampers their liquidity and, therefore, the attraction of the euro as an international currency. For the Chinese renminbi, key variables will be: (1) the shift to financial account convertibility and a more flexible exchange rate, (2) domestic financial development, (3) continued sound economic policies that will generate further economic catching up, and (4) in the initial stages, government-led initiatives such as those recently undertaken to promote the settlement of China’s international trade in domestic currency. Finally, for the US dollar, policy credibility has been identified as the most important variable for the future.

Several questions remain open, however. Is international liquidity a natural monopoly or not, i.e. is it efficient to have more than one global currency, or would just one “hegemonic” currency be preferable (Eichengreen, 1987)? And does history suggest that the ongoing process may really lead to a truly multipolar currency system? Regarding the last question, Eichengreen and Flandreau (2009) remind us that there are precedents in history, illustrating in particular that inertia and network externalities did not prevent the US dollar from overtaking the pound sterling in just one decade during the 1920s.

Table 5 The share of the euro in global markets

(percentages; 1999-2009)

	1999	2009
Stock of global foreign exchange reserves ¹⁾ (countries reporting to the IMF)	18.1	27.3
Currency anchor, de facto (trade-weighted)	9.0	12.0 ²⁾
Stock of international debt securities ¹⁾ (narrow measure) ³⁾	19.5	31.4
Stock of cross-border loans ¹⁾ (narrow measure) ³⁾	11.8	20.3

Source: ECB.

1) At constant end-2009 exchange rates.

2) 2008 data.

3) The narrow measure refers to issuance of international bonds and loans in foreign currency by non-residents of the country issuing the currency in which the issuance is denominated.

Finally, the question has been recently raised again of the role of gold in the IMS. (Zoellick, 2010) argues that the IMS “should also consider employing gold as an international reference point of market expectations about inflation, deflation and future currency values”. While this would not, of course, imply any sort of formal role for gold as a revived anchor for the IMS, Zoellick sees gold as an alternative store of value, especially if uncertainty about the future role of different currencies were to prevail during the period of transition towards a truly multipolar currency system.

2.1.2 TOWARDS A GLOBAL CURRENCY SYSTEM WITH ELEMENTS OF SUPRANATIONALITY?

A different scenario from the *organic* development towards a multipolar currency system would, according to another strand in the literature, be that of *steering* the IMS towards a system based on “a currency disconnected from individual nations and able to remain stable in the long run” (Zhou 2009). Such a system (which is the upshot of the “opposite view” discussed in Section 1.2.2) could be based on one of two different constructs: a currency basket or a supranational fiat currency. Both options raise many questions, which are briefly summarised in this section.

CURRENCY BASKET: AN SDR-BASED INTERNATIONAL MONETARY SYSTEM?

The first option is to promote the use of the SDR (leaving it as a currency basket)¹⁴ as a key reserve asset in the IMS. This proposal is not new and has triggered a rich debate over the past four decades.

A review of main arguments for and against an enhanced role for the SDR is provided in, for example, IRC (2010), Carney (2010) and IMF (2011). In short, its proponents point out that, being a basket of major currencies, the SDR would (i) be a more stable store of value and unit of account than its constituent currencies individually, (ii) help the IMS to better cope with exchange rate volatility in a more multipolar currency world, (iii) reduce the likelihood

for exchange rate adjustment for currencies pegged to it compared with pegs to national currencies; and (iv) enable the pricing decisions of risky assets to be based on “global” monetary conditions rather than on the monetary policy stance prevailing in an individual economy.

For the SDR to develop a *truly global role*, its liquidity would need to be significantly increased, i.e. not only through greater issuance by the IMF but also by developing a *private* SDR market.

In addition, if a larger role for the SDR was pursued, countries could be encouraged – according to one proposal – to entrust part of their reserves to a fund denominated in SDR and managed by the IMF. Such a fund could facilitate off-market conversions of assets denominated in dollars or other international currencies into SDRs, an arrangement which echoes the proposal made back in the 1970s for an IMF substitution account (see for example, Zhou 2009, Williamson 2009, Cooper 2009, and Bergsten 2009). An IMF-managed fund for countries’ SDR reserves raises a number of questions, however:

- Would it be sufficient to trigger much more than reserve diversification, i.e. contribute to the SDR gradually becoming a well accepted international currency? Or in other words, can the SDR become a credible asset for reserve diversification if a private SDR market does not develop at the same time? What would be needed for a private SDR market to develop, and what concrete steps could be undertaken to promote this end? Does the experience with the private European Currency Unit (ECU) market in the 1980s and early 1990s offer any lessons?

¹⁴ The SDR, or Special Drawing Right, is used by the official sector as a reserve asset, and in the IMF and some international organisations as a unit of account. The value of the SDR is based on a basket of four key currencies (US dollar, euro, yen and pound sterling). It is not a currency in the sense of a medium of exchange as there is no private market for buying or selling SDRs.

- Would an SDR fund or substitution account contribute to an orderly diversification of foreign reserves out of the US dollar, or is there a risk that the mere announcement of its creation would trigger a significant loss of confidence in the US dollar? And would the implementation of the proposal reduce the incentive for countries to build up reserves denominated in national currencies or, on the contrary, create moral hazard by encouraging reserve holders to engage in further accumulation?
- Last but not least, who should bear the potential exchange rate losses in such a substitution account? Several proposals have been made over time with regard to this last question, each one difficult to accept for at least one of the parties involved – which leads to the core issue of the political feasibility of the account.

While the replies to these questions fall outside the scope of this paper, the authors see two *general* arguments against the pursuit of this option: first, the thorny complexities raised by the questions themselves; and second, the risk of *unintended consequences* of replacing international currencies that have established themselves as a result of the autonomous decisions of private and official agents with a synthetic, policy-imposed, international currency. One of these unintended consequences could be the one alluded to above – that reserve holders may regard a substitution account as a way to continue accumulating foreign exchange reserves while divesting themselves of currency risk. This is an example of how such an initiative could create moral hazard behaviour in certain countries, and impair rather than strengthen the stability of the IMS. Moreover, there are concerns that, if the issuance rule is vague, there could be large increases in the stock of SDRs which could have serious implications for the conduct of monetary policy and the sovereignty of central banks issuing the international currencies included in the SDR basket. Finally, should the SDR become a widely used medium of exchange, a strong

increase in the supply of SDRs might directly produce global inflationary pressures.

SUPRANATIONAL FIAT CURRENCY: A BANCOR-BASED INTERNATIONAL MONETARY SYSTEM?

The second option seeks to overcome the limits of the currency basket by making a more radical proposal: a new supranational currency, issued by a supranational central bank, floating against national currencies. This would serve as “outside fiat money” and in so far resemble the well-known *bancor* proposed by John Maynard Keynes as leader of the UK delegation during the Bretton Woods negotiations (Keynes 1944).

Of the many questions surrounding this proposal, those regarding its feasibility stand out most. Would countries be willing to give up part of their monetary sovereignty to a supranational central bank at the global level? Would the incentive to surrender sovereignty differ for large and small countries? What would be a realistic time horizon for the introduction of such a challenging proposal? What intermediate steps would need to be taken, and what further measures would be needed in the longer term?

Setting aside these feasibility concerns, the question remains as to whether such a currency could solve the Triffin dilemma once and for all, or whether it would simply lead to a novel version of the dilemma. According to Landau (2009), the supranational currency would need to be kept strong so that it did not depreciate against other major existing currencies – which would imply restricting its supply. Failing that, it may depreciate, which would undermine its attractiveness, and hence function, as a reserve asset. At the same time, if its supply were restricted, the supranational currency would likely be unable to accommodate the demand for reserves and so fall short in its function.¹⁵

¹⁵ This is not to deny the importance and actuality of Keynes’s proposal, for instance in that it aims to institutionalise the need for adjustment on the part of *both* surplus and deficit countries. It could indeed be argued that the main value added of the proposal is that it “imposes” symmetry on an IMS which otherwise would probably not be capable of delivering it (see Kregel (2010) for a recent discussion).

2.2 ADDRESSING VULNERABILITIES AFFECTING THE PRECAUTIONARY DEMAND FOR INTERNATIONAL CURRENCIES

2.2.1 MEASURES TO ADDRESS EXTERNAL SHOCKS RESULTING IN THE DRYING UP OF INTERNATIONAL LIQUIDITY AND SUDDEN STOPS IN CAPITAL INFLOWS

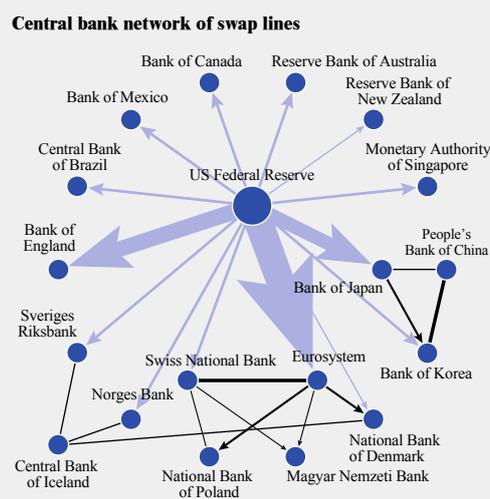
The liberalisation of capital flows and increasing global financial integration have brought several benefits (see Section 2.2.2), but an undesired effect has been greater volatility in capital flows, especially to and from emerging market economies (CGFS 2009). During financial crises, there are typically sudden withdrawals of liquidity denominated in foreign currency, even from countries other than where the crisis originated.

As a result, over the past few years – but particularly after the Lehman shock of September 2008 – new global mechanisms for the short-term provision of liquidity to sovereign states and their central banks developed alongside national buffers such as foreign exchange reserves. By and large, the primary objective of these mechanisms is to offer liquidity support under exceptional circumstances to eligible countries in order to cushion contagion effects from external shocks. At the peak of the financial crisis, in late 2008 and 2009, they included:

- (i) multilateral facilities, i.e. the IMF's Flexible Credit Line (FCL) and high-access precautionary arrangements¹⁶;
- (ii) regional facilities, e.g. the EU's medium-term financial assistance facility (MTFA) and the Chiang Mai Initiative Multilateralisation (CMIM)¹⁷;
- (iii) bilateral facilities, i.e. bilateral currency swaps or repurchase agreements (repos) with major central banks (such as the Federal Reserve System, the European Central Bank, the Bank of Japan and the People's Bank of China), (Chart 9).

To draw lessons from the experience with these facilities (see Obstfeld et al. 2009),

Chart 9 Main bilateral currency swaps and repos among central banks during the financial crisis



Source: BIS.

Note: The People's Bank of China has in turn established bilateral swaps for the countervalue of RMB 800 billion (about USD 100 billion) with Korea, Hong Kong SAR, Malaysia, Indonesia, Iceland and Argentina.

the international community conducted an assessment in 2010 of whether this framework – which has been labelled the global “financial safety net” (FSN) – was effective and efficient in countering liquidity strains and sudden stops for countries with fundamentally sound and solvent financial systems that were affected by contagion. The IMF and the G20 discussed options for strengthening the FSN, and in 2010 the following steps were agreed:

- First, the IMF Executive Board approved (i) the enhancement of the FCL, primarily lengthening the duration and removing the access limit; and (ii) a new instrument,

¹⁶ In addition, as part of the response to the financial crisis launched by the G20, the IMF membership decided in August 2009 on a general allocation of SDRs equivalent to about USD 250 billion. It was accompanied by the entry into force of the special SDR allocation which had been pending since 1997. The general allocation was intended to provide liquidity to the global financial system by supplementing the IMF member countries' foreign exchange reserves, thereby helping to meet the long-term need for global reserves.

¹⁷ In Europe, regional support facilities underwent further development in 2010 as a result of the euro area debt crisis and its ramifications. However, a discussion of this development falls outside the scope of this paper.

the Precautionary Credit Line (PCL) for Fund members that have sound policies but do not meet the FCL's high qualification requirements.

- Second, G20 leaders encouraged the IMF to continue its work to improve the global capacity to cope with systemic shocks. This work is set to involve designing procedures for the synchronised approval of FCLs for multiple countries, allowing a number of countries affected by a common shock to concurrently access the facility. G20 Leaders also encouraged the dialogue between the IMF and regional financing arrangements in view of potential synergies from collaboration. They also asked the G20 finance ministers and central bank governors to further explore, in 2011, the feasibility of a structured approach to coping with shocks of a systemic nature.

Regarding the features of a possible structured approach to the FSN, one promising avenue in the view of the authors might be to hold a discussion within the central bank community, under the aegis of the BIS, into the role of central banks in the FSN. Such a discussion could explore the advantages and disadvantages of enhancing the central bank component, with the aim of agreeing on possible ways forward in the event of a crisis. For example, discussions could focus on the design of best practices for central bank currency swap lines in order to facilitate their partial standardisation¹⁸. While such work would in no way commit central banks *ex ante* to providing such lines (pre-commitment would risk a conflict with central banks' own objectives and mandates), it could nevertheless introduce some useful standards.

In addition, some have suggested that the IMF and G20 conduct a thorough discussion into the pros and cons of developing a *truly global approach* to channelling liquidity to systemically important countries facing contagion from external shocks. Coordinating resources at a global level in order to deal with systemic events

more efficiently holds, of course, great appeal, although the operational feasibility may pose a major challenge. In particular, the recent proposal by IMF staff to develop an IMF-led "Global Stabilisation Mechanism" (GSM) has run into a number of serious objections. In order to have further, fruitful discussions on this proposal, it would be helpful if the IMF and G20 shared a consensus on some basic premises, in particular, the following three:

- First, any GSM-type approach should only be adopted to help out countries with very sound fundamentals suffering from financial market disruptions (such as foreign currency liquidity shortages or sudden stops in capital inflows) caused by contagion from exceptional (e.g. Lehman-type) external shocks. Conversely, idiosyncratic shocks to countries resulting mainly from their own policy failures should not be covered by the GSM. This calls for a proper analysis and identification of the origins of financial market disruptions, without which serious moral hazard problems would arise.
- Second, any mechanism to channel cross-border liquidity at the global level will not work without the direct or indirect co-operation of central banks. This is because only central banks have the ability to provide unlimited liquidity – a unique function that cannot be circumvented or substituted for by other parties.
- Third, central banks cannot, and should not, commit *ex ante* to the provision of international liquidity in a crisis (e.g. by pre-announcing criteria for bilateral swap/repo arrangements in case of systemic events). The "*constructive ambiguity*" approach followed thus far by liquidity-providing central banks is indeed necessary to preserve their monetary policy autonomy, protect the soundness of their balance sheets, and

¹⁸ Full *ex ante* standardisation would be neither advisable nor feasible because central banks in various countries face different legal constraints.

respect the mandate, resources, expertise and, ultimately, nature of these institutions. An excessively proactive approach by the major central banks would, again, fuel moral hazard behaviour at the global level.

2.2.2 CREATING DISINCENTIVES TO NATIONAL RESERVE ACCUMULATION FOR PRECAUTIONARY PURPOSES

THE LINK BETWEEN THE GLOBAL FINANCIAL SAFETY NET AND RESERVE ACCUMULATION

While the core objective of the FSN is to address contagion, an open policy issue is whether and to what extent an enhanced FSN could become an acceptable substitute for unilateral reserve build-up, in consideration of the fact that reserve accumulation beyond optimality thresholds creates substantial distortions, costs and risks at the global, regional and domestic levels, as has been summarised on Table 3.

As discussed in Section 1.2.3, there are two core drivers of reserve accumulation: precautionary purposes but also non-precautionary incentives (e.g. as a by-product of maintaining an undervalued exchange rate). The FSN liquidity instruments are not relevant for addressing the non-precautionary build-up of reserves. But they may, at least partly, replace the demand for foreign exchange reserves for precautionary purposes. Certainly, an enhanced FSN would be more globally *efficient* than the unilateral accumulation of foreign reserves in providing countries with an insurance against contagion.¹⁹ But would it be also *effective*, i.e. prove sufficiently attractive to induce countries to significantly reduce their precautionary reserve accumulation?

In our view, it is doubtful that the FSN could successfully discourage precautionary foreign reserve accumulation in the *short to medium run*. At least in the initial phase, no matter how flexible or well-tailored the FSN facilities can be made, the stigma associated with obtaining financial assistance from an external party may rule out reliance on global facilities. However, if

the experience with, and credibility of, the FSN were to grow, reserve accumulators may in time reconsider their options. Greater involvement by these countries in IMF governance, and hence programme oversight, would likely play an important role in this regard. At the same time, it remains important to ensure that any facilities adopted should not be undesirable from other viewpoints, such as moral hazard, as discussed above.

In conclusion, a carefully crafted FSN could help fulfil countries' precautionary demand for reserves over time, thereby reducing unilateral reserve accumulation. But it cannot be the only instrument. Other multilateral approaches are needed to address *both* precautionary (see next sub-section) and non-precautionary (see Section 2.3.1, pp. 48-50) reserve accumulation.

ADDRESSING CAPITAL FLOW VOLATILITY

The main reason why countries seek precautionary reserves is to be able to deal with capital flow volatility, especially sudden withdrawals. There are, however, other ways to help prevent capital flow volatility from disrupting economic and financial activity, and the IMF is well-placed to help.

In seeking methods to address capital flow volatility, it is important to preserve the benefits,²⁰ while minimising the risks associated with capital flows. Although risks often relate to capital *outflows*, they are also implicit in capital *inflows*, since surges in inflows can set the stage for disruptive reversals and unsustainable bubbles.

19 Mateos y Lago, Duttagupta and Goyal (2009) describe unilateral reserve accumulation as "a costly, globally inefficient way of meeting the need" for insurance against future crises.

20 To name just some of the benefits, experience has shown that capital flows, especially to emerging market economies, can be advantageous for a number of reasons: they allow the financing of productive investment projects in countries with limited private savings; they propel the deepening and reform of financial markets in financially underdeveloped countries; and they further the diversification of investment risk and intertemporal financial trades in recipient economies (Ostry et al. 2010).

When examining sources of risk, two sets in particular stand out which are especially relevant for countries with pegged exchange rates and/or underdeveloped financial markets:

- (i) risks stemming from external factors, such as portfolio flow volatility as a result of the search for yield, swings in risk aversion, or contagion. While such risks may affect both inflows to and outflows from an emerging economy, the focus is often on the problems caused by sudden outflows as international investors withdraw funds. It should be noted that it is usually not the magnitude of the flows that causes the problem (except in specific country cases), but rather their *volatility*. For example, at the time of writing, a number of economies are increasingly exposed to volatility-related risks such as exchange rate over- and undershooting, asset mis-pricing and sudden reversals in capital flows;
- (ii) risks stemming from domestic factors, and related to possible *asset price and credit boom-busts* over the medium run. Specifically, structural factors (e.g. underdevelopment of financial markets) and/or policy failures (e.g. creating strong expectations for exchange rate appreciation by resisting it for too long) may fuel financial stability risks associated with capital inflows (even in the absence of external shocks). In particular, strong net inflows, especially in portfolio capital, may under certain conditions inflate asset or property prices and fuel credit growth. This increases the risk of boom/bust cycles over the medium run.

In view of these risks, several emerging market economies may be tempted to step up both precautionary reserve accumulation and capital controls. (At the time of writing, such behaviour was in evidence.) However, such actions may be neither necessary nor appropriate. In deciding how to cope with a surge in capital *inflows*, for example, countries would be well-advised to conduct a policy check focusing

on both macroeconomic and macro-prudential considerations (see e.g. Ostry et al. 2010). From the macroeconomic perspective, four policy checks are appropriate that are best conducted successively: First, is there a case for exchange rate appreciation? Second, is there a case for further precautionary reserve accumulation and, if yes, is there a case for increased sterilisation of the monetary impact of inflows? Third, is there a case for monetary policy easing? And fourth, is there a case for fiscal tightening? From the macro-prudential perspective, a fifth, complementary policy check could explore whether prudential regulations are appropriate or need adjusting to prevent excessive borrowing from abroad and/or a domestic credit boom.

Only where these policy measures are found to be inappropriate for the country concerned or have been tried and proven inadequate, it might be useful for a country to consider the implementation of carefully-designed and temporary capital controls. It should be remembered that both evidence and historical experience suggest that the effectiveness of such controls is, at best, mixed. In particular, effectiveness tends to diminish the more the country has liberalised its financial account. If controls succeed in temporarily calming flows, it is important that this period be used to enact structural policy changes to better address the pressures (e.g. new supervisory or regulatory measures). Last but not least, it should be noted that widespread, unnecessary and poorly implemented capital controls would have negative global externalities, e.g. in terms of exchange rate misalignments, exacerbating global imbalances, setbacks in financial integration, and, ultimately, significant losses in global output and welfare.

These negative externalities explain why international institutions and fora such as the IMF and the G20 should help countries address the issue of excessive capital flow volatility. Regarding the IMF, its ability to assist in this area has thus far been constrained (i) in how deeply it can cover capital flow issues on account of its mandate and (ii) by the lack of

any jurisdiction over the financial account. However, as a result of the crisis, the IMF has been mandated to strengthen its role regarding international capital flows. Looking forward, there are various areas in which the IMF and G20 could make progress (some of which are already in train²¹):

- (i) help emerging market economies better monitor capital flows (IMF);
- (ii) develop a code of good conduct for the possible implementation of temporary capital control measures (G20), and advise on the design of such controls (IMF);
- (iii) encourage countries to maintain a medium-run perspective by advising them about the negative consequences of capital controls if such controls become semi-permanent or permanent in nature (IMF);
- (iv) offer policy advice on alternatives to capital controls – for example, on the benefits of moving to greater exchange rate flexibility coupled with enhanced autonomy in setting monetary policy rates and macro-prudential measures (IMF);
- (v) continue to evaluate the effectiveness of capital controls and keep members informed of results (both G20 and IMF). Importantly, members considering restrictions should be reminded of the aforementioned inconclusive empirical evidence on the efficacy of capital flow controls;
- (vi) usefully build on the IMF Annual Report on Exchange Arrangements and Exchange Restrictions (which is currently confined to reporting purposes) by including in such a publication an assessment of practices and trends;
- (vii) improve IMF surveillance over the financial sector, and advise on how to improve financial sector prudential regulation and supervision (e.g. by suggesting proper

measures to mitigate exposures in foreign currency);

- (viii) develop an IMF view on capital flows to help establish guidelines for surveillance of capital accounts and possibly other policies affecting capital flows;
- (ix) analyse and disseminate lessons from country experiences in dealing with capital flows, and draw attention to potential spillovers from the various approaches;
- (x) foster a dialogue and policy coordination on cross-border capital flows both multilaterally, and between originators and recipients of cross-border capital flows.

2.3 IMPROVING THE OVERSIGHT OF THE SYSTEM: RISK IDENTIFICATION AND TRACTION

To prevent the flexibility and adaptability of the current IMS – which are its strengths – from becoming its weakness, it is imperative to oversee the system so as to ensure it remains on a steady course and does not lead to the accumulation and disorderly unwinding of real and financial imbalances. Oversight involves surveillance and mutual policy assessment in order to identify risks in good time and induce corrective policy action. Since the crisis, efforts have been under way to improve oversight on both counts. This section explores these efforts.

2.3.1 IMPROVING OVERSIGHT: TOWARDS BETTER RISK IDENTIFICATION

The crisis exposed shortcomings in the oversight conducted by institutions at the international, regional and domestic level. The IMF, for its part, identified the following weaknesses in its own surveillance: warnings had been too vague, scattered, unspecific, and tardy. The IMF admitted that “its surveillance significantly underestimated the combined risk across sectors,

²¹ See, for example, the IMF Public Information Notice (5 January 2011) on “IMF Discusses the Fund’s Role Regarding Cross-border Capital Flows”.

and the importance of financial sector feedback and spillovers” (IMF 2009c). It was not alone in having these shortcomings. Its findings have determined the direction of efforts to improve oversight by all relevant authorities, including itself, the G20 and the Financial Stability Board (FSB), as well as regional bodies.

The focus is now primarily on improving the understanding of multilateral linkages among economies, or “joining the dots” in the process of oversight. By going beyond the surveillance of individual economies, the aim is to examine the implications of spillover effects, synergies and feedback loops across countries – in one word, their interaction – for economic, monetary and financial system stability. The reciprocal nature of the mutual assessment of policies by country and area authorities should facilitate multilateral and regional surveillance. In the words of Rajan (2010), “countries have to understand that there are important collective benefits from adopting sounder policies, and that if they want a platform from which to influence the policies of others, they have to allow others a platform to influence theirs”.

Turning to the specific contents of oversight, we are of the view that embedding *external stability* more clearly and explicitly in the process of risk identification would be a key improvement. In this context, a number of initiatives designed to *dampen the non-precautionary demand for foreign exchange reserves* would be important. Finally, renewed emphasis is rightly being given to *financial sector* imbalances and macro-prudential issues.

THE G20 MUTUAL ASSESSMENT PROCESS

The greater impact of the crisis on advanced countries relative to the rest of the world undermined the authority that the G7 had hitherto enjoyed in global economic affairs. Instead the G20, in existence since the Asian crisis, quickly assumed the mantle of global economic coordinating group. Its Mutual Assessment Process (MAP) has the potential to introduce the biggest improvement in multilateral oversight in the wake of the crisis. The aim is to assess and

improve the mutual compatibility of national policy programmes in an effort to improve the outlook for global economic growth. In essence, the world’s 20 most important economies present their own and review each others’ policy programmes, using common assumptions, to identify the global effect of their combined plans. Building upon the “base case scenario” (i.e. the prospects for global growth based on current policy plans), they explore the scope to improve the global outcome by defining the necessary policy measures, and undertaking to make policy adjustments where feasible. The G20 MAP represents a new approach to global surveillance, in that leaders formulate a shared objective and engage in a dynamic process of data analysis and policy adjustment to achieve that objective.

The MAP is the centrepiece of the Framework for Strong, Sustainable and Balanced Growth launched by G20 leaders at the Pittsburgh summit in September 2009. The name of the framework reflects the G20’s concern to address the key challenge exposed by the crisis – how to improve the sustainability of global economic growth at a sound rate, which requires growth to be balanced across economies. The MAP is underpinned by a set of Core Values for Sustainable Economic Activity agreed by G20 leaders, under which members commit to conducting sound macroeconomic policies that help avoid unsustainable imbalances and to ensuring that markets function on the basis of propriety, integrity and transparency.

The exercise has several stages per cycle, and is to be repeated annually. In the first stage, ministers and governors agree on shared policy objectives suited to the evolving global economic and financial conditions. In the second stage, each G20 member submits its national (regional in case of the EU/euro area, which is a G20 member) medium-term policy framework, encompassing fiscal, monetary, exchange rate, trade and structural policies. The IMF evaluates the collective implications of these policy frameworks and assesses their consistency with the agreed objectives, drawing

as necessary on expertise from other relevant international institutions.²² It produces a forward-looking report on the base case scenario for assessment by the G20. In addition, at the request of the G20, the report includes both an *upside scenario* (examining how the base case/global growth could be improved upon and the policy actions necessary) as well as a *downside scenario* (should the risks identified materialise). For the next stage, members review their policy programmes in light of the policy actions identified to achieve the upside scenario, and communicate possible changes to the group. In the final stage, G20 Leaders identified and agreed on the actions needed to achieve the shared objectives, and endorsed policy recommendations applicable to groups of countries facing similar circumstances. The onus then shifts to the member countries to act on the mutually agreed recommendations. Progress is monitored at the summit meetings). The first cycle took place in 2010. At the Seoul summit in November 2010, G20 leaders confirmed their commitment to the process and agreed to expand and refine the MAP by incorporating indicative guidelines against which to assess imbalances.

The process is still insufficiently advanced to determine whether it represents a major contribution to more effective oversight, yet the effort has the potential to lift global economic governance to a new level. By introducing a goal for sustainable global growth and an iterative procedure of analysis and policy adjustment, it improves on the best effort in global economic surveillance to date, which is the IMF's World Economic Outlook (WEO). As an initiative of G20 leaders themselves, broad in scope, embracing the largest economies and with high visibility, it represents a concerted effort to improve global economic performance. Being a new process, it will evolve over time as experience grows. The real test will be the extent to which it is supported by consistent policy actions at the country level. It should be acknowledged that the MAP remains a purely intergovernmental process and is not binding on the countries involved.

THE MULTILATERAL SURVEILLANCE OF THE IMF

Even before the crisis, the IMF was cognisant of the weaknesses in its multilateral surveillance, but the crisis threw them into sharper relief. As a result, various proposals have been put forward to improve practices and processes. Each of them is helpful, even if the impact of any one of them will inevitably be somewhat limited. Arguably the biggest contribution these proposals will make, if they come into being, will be to raise awareness that, in today's global economy, the Fund's duty to oversee the IMS is its most important surveillance function. This stands in contrast to the long-standing emphasis on bilateral surveillance. A conceptual shift is needed such that bilateral surveillance is seen as a means to promoting the overriding concern with the IMS, not as an end in itself.

This shifting of bilateral surveillance to the second order has yet to receive wide recognition, partly owing to past IMF practices. At the time of the IMF's establishment, the emphasis on bilateral surveillance made sense. The global economy and financial markets were fragmented, financial accounts were regulated, trade was restricted, exchange rates were fixed and financial sectors were heavily regulated. As global integration increased in the 1980s and 1990s, the view took hold that global stability would be assured if each member "kept its own house in order" (the OHIO view), which perpetuated the emphasis on bilateral surveillance. This focus was also reinforced by the fact that membership of the IMF was country-based, and the country perspective persisted despite the advent of economic and monetary unions when policy authority was no longer confined to the national level for some major economies. For too long, Fund surveillance remained captured by members demanding equal, but not too rigorous, treatment, which absorbs a vast amount of the Fund's human resources and effort, in a measure disproportionate to its importance to global economic stability. Post-crisis, this approach

²² Simultaneously, the World Bank advises on how to promote development and reduce poverty in the process.

is no longer sufficient. The Fund has always had a clear and unique mandate to “oversee the international monetary system in order to ensure its effective operation” (Article IV, 3a of the IMF’s Articles of Agreement). Now, more than ever, it needs member support to develop the procedural and analytical tools to do so effectively. Its responsibility for delivering the global public good of international monetary stability – or external stability, as defined in this paper – deserves the support of its members.

To this end, there is debate about a possible Multilateral Surveillance Decision (MSD). The aim of an MSD would be to provide guidance on the role of staff and the expectations of members regarding the scope and modalities of multilateral surveillance, akin to the Decision on Bilateral Surveillance Over Members’ Policies agreed in 2007. An MSD need not result in a raft of new initiatives adding to the surveillance burden on members. Its proponents are of the view that it would be useful in two ways: first, in gathering together the various approaches to multilateral surveillance under a common umbrella, reflecting on their synergies and prompting reflection on identifying and filling gaps to optimise coverage and analysis; second and more importantly, in shifting the emphasis in surveillance towards ensuring the stability of the IMS as a global public good. The role, and hence resources, accorded to bilateral surveillance could be better allocated once set in this context.

Experience of the difficulty reaching the bilateral surveillance decision has reduced the appetite of some for attempts to agree on an MSD. However, such a decision could well be easier to achieve because the emphasis is more on exposing interlinkages and less on the policies of individual members. While the Fund is under a duty to undertake multilateral surveillance (even though it has discretion on how to do so), members are only obliged to *consult* with the Fund in the fulfilment of its duties and when it so requests; they do not face any obligations regarding the conduct of their domestic policies with respect to multilateral surveillance or its outcome.

In addition to a possible decision, new initiatives are also being introduced. One of these is the preparation of *reports on outward spillovers* from systemically large economies or groups of economies whose policies may impact on the stability of the IMS. Such surveillance involves consultation with members both where the spillovers originate and where they impact. It fills a useful gap in the Fund’s surveillance, since this focus exceeds the bounds, and the procedures, of customary bilateral surveillance. While spillovers could be addressed in the standard annual reviews of countries’ policies (known as Article IV consultations), there are clear advantages to preparing a separate report, in terms of both visibility of the issues and involving affected parties in the surveillance exercise. In practice, it may not always be clear where the policy action behind a spillover originated, for example, where a policy causing an outward spillover is in fact a reaction to an inward spillover from elsewhere. Nevertheless, unveiling response measures and discerning the degree of influence would be a useful exercise in itself to help understand the nature of cross-country influences. Indeed, by revealing the extent to which countries’ policies are already influenced by other countries, such reports may help break down resistance to greater policy coordination given that members’ policies already “intrude” on each other.

Further improvements under discussion also turn attention to issues that extend beyond any single economy and promote “system thinking”, i.e. awareness of the linkages – and hence risk transmission – among economies and financial sectors. The revival of *multilateral consultation procedures (MCP)* is being reconsidered.²³

²³ The first (and so far only) MCP was launched by the IMF in 2006-07 with a view to addressing global imbalances while maintaining robust global growth. It represented the first attempt to reconfigure surveillance of multilateral issues of systemic importance through collaborative and collective action. Its defining features were its specific focus on a key topic and the involvement of only the most relevant economies. Although useful in increasing the awareness of the issues facing the parties and crystallising policy options, the 2006/07 exercise was let down by the weak policy follow-up on the part of the parties.

Under an MCP, the Fund convenes meetings to promote dialogue among the participants, conducts discussions with them, provides analytical input and identifies policy options. The participants are the key actors in the exercise (in contrast to the spillover reports, where the IMF is at the centre). They are required to provide the Fund with the information it requests for its analysis, participate in meetings, discuss policy adjustments and how to share them among the participants, and take the agreed policy measures. Post-crisis, the G20 MAP is seeking to coordinate on the *general* goal of global rebalancing, but there is a greater need than ever to address *specific* risks to IMS stability (e.g. a sustained rise in food prices) through collaborative and collective action. In this light, multilateral consultation procedures would be a useful tool on account of their ability to sharpen the focus on a particular issue, emphasise the benefits of joint action and provide a forum for joint action to be specified and agreed. Ways could be considered to improve the policy action follow-up beyond simply monitoring implementation in subsequent Article IV surveillance exercises. (For example, there could be a section in the IMF's WEO devoted to monitoring post-consultation policy efforts and developments in the issue that was the subject of the consultation).

Efforts to enhance the effectiveness of *the WEO and the Global Financial Stability Report (GFSR)* are also under constant review, and most recently involve consideration of greater coverage of GFSR messages in Chapter 1 of the WEO. Further ideas include the preparation of a single, short document summarising the main insights of the WEO, GFSR and Fiscal Monitor, to synthesise and communicate the main policy messages to policy-makers. Finally, the Fund is also working on producing *cross-cutting thematic reports*, drawing on Article IV surveillance, to promote understanding of cross-country linkages. Such reports can complement the WEO with a policy-focused examination of lessons to be drawn from experiences of members facing similar circumstances.

REGIONAL SURVEILLANCE

Multilateral surveillance does not have only a global dimension. Regional surveillance is also very important as it not only comprises the oversight of developments within a region as influenced by the activity of its individual economies, but also promotes the understanding of the economic and financial interactions between that region and the rest of the world.

The IMF conducts regional surveillance and reports on its findings in *Regional Economic Outlooks*. These reports usually do not find the visibility they deserve, and regional surveillance by the Fund tends therefore to play a more minor role than it should. There is clear scope to raise the profile of Regional Economic Outlooks with a view to developing a better understanding of the regions themselves and their relations with the rest of the world. In this way, they could be of more use in the preparation of the WEO and GFSR.

At the same time, there remains scope for the Fund to improve its conceptualisation of the role of regional economic and financial dynamics in global stability. For example, for too long, the IMF considered surveillance of the euro area as an *input* into the bilateral surveillance of their individual members, rather than recognising the importance of the euro area per se for the global economy.²⁴ This in part reflects the strong legal and operational influence of country-based membership on the design of IMF activities. In an important symbolic step, the IMF has recently set up a unit for euro area surveillance, which evidences an awareness of the importance of the region, surveillance of which has been constrained by past practices.

²⁴ IMF surveillance of the euro area is considered bilateral surveillance by the Fund on the grounds that (i) it is conducted in order to feed into the bilateral surveillance of euro area members who are legally members of the IMF, unlike euro area bodies; and (ii) the counterparts represent the euro area as a whole, not as the sum of its members, and hence the euro area has the character of another economy, rather than as the aggregation of its members; hence the counterparts are single, not multiple as they would be if each member were represented in the talks.

To be sure, the IMF is neither the only nor the best-placed organisation to undertake regional surveillance. *Regional surveillance by other bodies* tends to accord with the relative importance attached to the region by its members, and here the EU stands out. Surveillance by the EU is an important and well-developed exercise, now being further strengthened following the report of the Van Rompuy Task Force in response to the major shortcomings highlighted by the 2010 sovereign debt crisis. For countries that signed up in 2000 to the Chiang Mai Initiative (CMI) – a network of swap arrangements between the members of the Association of Southeast Asian Nations (ASEAN),²⁵ China, Japan and Korea (also known as ASEAN+3) – surveillance has so far been low key, but this is set to change. The multilateralisation of the swap agreement under the Bali Agreement in May 2009 (CMIM) has increased the need for high quality regional surveillance. Members endorsed the development of regional cooperation beyond simple information sharing and peer review, which will entail the creation of an independent regional surveillance agency. By early 2011, an ASEAN+3 Macroeconomic Surveillance Office (AMRO) in Singapore is to be established. It will underpin any lending undertaken under the CMIM, which has yet to be activated. Other regional bodies around the world also conduct regional surveillance to varying degrees, but visibility is low.

**IMPROVING THE ELEMENTS OF OVERSIGHT:
(1) THE ACTIVE PURSUIT OF THE GLOBAL
PUBLIC GOOD OF EXTERNAL STABILITY**

In October 2010 the US Secretary of the Treasury, Timothy Geithner, wrote in a letter to his G20 colleagues that G20 countries “should commit to undertake policies consistent with reducing external imbalances (...) over the next few years, recognizing that some exceptions may be required”. In November 2010, following the discussions of this proposal, G20 leaders asked their finance ministers and central bank governors to discuss in the first half of 2011 a set of indicative guidelines (to be composed of a range of indicators) to serve as a mechanism for

the detection of large imbalances which call for corrective action. These indicative guidelines should be designed to take account of national and regional circumstances, including those of monetary unions. The G20 Framework Working Group, with the support of the IMF, was mandated to carry out the technical work and put forward a first proposal to be endorsed in the first half of 2011.

The strength of this initiative is that it acknowledges that there is no single solution to the adjustment of global imbalances. Neither monetary, exchange rate, fiscal, nor structural policies suffice on their own. Moreover, the policy mix that is required is likely to differ considerably from country to country. This implies a need to consider *all* relevant policies in *all* relevant systemic countries in the process of international cooperation aimed at rebalancing the global economy. In this context, the indicative guidelines serve as a detection mechanism for broader analysis – something which will avoid finger-pointing at one policy and one country or economic area.

In this way, the approach endorsed by G20 leaders has the potential to provide a common playing field that allows each country to indicate, quantify and offer up for scrutiny the whole package of policy measures that it intends to pursue as a contribution to external stability. It makes it easier to address the aforementioned risk of asymmetric adjustment between surplus and deficit countries. And it may help generate greater traction of the G20 MAP and IMF surveillance processes.

At the same time, the initiative has to be well understood and implemented properly by all those involved, otherwise it risks producing negative unintended consequences. At the time of finalisation of this paper, two open issues stand out.

²⁵ ASEAN: Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

A first issue concerns the *broad principles* with which the guidelines should comply. In the view of the authors, the following principles should be observed:

- *Principle 1* – The indicative guidelines should strike the right balance between parsimony and comprehensiveness, i.e. finding the right trade-off between (i) selecting a relatively limited number of indicators capturing the most relevant dimensions of imbalances, while (ii) ensuring that the set of measures adequately detects imbalances to trigger subsequent, more thorough analysis in order to identify from the full range of policies those that are most appropriate for reducing the imbalance. This principle acknowledges that there is no one-size-fits-all measure of imbalances. The pros and cons of several indicators need to be assessed, including quantitative and qualitative, external and domestic, real and financial, official and private sector, level/stock and change/flow indicators. At the same time, the design of a mechanism based on an economic reading of indicators and economic analysis for signalling excessive imbalances should remain straightforward. The indicative guidelines should constitute a relatively simple and understandable communication tool that is easy to revise and update when necessary. While the guidelines should serve as a detection mechanism to identify the economies for deeper analysis, it should be the subsequent analysis, not the detection mechanism per se, which provides the basis for policy recommendations.
- *Principle 2* – To the extent possible, the indicative guidelines and, at any rate, the subsequent, more thorough analysis should allow for country- and monetary union specificities. Hence the guidelines need to be tailored accordingly.
- *Principle 3* – The analysis and assessment triggered by the indicative guidelines should

also envisage a time frame for adjustment and thereby facilitate the monitoring of progress towards the benchmarks. Since policy-makers have limited control in the short run over variables such as the current account – especially when structural reforms are required, the “initial conditions” of a country or economic area need to be taken into account by the G20 in the discussion. In essence, there should be an assessment of whether structural reforms suffice for a particular country (in which case results will take time to show), or whether other policy measures are needed for the short term. Even if “only” structural policies are needed, their crucial importance for a more balanced global economy should be fully recognised (see e.g. de Mello and Padoan 2010). The way forward requires identifying lines of action that can start immediately, which then have to be properly implemented and monitored over time. The timeframe should be as short as possible to shore up global stability, but as long as necessary for the country to realistically effect implementation and for the reforms to produce results. This will call for careful judgement.

A second issue open to discussion is the extent to which the *exchange rate* variable should be accorded a significant role in the design of the guidelines. On the one hand, a focus on the role of exchange rates within the broad multilateral process of global adjustment recognises that misalignments (including those partly as a result of “manipulation”) may have serious repercussions at both the global and the domestic level. On the other hand, one lesson that could be drawn from past experience is that a one-sided emphasis on exchange rates may have tended to foster a perception that this was the *only* decisive variable in international economic relations. At times this may have led to an unnecessary dramatisation of communication in international relations, whereas both academic research and historical experience have shown that exchange rate movements – even sizeable

ones – are not necessarily the most important element in the adjustment of unsustainable balance-of-payments positions.²⁷

It is interesting to note that also the IMF's emphasis on exchange rates in its bilateral surveillance has evolved in recent years. Already prior to 2010, especially since the Bilateral Surveillance Guidance Note released in November 2009 (which refined the operationalisation of the 2007 Decision on Bilateral Surveillance Over Members' Policies), the Fund centred surveillance more strongly and concretely than in the past on the concept of external stability (similar to the G20 concept of external sustainability), in which the exchange rate plays an important but modified role, i.e. it is *one of* the variables whose adjustment is required to ensure the stability of the international monetary system. Accordingly, IMF surveillance activities now make an effort to assess *all* policies of a country that influence the present or prospective contribution to external stability.

The IMF continues to conduct another regular exercise, the CGER reports on equilibrium exchange rates. The semi-annual estimates of equilibrium real effective exchange rates (REERs) by the Consultative Group on Exchange Rate Issues (CGER) highlight the degree of possible misalignment of each currency. In so doing, they provide a useful indication of how much exchange rates need to adjust to regain external stability *all other policies being equal*. This approach faces two difficulties, however. First, the discussion of exchange rate misalignments should logically *follow*, rather than being disconnected from the consideration of whether and how the whole range of economic policies has been promoting external stability. This is indeed the approach implicitly taken by the G20 MAP and related indicative guidelines. Second, exchange rates are a policy instrument only for non-freely floating currencies – and even then, it may be argued that the REER variable is over the longer run largely endogenous in nature.

These considerations suggest that a more promising avenue may in future be that of using, as part of the Fund's bilateral and multilateral surveillance, the benchmark estimates of sustainable current account positions and other indicative guidelines as agreed and "owned" by the countries participating in the G20 MAP. From a political viewpoint, this link between G20 MAP and IMF surveillance may help put IMF discussions on exchange rates into an even more focused context.

IMPROVING THE ELEMENTS OF OVERSIGHT: (2) DAMPENING THE NON-PRECAUTIONARY DEMAND FOR FOREIGN EXCHANGE RESERVES

As noted above, a very large share of world reserves is being accumulated for *non-precautionary reasons – mainly, for example, as a by-product of the maintenance of a persistently undervalued exchange rate*. The FSN liquidity instruments and other instruments discussed in Section 2.2 are not relevant to the dampening of this type of demand for reserves. At the same time, a focus on changing the exchange rate regime has proven too narrow and simplistic. Rather, supplementary, multilateral approaches are needed to dampen non-precautionary reserve demand, for example, the following:

- First, in its *bilateral surveillance* the IMF could take a more critical look at the non-precautionary drivers of reserve accumulation, especially in systemic countries. Currently, the issue of reserve accumulation is barely mentioned in Article IV reports, and paradoxically the IMF pays more attention to this issue in its surveillance over smaller countries.²⁸

26 For instance, Fratzscher, Juvenal and Sarno (2007) show that equity market and housing price shocks have been more important determinants of the US current account than exchange rate movements in the past. In the same vein, Chinn and Wei (2010) find no strong, robust or monotonic relation between flexible exchange rate regimes and current account reversals. Others (e.g. Farrant and Peersman 2006) have even argued that floating exchange rates are more a source of shocks than a shock absorber.

27 The Independent Evaluation Office is embarking on a study of IMF advice on international reserves.

- Second, the aforementioned new *spillover reports* which the IMF plans to produce in the coming months for five systemic economies, including China, would be well-suited to highlighting how China's reserve accumulation may affect global and regional stability. Moreover, the IMF intends to produce *thematic multi-country reports*, one of which may focus on reserve accumulation with an emphasis on its longer-term costs and risks.
- Third, efforts towards greater transparency of reserves could be stepped up. Measures should be taken to (i) ensure that countries provide accurate information when complying with their obligation to report the nature of their exchange rate regime to the IMF and (ii) move towards greater disclosure of the currency composition of official foreign exchange reserves, which remains voluntary. Voluntary reporting is inappropriate given that only reported reserves determine the characteristics and value of the SDR.
- Fourth, in the context of the *G20 MAP* the implications of a marked slowdown in the process of reserve accumulation could be discussed as part of alternative policy scenarios for achieving strong, sustainable and balanced growth.
- Fifth, assessing the *adequacy of foreign reserves* clearly remains an area open to further research. Depending on how convincing the "second generation" indicators are, they might be usefully employed in the policy debate. In this regard, it should be borne in mind that IMF staff members have already used a variety of measures to assess reserve adequacy in Article IV reports on smaller countries. The IMF is continuing to work on this issue has already come up with concrete suggestions, including a new risk-weighted approach (see Box 3).

Box 3

MEASURING RESERVE OPTIMALITY

Should the IMF develop advanced measures of the optimality of foreign exchange reserves, possibly as part of its surveillance activities and the provision of technical support to the G20 process?

Mileva (2010), from which this box is drawn, raises the question of the appropriateness of conventional reserve adequacy benchmarks. Regarding the ratio of coverage of three months of imports, several emerging market economies have been liberalising their financial accounts since the 1990s. Hence they have been increasingly exposed to large and volatile capital flows, which makes the trade-related reserve adequacy yardstick insufficient. The Greenspan-Guidotti rule has in turn been criticised because short-term debt is not the only type of capital flow which is highly volatile. Moreover, countries are subject to capital flight originated not only by non-residents but also by their own residents. For this reason Obstfeld, Shambaugh and Taylor (2009) have argued in favour of monitoring the ratio of reserves to M2 (i.e. the amount of domestic financial liabilities that could potentially be converted into foreign currency).

Model-based adequacy measures, on the other hand, include several additional factors, such as the fall in output in crisis periods, the crisis-prevention role of reserves and sudden stops in capital flows. These estimates, however, depend crucially on the assumptions made about the model

parameters (e.g. risk aversion, probability of a crisis), while there is no agreement on the measurement of variables such as the opportunity cost of holding reserves and the degree of substitutability between owned and borrowed reserves.

More specifically, the latest research on precautionary demand for international reserves relies on models which maximise the welfare of a representative agent in an economy subject to a fall in output and a sudden stop in capital inflows. In Aizenman and Lee (2007), Caballero and Pangeas (2005), Jeanne (2007), Durdu, Mendoza and Terrones (2007) and Jeanne and Rancière (2008), reserves represent an *insurance policy* against a “bad state of nature”. If a crisis occurs, its negative impact is alleviated by running down reserves. The “optimal” level of reserves derived in these models could be higher than under the Greenspan-Guidotti rule (i.e. reserves should be greater than short-term external debt), because reserves mitigate the adverse welfare effect not only of the debt rollover crisis but also of the fall in output on domestic consumption.

In Jeanne (2007), Jeanne and Rancière (2008) and Kim (2008), reserves are used for *crisis prevention* in addition to crisis mitigation. The probability of a crisis in these models is a decreasing function of the ratio of international reserves to short-term debt, i.e. the accumulation of reserves increases investor confidence in the country’s ability to repay its external debt obligations and thus reduces the probability of a sudden stop in capital flows. Because the probability of a crisis is endogenous to the stock of reserves, the optimal level of reserves may even exceed the “full insurance” level of reserves (i.e. reserves should be greater than short-term external debt plus a fall in output).¹

Calibrations of several of the models cited above produce optimal reserves-to-GDP ratios that range between 8% and 30% (Table).

IMF staff members have used the model by Jeanne and Rancière to complement reserve adequacy assessments for a few individual small economies. Most recently, a new risk-weighted metric has been developed and should soon feed into a staff paper.

All in all, assessing the adequacy of foreign reserves clearly remains an area open to further research. Depending on how convincing the “second generation” indicators are, they might be usefully employed in the policy debate.

Optimal level of reserves for self-insurance – model predictions

Study	Optimal reserves-to-GDP ratio
Caballero and Pangeas (2005)	up to 18%
Durdu, Mendoza and Terrones (2007)	6%-26%
Jeanne (2007)	7.7% if only crisis mitigation 23% if crisis prevention
Jeanne and Rancière (2008)	9.1% if only crisis mitigation 8%-over 30% if crisis prevention
Kim (2008)	10%-30%

¹ Aizenman and Sun (2009) show that countries which accumulate reserves for self-insurance against capital outflows (rather than trade deficits) refrained from sizable reserve depletion during the latest crisis.

IMPROVING THE ELEMENTS OF OVERSIGHT:

(3) FINANCIAL SECTOR LINKAGES

The crisis made clear that financial sector surveillance sorely lagged developments, that the understanding of macro-financial linkages (defined as the linkages between financial market activity and macroeconomic developments) was weak, and that macro-prudential linkages (the links between prudential regulations for financial institutions and macroeconomic developments) were barely considered.

Part of the problem was a mismatch between the national locus of supervisory responsibility and the international arena of financial markets and economic interaction. A central institution or forum was needed to concentrate on addressing these issues, and the G20 was quick to identify the Financial Stability Forum as best placed to be that locus. It was overhauled for this task, by means of a broadened mandate to better promote financial stability, an expanded membership and a name change to the *Financial Stability Board* (FSB). As a consequence, it now functions as the umbrella organisation for relevant fora such as the Basel Committee on Banking Supervision and a long list of others (including the Committee on Payment and Settlement Systems, the International Organization of Securities Commissions, the International Association of Insurance Supervisors, International Accounting Standards Committee, the International Association of Deposit Insurers and Global Forum on Transparency and Exchange of Information). Importantly, it has been made the overarching body in charge of coordinating financial stability issues, including standard-setting and rule-making at the global level.

A key feature of the FSB work programme is its collaboration with other institutions. In part this reflects the importance of cooperating to address internationally interlinked sources of risk. At the same time, it also reflects the limited resources of the FSB, which limit how much it can accomplish directly. It collaborates with the IMF in the field of macro-prudential surveillance. Their main joint activity is the “*Early Warning Exercise*”, which does

not aim to predict crises but rather to flag vulnerabilities (including macroeconomic and financial vulnerabilities), giving emphasis to cross-sectoral and cross-border interlinkages. Better described as a “systemic risk assessment”, it focuses on low-probability, high-impact risks, using a combination of quantitative analysis and qualitative judgement. The results are reported semi-annually to the International Monetary and Financial Committee (IMFC) of the IMF. The IMF and FSB are also together developing guidelines to assist national authorities ascertain whether financial institutions, instruments and markets are systemically important. This work is now advanced and has spawned efforts to improve the collection of relevant data. Besides the IMF, the FSB is also working with regulatory bodies to develop recommendations to mitigate pro-cyclicality, and with the BIS and accounting-standard-setters to develop macro-prudential tools. It will take time for new coordination and collaboration procedures to become established, but the process is under way, and represents the “globalisation” of surveillance and supervision that is necessary in order to parallel global financial and economic activity.

The IMF, with its mandate for promoting the stability of the international monetary system, has moved gradually over the years to covering financial markets in its surveillance. The crisis has strengthened the case for a stronger role for the Fund in financial surveillance. The IMF/World Bank *Financial Sector Assessment Program (FSAP)* is being overhauled to sharpen the focus on vulnerabilities, conduct more regular monitoring through a modular approach to surveillance and off-site monitoring, and ensure a more thorough follow-up of recommendations. Already work is under way to better integrate FSAP results into Article IV reports, and importantly, stability assessments under FSAPs have been made a mandatory part of Article IV surveillance for members with systemically important financial sectors. These steps are useful and welcome, but it should be borne in mind that they cannot be a panacea for all shortcomings in financial surveillance, and will form part of

a more comprehensive effort to keep abreast of developments, and thereby risks, in financial markets.

The crisis exposed *gaps in data*, especially with regard to financial markets, which the IMF now seeks to remedy. Under discussion is access to timely data on debt, derivatives, foreign exchange market exposures and cross-border banking exposures. IMF surveillance could benefit from deeper engagement with key global financial institutions. Only with appropriate information will it be in a position to assess the spillovers transmitting through global financial networks and their implications for macro-financial stability.

IMF surveillance needs to become more dynamic to capture the build-up of risk, the spread of financial activity and the transmission of contagion. In a useful initiative, the Fund is constructing a *global financial risk map*, with a geographic element, to track the build-up of systemic risks. The aim is to understand cross-border financial connections, so as to identify where risks may develop and how financial and policy shocks propagate across markets and economies. By examining financial flows and exposures across asset classes and maturities, and mapping the process of transmission through global financial networks, it should be possible to see how the functioning of the system may be disrupted by stress in particular segments or areas. Mapping interconnectedness constitutes an innovation that helps visualise and conceptualise the workings of global financial markets.

2.3.2 IMPROVING OVERSIGHT: TOWARDS GREATER “TRACTION”

Improvements in the identification of risks to global stability and sustainable growth are of limited usefulness unless there is follow-up policy action by the relevant authorities. Failure to *implement* corrective policy action to address known risks was a key weakness of the surveillance process prior to the onset of the crisis. This is because national authorities are accountable only to their domestic constituencies

and are under no obligation to act in the global interest. Hence, policy recommendations suffer from a lack of *traction*. This has long been a core weakness of the current IMS.

Part of the difficulty stems from ignorance as to the *causes* of inaction. Each cause may require a different course of action to address it. Several reasons for inaction are conceivable. Here we consider four, which is not an exhaustive list. First, views may diverge between the local authorities and the reviewing body (such as the IMF) as to whether there is a problem, the cause of the problem and the appropriate policy action. In such a case, deeper analysis, including drawing on other viewpoints, might help resolve the differences. Second, the authorities may share the views of the reviewing body but face capacity constraints in implementing the remedial action. One way forward here would be for *external assistance* to be provided to overcome these constraints. Third, and very importantly, the authorities may face political constraints stemming from the short-term costs of policy action – especially when these costs fall on sectors with influential lobbies. In this case, a *more independent IMF* (and institutions in charge of regional surveillance) “appealing more directly to the people than to their leaders” (Rajan 2010) might help develop a public debate going beyond relations with governmental bodies only. The greater transparency of the policy discussion and increased media attention might eventually prove successful, although there is of course a risk of it also hardening resistance, depending on influences on the public debate. Finally, and of most relevance for those policies where the global benefits are large, the authorities may be indifferent to the recommended policy actions, perhaps because the domestic benefit only marginally outweighs the domestic cost, or because they may deplete political capital. In such cases, increased *peer pressure*, preferably from other members of the same forum (e.g. the G20) and from other fora, could help spur action.

Understanding the reasons for recommendations being ignored could help in the designing of

specific methods to improve traction. Depending on the institutional set-up of each international or regional arrangement, the type of pressure behind recommendations for members could range from a soft power mode (e.g. in the G20) to a hard mode (EU). While hard rules promise greater compliance, they are no guarantee. Soft power, by its nature, exerts pressure only on voluntary actions, and can only work if supported by the relevant policy-makers. Sometimes it can achieve results despite the absence of hard obligations, since it can encourage a shift in the direction of more appropriate policies or voluntary standards that may gather pace as they spread, eventually isolating non-compliant countries. Yet the soft power approach has clear limitations. The use of incentives, both positive and negative, can help, but this assumes a capacity to reward and punish accordingly that is frequently absent. Media or public pressure may focus the minds of policy-makers, but enhancing transparency to the extent that the relevant groups become sufficiently alerted to the issues may be difficult. Peer pressure (including naming and shaming) should help in theory but in practice is often relatively weak.

THE IMF AND BILATERAL POLICY ADVICE TO MEMBERS

The IMF has no authority to impose policies on its members, but must rely on other, softer, methods. It has long sought to improve the implementation rate of its policy recommendations, mostly through improving its analysis, its method of engaging with members and the justification for its advice. The results have been disappointing, however, as in the aforementioned cases of the 2006/07 multilateral consultation and FSAPs. In response to the IMF's bilateral surveillance, the authorities under review not infrequently act slowly or indecisively in addressing the weaknesses identified.

The crisis has offered a new impetus to this endeavour, and new ideas are being discussed. One suggestion is to ensure top level engagement in the surveillance procedure by

better involving ministers and their ministerial bodies through strengthening the IMFC or even the creation of an International Monetary and Financial Board. This would permit use of the so far under-exploited principle of “*comply or explain*”. Here, the authorities of the country under surveillance would be expected to discuss the extent of their adherence to the policy advice from the last consultation exercise. This could be covered in a box or section in the staff report, or alternatively as a regular sub-section of the document issued by the authorities for the IMF Executive Board meeting. This practice should have the effect of drawing attention to the degree to which IMF advice was followed, and exposing the reasons where it was not. This may help reveal the causes of non-compliance and inform efforts to improve both the quality of the advice and the degree of adherence.

There also remains scope to increase the leverage on public and peer pressure through *greater transparency*. Already, the Fund has moved to a practice of publishing Article IV reports by default, requiring countries to object if publication is not to go ahead. This represents the latest in a series of steps moving from no publication without the authority's request, to assumed publication, to automatic publication unless the member objects. This advancement has taken place even though publication remains voluntary, and illustrates the scope for improvements via soft pressure. In addition, IMF staff now regularly holds a press conference upon conclusion of the consultations before the Executive Board meeting, and there is increasing pressure to move to publication of the Article IV report in advance of, or simultaneously with, the Executive Board meeting to preserve its integrity. Following the Board meeting, a Public Information Notice (PIN) is usually published, though not before the authorities of the country under surveillance have reviewed it. It may be worth considering referring PINs to a separate independent review group of experienced non-partisan professionals – instead of the authorities – for the task of vetting it for insensitivities and inaccuracies. This would enhance IMF independence and remove any

perception of political interference in its policy recommendations.

Last but not least, a set of “*pillar countries*” could be identified, and subjected to, for example, more scrutiny, more frequent reviews, compulsory FSAPs (see below), and more stringent follow-up to policy recommendations in order to better address their systemic implications.

ADHERENCE TO POLICIES AIMED AT GLOBAL REBALANCING AND SUSTAINABLE GLOBAL GROWTH

The G20 process of mutual policy assessment for strong, sustainable and balanced growth is not only a new type of surveillance procedure but also represents the most promising initiative in many years to achieve traction in areas where IMF policy recommendations have gone largely unheeded. Besides obvious reasons for scepticism, there are at least three grounds for optimism.

First, by setting up this process the G20 is focussing attention on the issue of growth rebalancing, adding political momentum and, most importantly, making itself *accountable* at every summit meeting for progress in this realm. Crucially, the leaders themselves are taking ownership of the framework and thereby signalling top-level commitment to the exercise.

Second, the process is *more transparent* for the international community, the public and the IMF Executive Board than the previous IMF multilateral consultation, which should help leverage the leaders’ commitment.

Third, the *range of participants* is closer to optimal, as it is broader than in the multilateral consultations, while the number of interlocutors is limited, to include only major advanced and emerging market economies. This should improve the relevance and visibility of the exercise, and the manageability of the discussions.

Of course, it is important to remain realistic about what this process can achieve. For one

thing, recommendations risk being unspecific as they are issued to groups, not individual members, and there are no sanctions or penalties for non-compliance. In addition, G20 members pledged their commitment to the process at the height of the crisis. It remains to be seen whether the same level of commitment is evident as economies start to recover and the sense of urgency subsides. It should also be remembered that the Leaders’ Statement from the 2009 Pittsburgh Summit emphasises that G20 members bear *primary* responsibility for the sound management of their economies, which underscores the limits of G20 pressure (and global governance in general). It also remains to be seen how long the G20 will enjoy its current authority, given that its legitimacy may be challenged as the urgency of addressing the crisis subsides. Notwithstanding these concerns, the G20 MAP remains the most promising initiative to increase policy action for the global good in many years.

IMPLEMENTATION OF POLICIES AND ADHERENCE TO STANDARDS IN THE FINANCIAL SECTOR

Regarding surveillance of countries’ financial sectors, participation in an FSAP remained voluntary until very recently. Although more complete coverage under the FSAP would *not* have headed off the crisis, it may at least have made the relevant authorities a little more vigilant in overseeing activities in the financial sector. It is not surprising, therefore, that calls for FSAPS and regular updates to be made mandatory increased after the crisis and have led to 25 countries with systemically important financial sectors being obliged to include the financial stability assessment under the FSAP as a regular part of their Article IV surveillance.

The transformation of the FSF into the FSB has helped to increase pressure on authorities responsible for financial sector issues. A potentially important component of the broadened mandate of the FSB is the commitment of all its members to undergo periodic peer reviews. These will be based on, among other reports, public IMF/World Bank FSAP reports. The FSB is to elaborate and report

on recommendations made in these reports and their follow up. Given that the review of the FSAP process by the IMF Executive Board in 2009 recognised that recommendations were inadequately followed up, the FSB can fulfil a useful role in this context. The FSB's peer reviews are not only to focus on individual countries; they may also be thematic (i.e. monitoring the implementation across members of particular policies or standards agreed within the FSB).

Second, the FSB has set up a process of monitoring compliance with international regulatory and supervisory standards on international cooperation and information sharing, known as a "non-cooperative jurisdiction" (NCJ) process. This exercise extends beyond the membership to have global reach. Where there are shortcomings, the FSB highlights "jurisdictions for further evaluation", and draws on assessments by the IMF and the World Bank of compliance with FSAP recommendations or Reports on Observance of Standards and Codes (ROSCs). This is to introduce an incentive system to induce jurisdictions to keep up with reforms.

Third, the FSB has set up an Implementation Monitoring Network to monitor compliance with G20 and FSB recommendations. This is a useful way to keep the focus on countries' implementation records. Although ROSCs and FSAP recommendations are supported only by non-binding soft law, they may spread good practice, which may gradually become standard practice, breaking down resistance to their hardening into obligations and isolating non-cooperative countries.

2.4 LONGER-TERM MARKET DEVELOPMENTS SHAPING THE INTERNATIONAL MONETARY SYSTEM

While in this second part of the paper we have dwelt mainly on policy-driven initiatives aimed at strengthening the IMS, one should not overlook the importance that market

developments can have in shaping the IMS over the longer run.

Domestic financial development in emerging market economies is in our view the most important of such developments. As discussed in Section 1.2.5, if financial globalisation were to become more even in nature this would create incentives for *policy discipline* in the IMS: the excesses that characterised the mixed system prior to the crisis would no longer be possible in a context where creditors not only worry about the ability of debtors to repay their debt but also have credible investment alternatives.

Also, the possible evolution towards a more multipolar currency system – discussed in Section 2.1.1 – should be seen as the *indirect* outcome not only of policy decisions (e.g. capital flow liberalisation, greater exchange rate flexibility where needed and sound policies in general) but also of genuine market developments (e.g. private demand for international currencies and the deepening and reduced segmentation of certain capital markets).

Finally, it should be recognised that, even though they are very painful and costly, financial crises have, very often in history, taught lessons that have in hindsight been the main trigger for beneficial IMS reforms. The recent crisis is proving to be no exception.

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