

FSR

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**GLOBAL IMBALANCES
AND FINANCIAL STABILITY**

15

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“In this issue of the Financial Stability Review on “global imbalances and financial stability”, we have been fortunate to gather contributions from eminent central bankers in major countries of the world. This makes it a very special event. I wish to express my gratitude to those colleagues who have accepted to give their views and contribute to enhancing our understanding of very important issues for the future.”

Christian Noyer

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Global imbalances: the perspective of the Saudi Arabian Monetary Agency

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Governor

Saudi Arabian Monetary Agency

The problem of global imbalances has acquired disconcerting proportions. Surplus and deficit countries must cooperate in a solution. Both emerging and advanced economies need to undertake structural changes. There is no exclusive domestic solution to global imbalances. Work must continue to restore financial stability, involving supervision of global systemically important financial institutions (G-SIFIs); reforming international institutions; dealing with destabilising capital flows into emerging economies; encouraging competition to the dollar in global currencies; and introducing asset targeting and macroprudential policy into the conduct of monetary policy. The current external surpluses of Saudi Arabia are a cyclical issue reflecting its role in supplying oil to the global economy. Countercyclical fiscal policy is used to stabilise the growth path. Foreign exchange reserves act as a buffer and the exchange rate serves as the policy anchor while diversification is pursued through capital investment.

The 2007-08 financial crisis has lent support to two facts: capital markets are closely interlinked around the world; and there is a visible connection between domestic and international financial stability.

This paper presents my perspective on global imbalances and financial stability. Section 1 reviews the problem of global imbalances including suggestions on how to improve the situation. Section 2 deals with financial stability. Section 3 addresses the situation of Saudi Arabia. Section 4 contains summary and conclusions.

1| GLOBAL IMBALANCES

1|1 Background

Imbalances in trade between economies are as old as trade itself, and normally they correct gradually so as to help the global economy move towards steady long-run growth. The problem of global imbalances has, however, acquired disconcerting proportions. This is due to a number of factors. First, the size of the imbalances involves the world's leading economies, centring on the United States. Second, the problem is returning after some correction in 2008-09 (Table 1). Third, the global financial system which financed the imbalances (and helped exacerbate them by its creation of additional leverage) has been damaged by the crisis. Finally, there are issues of instability due to the imbalances within the euro area, which raise many of the same issues, in particular the difficulty of getting both surplus nations and deficit nations to co-operate in finding an answer.

There are opposing views as to how to solve the problem. Emerging market (EM) economies with

surpluses worry that advanced countries will use exports to reduce their imbalances at the expense of EM exports rather than address their structural problems. Advanced economies see the exchange rate of major EM economies as misaligned due to their export-led growth model. Many participants believe the cyclical surpluses of oil producers (which are quite different, as is argued in Section 3) to be somehow involved in the question.

In a globalised interdependent world, the pattern of imbalances cannot be "blamed" on any one party. The need of the hour is for all parties to take action and work together. The focus of discussions should be an orderly and gradual unwinding of the imbalances over the medium term while ensuring that broad-based global expansion continues. But we need a common vision of where the world economy should be going as well as agreement on policy instruments. The rise of the developing economies is the biggest change. It has accelerated as a result of the crisis and the developing world will shortly account for over half of the world's gross domestic product (GDP) on a purchasing power parity (PPP) basis. Structural reform programmes (including for global institutions) need to recognise this.

1|2 Challenges for rebalancing global demand

Any answer which focuses only on fixing the US deficit runs the risk of a 1930s-type trade depression as aggregate demand is withdrawn from the world economy. But correcting the surpluses solely by expanding domestic demand in surplus nations risks igniting global inflation as in the 1970s. Both creditors (surplus nations) and debtors (deficit nations) need to take concerted action. Restoring balance to the world economy involves stronger demand in the euro area and a continuation of domestic demand expansion in Japan. Additional efforts to increase competition in the markets for goods and services, and to improve labour market flexibility, are needed in these economies to safeguard the recovery that is taking place.

The United States must take action to correct its fiscal deficit and to prevent a recurrence of a credit-driven boom which was ultimately dependent on the health of housing collateral. We cannot expect a change in

Table 1
Current account balances of the major economies

(USD billions)

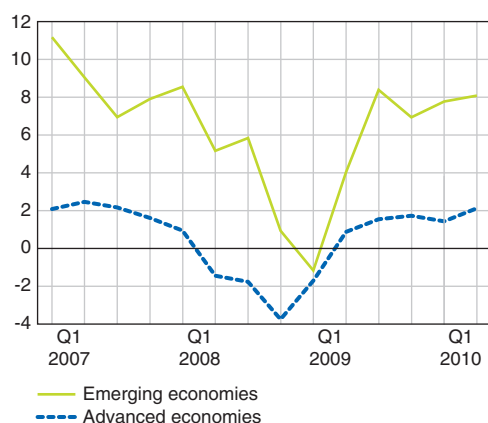
	2007	2008	2009	2010 Forecast
United States	-718	-669	-378	-466
Japan	211	157	142	166
Germany	254	245	163	200
China	372	436	297	270

Source: IMF World Economic Outlook, October 2010.

the exchange rate of the US dollar vis-a-vis currencies of surplus countries to solve the problem on its own: it is not a panacea. Experience shows that exchange rate changes have very limited short-run effects on current account positions. Furthermore, attempts to model the extent of the US dollar depreciation needed to bring US exports and imports into balance show that not even a major fall in the currency can bring this about in the short term. There are other factors, such as rigidities in demand elasticities, differences in economies of scale and cost structures across economies that may mitigate or even negate the effects of exchange rate changes. However, for some countries, exchange rate flexibility can be a part of the solution in the conduct of their fiscal and monetary policies.

For their part, EMs are moving beyond the traditional export-led growth model. As their economies become larger and more integrated into international trade and finance, they face an increasingly complex set of policy challenges, which demand institutional flexibility. Large external surpluses are symptoms of deeper structural imbalances domestically (i.e. a growing gap between savings and investment). But many EM economies have relatively underdeveloped financial markets and institutions and low per capita incomes; wealth and access to credit lag far behind those of advanced industrial economies. This puts constraints on the effectiveness of standard macroeconomic policies.

Chart 1
Consumption in emerging and advanced economies
Real private consumption (annualised percent change from preceding quarter) 2007-2010



Source: IMF World Economic Outlook, October 2010.

As for domestic demand in EMs, gross savings rates are much higher in emerging economies compared to advanced economies at 32% vs 18% of GDP in 2010 (source: International Monetary Fund – IMF), and consumption is accordingly lower. There are serious obstacles to stimulating consumption in EMs: investment in services is low, and the retail and financial sectors are underdeveloped. Transport and power networks serve the needs of manufacturing rather than consumers. Consumer items are mostly locally produced (China's imports of consumer goods accounted for only 3% of global imports in 2008). However, consumption is growing rapidly although from a low base. As Chart 1 shows, consumption growth in EMs is about 8% this year and the IMF estimates that private domestic demand will contribute two-thirds of Chinese growth in 2010 and 2011. But structural reforms are needed to unlock the consumer demand that is undoubtedly there: for instance, given the young demographics and lower life expectancy in EMs, there is a huge potential demand for better education and improved health care. However, many EMs apply an oligopolistic model to restrict private competition, and so restrict the supply of these services, with the result that the pent-up demand cannot be satisfied.

Despite their constraints, EMs should undertake fiscal, financial sector and labour market reforms to achieve more balanced growth. This is in their own interests as well as that of the world economy. Lasting gains in competitiveness can best be secured through deepening structural reforms. Policies to improve the climate for business should be helpful in addressing this issue. Domestically-led growth can crucially be helped by a healthy and dynamic banking system, so that financial and banking sector reforms are also needed.

1|3 Protectionism stifles growth

Unprecedented global imbalances have again stirred policy debate at the recent Fund/Bank annual meeting in October 2010 and raised fears of competitive devaluation and overt or hidden protectionism. Fortunately, most G20 members believe that it is short-sighted to hike trade barriers or oppose competition-friendly reforms in sectors that compete with imported goods and services, because such actions have a meagre impact on improving terms of trade. In fact, world economic growth would be stifled and global imbalances unresolved.

Erecting barriers against the free flow of international finance would be dangerous at the moment. Measures such as capital restrictions may work in the short-term but they create more problems further out. The complexity of issues calls for coordinated action and a spirit of cooperation rather than unilateral action and/or confrontation over policies. There is no exclusive domestic solution to global imbalances. Gradualism should be the way forward to resolve inefficiencies in factors contributing to the prevailing problem (i.e. exchange rates, capital flows, fiscal slippages, etc.).

2| FINANCIAL STABILITY IN THE WAKE OF THE FINANCIAL CRISIS

2|1 Background

The recent financial crisis has exposed weaknesses in the functioning of the international monetary system. Pressure for reform of the IMF and other international institutions had been growing hand-in-hand with concerns over global imbalances even before the crisis. Now reform of banking regulation has joined the list, and growing dispersions in economic recovery and policy actions make it more urgent than ever to take action. The major issues are reviewed below.

2|2 Restoring financial stability

It is broadly agreed that progress is needed in a number of areas:

- Bankers will need to continue with rigorous stress tests of bank balance sheets.
- Financial regulators have to press ahead with a carefully-sequenced introduction of reforms as the recovery continues.
- Global systemically-important financial institutions (G-SIFIs) need to have more ability to absorb losses than less critical banks, and must be more tightly regulated on a cross-border basis.

- Accounting rules have to be harmonised globally.
- Central bankers need to integrate a macroprudential dimension into their policy.
- Governments must anchor fiscal policy in a credible medium-term framework that addresses debt sustainability concerns (i.e. they must plan to run primary surpluses).
- Economists need to rethink their model-based approaches that gave no warning of the crisis.

G-SIFIs are an issue that needs to be tackled as soon as practicable. EU and US regulators need a common approach on how to deal with a failing bank. In its recent report to the G20 Seoul summit, the Basel Committee stated it will not complete a study on how much additional loss absorbency G-SIFIs need to have until mid-2011.

2|3 Reform of international institutions

As world economic power shifts from the G7 towards EMs, operational arrangements (in the IMF in particular) need to reflect this in order to operate effectively. The agreement at the G20 finance ministers' and central bank governors' meeting in Korea for the IMF reform is a welcome development. When the comprehensive review of the quota formula takes place by January 2013, there should be a formula to continue such rebalancing. A mechanism for realigning votes in line with shares of world GDP will ensure that these institutions retain their crucial coordinating role in world affairs and avoid being sidelined. In return, the developing world must commit to provide the necessary capital resources, and to make the institutions work productively.

As the nature of the recent global credit crisis warranted a global response, the G7 has been expanded to G20 to address the complex issues, which include regulatory reforms, crisis resolution and global rebalancing. The G20 forum has so far proven to be effective in restoring normalcy to the markets and bringing the world economy back into recovery from a severe recession.

2|4 Capital flows

The highly volatile nature of capital flows has complicated the conduct of monetary policy. This is particularly true of global banking flows which swung round from USD 451 billion net lending to EMs to a net withdrawal of USD 44 billion between 2007 and 2009 –turnaround of nearly half a trillion dollars (see Table 2).

There are both positive and negative effects of capital flows but in EMs the size of the swings is destabilising and the most-needed component is Foreign Direct Investment (FDI), which is the most stable. Large inflows of ‘hot money’ complicate monetary policy, leading to controls through taxation or minimum holding periods. Asset price bubbles also tend to contribute to imbalances by creating a false perception of wealth. In the Middle East and North Africa (MENA) region, speculative inflows to support property speculation caused problems when they abruptly reversed during the financial crisis after 2007.

All traditional options for dealing with capital flows have problems for EMs:

- Exchange rate appreciation or lower interest rates in pegged regimes: as capital flows swing around, this could lead to foreign exchange volatility and interest rates becoming hostage to foreign flows rather than being appropriate for domestic conditions.
- Reserve accumulation via sterilised foreign exchange (FX) intervention: this can be self-defeating (as rising interest rates attract more capital). Unsterilised reserve accumulation can be also fiscally expensive as it can result in inflation. Size of flows can overwhelm FX intervention.

Table 2
Sources of global financing to emerging economies

(USD billions)

	2007	2008	2009	2010 Forecast
Bank lending	451	29	-44	85
Equity investment	-13	-105	78	97
Foreign direct investment	333	299	152	156

Source: Institute of International Finance.

- Tighter fiscal policy may result in delaying infrastructure projects and there are political and economic limits as strong fiscal or external positions can attract more inflows.

As macroeconomic policies may not be enough to deal with massive inflows of foreign capital, the toolkit has to include other instruments. Strengthening the prudential framework (credit control, countercyclical capital requirements, capital control and/or direct or indirect tax) can help mitigate the adverse consequences of surging capital inflows. Capital controls are not the answer on their own:

- They are difficult to administer.
- They can be circumvented in the short-run.
- Their effectiveness appears to decrease over time.

However, under exceptional circumstances, a well-structured time-bound capital control programme could help mitigate adverse implications of excessive portfolio inflows into the EM economies, particularly when FX reserves are adequate, the exchange rate is not undervalued and the economy is not overheating.

Development of a strong domestic financial system that reduces reliance on loans from global banks (historically the most volatile flows) and encourages local savings flows is the best long-run answer. When EM savers seek diversification or do not find safe and efficient opportunities within local capital markets, savings find their way primarily into the United States by virtue of its provision of sound and liquid financial instruments. Developing financial instruments in EMs will help contain global imbalances. It is encouraging to note that local currency bond markets have been growing in the last few years. For example, Latin American bond markets now show a local currency share of over 70% in bond issuance (2008 data). However, even a sound domestic financial system can be affected by a global liquidity crisis when local banks suddenly find their external funding lines have been cut because G-SIFIs are in trouble.

2|5 Reserve currencies

The dollar plays three distinct roles in the international monetary system as a unit of account (numeraire), a medium of exchange and a store of

value for investors (this has become more important as the United States has the most liquid and diversified asset markets). It is not practical to talk of replacing the dollar with Special Drawing Rights (SDRs) or any other basket of currencies, given the limitations of baskets in terms of their availability and application in private use. The SDR, for instance, is a claim on a basket of currencies but not a currency itself. SDRs constitute about 4% of global reserves and there are few investment opportunities in SDRs.

However, the global economy faces a structural currency issue in that 'Triffin's Dilemma' means the United States must supply an increasing volume of liquidity to support the growth of world trade. World trade will continue to grow faster than both the world economy and the US economy, and this dilemma will become more marked. Unchecked, the natural result is a long-term decline in the dollar exchange rate. In the short-term, the temptation is for the United States to let the dollar fall freely. A pragmatic approach is to introduce competition in global currencies. The prospect of having more competition for the dollar would be healthy for US macroeconomic policy and for the world economy.

The euro at present is potentially such a currency and as euro asset markets develop, it will become more attractive as a store of value. Other prospective currencies can be brought in at a later stage, reflecting the importance of their role in the global economy and financial markets. The yen and the yuan stand a good chance to be in the major league of reserve currencies along with the dollar and the euro. SDRs could well be an add-on.

EM countries (in particular, China) which aspire to the role will need to open up their domestic asset markets further to foreigners and provide a wide range of liquid traded instruments to attract investors. But the goal of a multipolar reserve currency structure is worth pursuing.

2|6 Implications of recent events for monetary policy

Recent events have exposed limitations in the conduct of monetary policy. Inflation targeting is not enough to provide a workable macroeconomic framework for sustaining growth in the advanced economies.

The "one-tool one-target" approach of using policy rates to target CPI inflation proved to be irrelevant when the crisis broke. Arguably, it even contributed to the crisis in that its apparent success led to complacency whereby bankers believed rates would always stay low, therefore justifying more leverage.

Inflation targeting was not practical in most emerging economies. The most pressing challenge for EM central banks is the volatile nature of capital flows, which interferes with monetary policy. Additionally, fiscal dominance makes monetary policy more difficult, especially where the need to manage public debt resulting from structural budget deficits conflicts with price stability and financial stability objectives.

The crisis has highlighted two challenges. First, we need to have a more sophisticated understanding of how asset price bubbles develop so that we can use the tools of monetary policy more effectively against them. Second, we also need additional measures to preserve financial stability.

ASSET PRICE TARGETING

It is now quite obvious that asset price inflation and bubbles cannot be ignored by central banks. The recent crisis has made it clear that markets are not ultimately self-correcting and banks need to be strongly supervised. The financial system presents a unique danger to the economy as a whole because it is the supplier of credit. If the supply of credit becomes excessive, it will drive asset prices upwards until a crisis occurs (caused by over-leverage). Central banks have historically worried that they would be criticised for misjudging asset price valuations, and that they were well-positioned to react after the bubble has burst. This was not the case in 2007-08 as the zero bound in policy rates was quickly reached, fiscal policy had to be brought in to help, and central banks had to resort to untried and unconventional measures.

The consequences of not acting when asset prices appear to rise unsustainably are extremely serious, amounting to risks to the entire financial system and the health of the global economy. The crisis has led to a diagnosis, which would have been unacceptable before:

- Central banks should take action in "leaning against the wind" by using monetary policy to dampen unjustifiable rises in asset prices even when there is no immediate risk of inflation.

- The root cause of crises is bankers' behaviour and positive financial regulation must replace 'light touch' regulation.
- Individual bank regulation must be complemented by an overview of financial stability.

MACROPRUDENTIAL MEASURES

Authorities (whether bank regulators or central banks) will have to augment prudent monetary policy with macroprudential actions. The Basel III proposals in fact blend macroprudential policy with traditional measures of capital adequacy. In particular, implementing counter-cyclical rules governing capital requirements should be the judgment of the central bank.

Basel III focuses on the problems of banking systems in advanced economies and may damage traditional banking activities in EMs, such as trade credit financing. There are severe challenges for macroprudential policies in some EMs:

- Government institutions are often weak, vulnerable to political pressure and coordinating policy is difficult.
- There is a lack of good sources of information about the detailed operation of the economy. Government statistics are produced late and are often of poor quality.
- Bank balance sheets are opaque. Banks are often state-owned or controlled and often lend on political criteria.
- Even when local regulators act prudently and the banking system is well-capitalised, external events can overwhelm the capacity of local regulators to influence events when the global banks withdraw funds.

Monetary policy and financial stability are two sides of the same coin. Monetary policy cannot be effective if the banking system is weak. Policies to pursue financial stability are just as important as targeting the exchange rate or inflation. In Saudi Arabia, supervision of banks and conduct of monetary policy are both carried out by SAMA, and this is an arrangement that has served the economy well. SAMA has always been proactive in ensuring financial stability by introducing prudential guidelines and tightening credit criteria at a time when credit was easily accessible globally. Saudi banks have sufficient

buffers to safeguard the interest of their shareholders and the economy.

3| THE CASE OF SAUDI ARABIA

3|1 Background

First of all, it should be noted that there is a problem resulting from the different ways that current account balances are aggregated in current discussion, which masks the true picture of imbalances. But taking the last ten years of historical data ending in 2009, the cumulative sum of the current account surpluses of Germany, the Netherlands and Switzerland was larger than the surpluses of all the OPEC members. Comparing Germany alone with the four Gulf OPEC members (Saudi Arabia, Kuwait, Qatar and United Arab Emirates) for the last decade, Germany ran a cumulative surplus of USD 1,176 billion which was larger than the USD 1,088 billion surplus for Gulf OPEC members taken together (source: IMF World Economic Outlook).

The surpluses of the oil-exporting economies of the Gulf with limited economic diversity, such as Saudi Arabia, are not only overstated as a problem; they are fundamentally different from those of other countries in two ways. First, they result from the production of a single commodity with a limited lifespan. Second, they represent a cyclical and not a structural issue for the world economy.

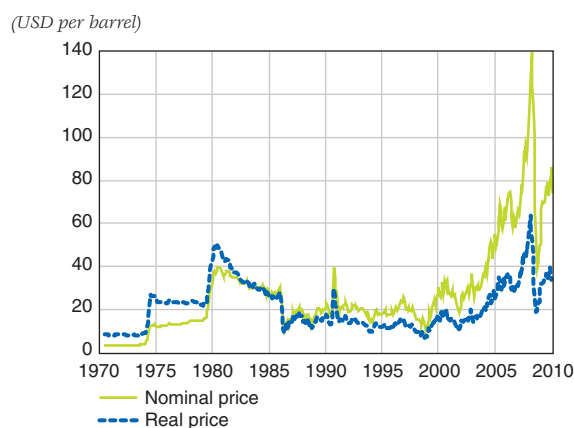
3|2 The challenges of oil revenues for fiscal and monetary policy

FISCAL POLICY

Oil prices today in real terms are not far out of line with historical values, as Chart 2 shows.

The supply of oil to the world economy can adjust in only a limited way in the short term to changes in demand and as a result it is highly volatile. This is because of the long lead time and large capital investment required for new supplies of oil to be discovered, brought on stream and processed into usable product. Increased production by countries such as Saudi Arabia prior to the crisis was necessary

Chart 2
Oil prices in nominal and real terms
1970-2010



Notes: Real prices are expressed in 1982-84 USD terms. Last observation for real prices refers to May 2010 and for nominal prices to June 2010.

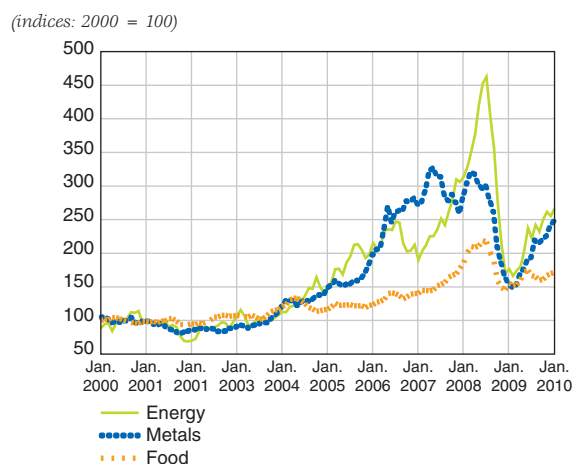
Sources: ECB, Global financial data, BLS.

to bring about moderation in the oil price for the sake of world economic growth. This combination of high prices and increased production has produced the surpluses, which were used during the recent crisis for fiscal stimulus.

The volatility and inherent unpredictability of all commodity prices is a well-established fact as is demonstrated in Chart 3.

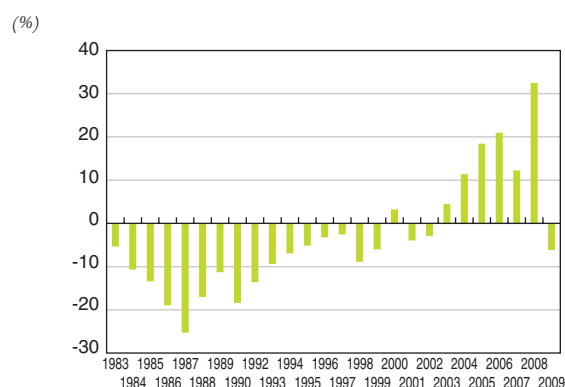
The swings in revenues that result are a cyclical phenomenon reflecting the health of the global

Chart 3
Prices of selected primary products
2000-2010



Source: WTO using IMF primary commodity prices.

Chart 4
Budget deficit/Surplus to GDP
1983-2009



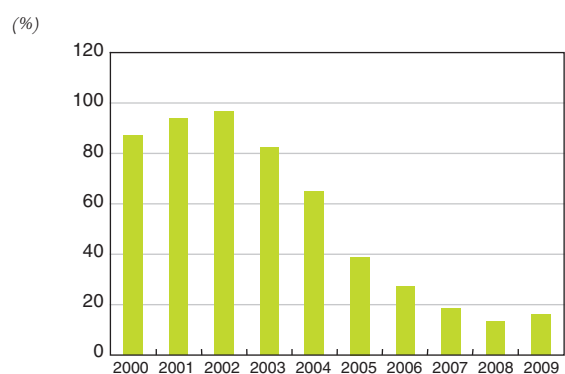
Source: Ministry of Finance.

economy. Unlike the surpluses of exporters of manufactured goods, they are not structural. Domestically, the extremely large swings from external surplus to deficit and back again are reflected in the domestic fiscal balance due to the dominant role which oil revenues play in public finances.

The fluctuations which the Saudi economy has experienced in the last thirty years, partly as a consequence of its moderating role in the oil market, are unwelcome and destabilising. After the surpluses of the 1970s, Saudi Arabia remained a deficit country from 1983 to 2002 (with the exception of 2000). Since 2003, there has been a budget surplus (exception being 2009) as shown in Chart 4.

Saudi Arabia has accomplished a large reduction in the ratio of domestic debt to GDP (see Chart 5).

Chart 5
Government debt/GDP



Source: Central Department of Statistics and Information, Ministry of Economy and Planning.

In short, Saudi Arabia's fiscal policy faces a challenging balancing act: meet the increasing demands on the budget as a result of demographic pressures while saving enough of the oil wealth to be able to pursue a countercyclical stance and preserve intergenerational equity. This prudent fiscal policy has served Saudi Arabia well. In particular, it has enabled Saudi Arabia to limit the impact of the global financial crisis on its economy and support the ongoing economic recovery while preserving long-term fiscal sustainability.

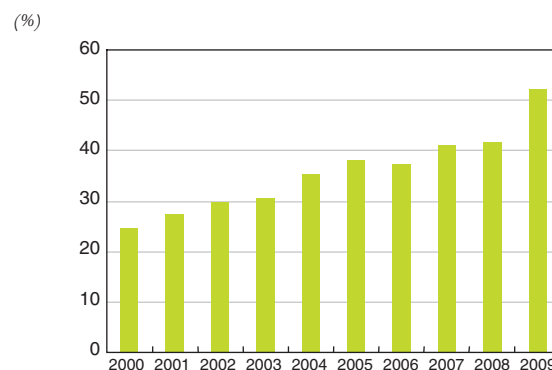
MONETARY POLICY

The policy anchor is the fixed exchange rate regime (the Riyal peg has not moved since 1986), which gives certainty to investors in an area where capital flows are predominantly in dollars and allows interest rates to track US rates with a small premium. In addition, confidence in the peg allows domestic banks cost effective access to external borrowing (i.e. lower risk premium) and adds certainty to terms of debt repayments. Trade and financial transaction costs are minimised. Oil and gas are priced and paid for in dollars and the bulk of imports are priced in dollars. Reserve management flexibility is not affected provided the 'cushion' of FX reserves accumulated during good times is maintained at an acceptable level when external deficits occur.

It is often argued that a flexible exchange rate would help address the surpluses of oil exporters. In the case of Saudi Arabia, the theoretical advantage of a flexible exchange rate does not accrue because of the composition of the export and import sectors. This can be understood by taking the example of a falling currency, which should in theory stimulate exports and growth. Exports of Saudi oil are, however, priced in the world market in dollars. Devaluing the Riyal will not stimulate exports of oil, and other export areas are very small. Oil revenues would be higher in local currency terms. But this advantage would be largely offset by the higher cost of imports and the result would be a higher price level with little gain to growth or employment. Similarly, gains from revaluation are doubtful.

A recent example of policy debate was in 2006-07 over whether Gulf Cooperation Council (GCC) members should adjust the dollar peg upwards (at a time when the dollar was soft) or adopt a basket approach at a time of imported inflation. In May 2007, Kuwait moved from a dollar standard to a basket which was

Chart 6
Bank credit/GDP



Source: SAMA.

reportedly heavily dollar-weighted. At that time, Saudi growth was still rapid against a background of strong oil demand. But revaluation was rejected because it would not have slowed down the export sector nor affected growth, which was driven by oil revenues. Imports would have become cheaper but the resultant wealth effect for consumers might well have aggravated inflation by increasing domestic demand. Some commentators argued that high real interest rates would have curbed inflation but this argument does not hold in Saudi Arabia where consumers are not heavily borrowed and the ratio of bank credit to GDP is modest (see Chart 6).

Furthermore, the bulk of the inflation hike was linked to food price and rental rate hikes (supply shocks). The most powerful tool was to run large budget surpluses to dampen demand.

PRUDENTIAL BANK REGULATION

Despite criticism of its conservatism, SAMA continues to encourage banks to maintain a capital cushion far in excess of the required minimum capital adequacy, a conservative liquidity ratio in the form of liquid assets at no less than 20% of bank deposits, loan/deposit ratio ceiling guideline at 85% and dynamic provisioning so that the system stays resilient in any crisis.

This approach helped cushion the impact of the global crisis on Saudi Arabia, but Saudi banks suffered from the abrupt withdrawal of funds from the region by the global banks, and were affected by the rise in credit spreads. Saudi Arabia has no bank that is 'too big to fail' and SAMA intends to fully apply the counter-cyclical buffer to the banks. Saudi banks are not likely to be

impacted by the new Basel III rules, given the fact that their capital is predominantly in the form of common equity and retained earnings, and is far above the minimum required under Basel III. Furthermore, new liquidity and stable funding requirements under Basel III are unlikely to have any meaningful impact on Saudi banks' liquidity ratios as their balance sheets are relatively liquid reflecting the diversified asset composition of short-term instruments, loans and marketable securities.

In April 2010, Standard and Poor's characterised Saudi banks' capital (ranging from adequate to solid) as a supportive rating factor, as "these banks carry sizable capital cushion to absorb unexpected losses," and it has been upgrading Saudi banks this year. This is a tribute to the fact that financial stability through the health of the banking system has always been the authorities' focus of attention.

LONG-TERM INVESTMENT PROGRAMME

It is difficult to understand why oil exporters should be seen as part of the problem of global imbalances when the oil price is not in their control. The ratio of current account balance to GDP shows the volatility in this data (see Chart 7).

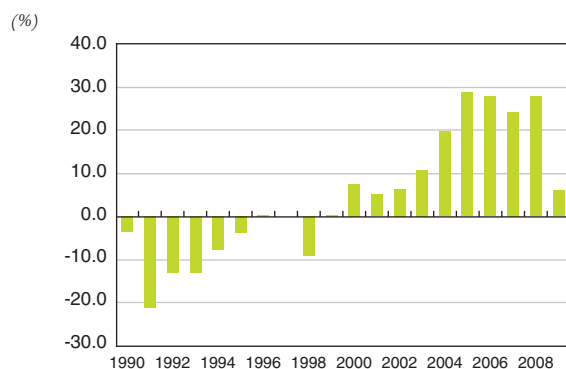
The focus should be on the prudent use of surpluses to put resource-based economies on a sustained path of growth. In Saudi Arabia, there is an ambitious structural reform agenda to improve growth led by the private sector, achieve economic diversification and strengthen public finances. Increased spending on infrastructure, and in particular on health and

education, has led to a considerable boost to domestic demand and to growth. In addition, public finances have been strengthened and there is ongoing progress in structural reform.

The main thrust of Saudi Arabia's reforms in the last few years has been to develop the production base of the economy by creating an atmosphere conducive to both domestic and foreign investment. Laws relating to investment have been updated, and necessary institutional reforms carried out. Administrative and legal procedures have been strengthened. One result has been a significant rise in FDI. FDI inflows accounted for 43% of capital formation in 2009, and the stock of FDI is equivalent to 40% of GDP. Saudi Arabia now ranks 17th out of 141 countries in terms of inward FDI performance according to UNCTAD data (see Table 3).

Capital spending is focused on modernising and expanding the infrastructure of the economy, and raising the production capacity for oil. Production capacity of crude oil has been raised to 12.5 million barrels per day. Refining capacity expanded by about 30% between 2005 and 2009. Other mega projects are under way in physical infrastructure (such as a railways network), petrochemicals, electricity, gas and water, telecommunications and IT, tourism, agriculture, education and training. In the 2005-2009 five year plan, these projects cost over USD 200 billion, an increase of 60% on spending under the previous plan. However, there are undoubtedly limits to the pace at which Saudi Arabia can prudently increase its spending. The experience of the oil boom of the 1970s was that

Chart 7
Current account/GDP



Source: SAMA.

Table 3
Saudi Arabia: inward foreign direct investment (FDI)

	Annual average 1995-2005	2006	2007	2008	2009
FDI (USD billion)	1.5	17.1	22.8	38.1	35.5
As % of gross fixed capital formation	4.4	na	29.9	46.0	43.5
FDI stock as % of GDP	12.0	na	19.2	23.9	40.5
Country ranking by inward FDI performance index (of 141 countries)	—	—	55	33	17

Source: UNCTAD, *World Investment Report 2010*.

bottlenecks emerged in the physical economy when spending was increased too rapidly (absorptive capacity constraints). Furthermore, there must be hurdle rates for the productive return from any project, and the economy will not benefit from projects which fail to achieve these rates of return.

In summary, Saudi Arabia has contributed to the health of the global economy during the crisis in three ways:

- meeting additional demand for oil, mainly from EMs, so reinforcing the global recovery;

- contributing to activity overseas by importing infrastructure-related capital goods;

- supporting many developing economies through workers' remittances (which rose from USD 15.7 billion in 2007 to USD 25.2 billion in 2009).

These remittances are the second largest source of global remittances (after the United States) and are powerful tools in lifting families out of poverty. The remittance/GDP ratio is about 6.8% in Saudi Arabia.

All the economies involved in the pattern of structural global imbalances must work together to resolve the problems in a medium term framework. Surplus and deficit countries must cooperate to make sure the world economy does not fall into another serious recession through lack of demand in deficit countries, and to avoid the inflation that would result if surplus countries expanded demand without action elsewhere. Structural improvements to improve the trend growth rate are needed in the United States, the euro area and Japan.

There is a need to address the pressure points in current arrangements, which are preventing effective international action to deal with the biggest financial institutions. There is a worry that complacency may set in about the need for positive bank regulation, control of leverage, misuse of credit ratings and the unrestrained spread of complex products. There has to be a full recognition of the right of emerging economies to occupy their legitimate position and say in the world economy and international financial institutions. Reserve currencies should evolve in a competitive manner reflecting their economies and the state of financial markets. The move from G7 to G20 in global financial governance is a good start but we must intensify efforts towards achieving a consensus on ways of establishing a durable financial order.

The importance of financial stability cannot be overemphasised. Central banks are faced with a serious challenge of managing both price and financial stability. Monetary policy, which has its own limitations, has been given too much credit for the "golden age" of rapid growth and low inflation. Monetary policy cannot be used to change the growth rate of the economy in the medium term, but it can help create a more stable supply of credit and bank lending, and so reduce volatility in the growth path of the economy. This is a shift from targeting (which was not suitable for EMs anyway) to a more pragmatic and nuanced approach to monetary policy. In fact, financial stability is needed for growth, which in turn sustains macroeconomic stability. In today's globally integrated markets, it is more important than ever for central banks and other financial authorities to share information, minimise regulatory arbitrage and take a common interest in crisis management actions.

FX reserve accumulation in emerging economies is a buffer against shocks and volatility, but the surpluses of oil exporters are different in kind from the structural surpluses that have accumulated in other economies. Saudi Arabia has few comparative advantages outside the hydrocarbons area and must always consider the trade off between keeping oil in the ground and using oil revenues productively. Saudi Arabia's large surpluses partly result from its role in stabilising the oil market and restraining further oil price rises that might derail global growth. The swings in the domestic economy that have resulted from this role are in many respects unwelcome, but the scope for a different policy is limited. Any change in currency regime would make matters more difficult by increasing economic volatility without stimulating exports, and there are limits to the extent to which Saudi Arabia can accelerate its economic development programme. As financial stability is key to effective monetary policy transmission, SAMA takes a proactive approach in supervising Saudi banks through rule-based as well as macroprudential approaches.

International capital flows and the returns to safe assets in the United States 2003-2007

BEN S. BERNANKE

Chairman

Federal Reserve System

A broad array of domestic institutional factors—including problems with the originate-to-distribute model for mortgage loans, deteriorating lending standards, deficiencies in risk management, conflicting incentives for the government-sponsored enterprises (GSEs), and shortcomings of supervision and regulation—were the primary sources of the US housing boom and bust and the associated financial crisis. In addition, the extended rise in US house prices was likely also supported by long-term interest rates (including mortgage rates) that were surprisingly low, given the level of short-term rates and other macro fundamentals—a development that Greenspan (2005) dubbed a “conundrum.” The “global saving glut” (GSG) hypothesis (Bernanke, 2005 and 2007) argues that increased capital inflows to the United States from countries in which desired saving greatly exceeded desired investment—including Asian emerging markets and commodity exporters—were an important reason that US longer-term interest rates during this period were lower than expected.

This essay investigates further the effects of capital inflows to the United States on US longer-term interest rates; however, we look beyond the overall size of the inflows emphasised by the GSG hypothesis to examine the implications for US yields of the portfolio preferences of foreign creditors. We present evidence that, in the spirit of Caballero and Krishnamurthy (2009), foreign investors during this period tended to prefer US assets perceived to be safe. In particular, foreign investors—especially the GSG countries—acquired a substantial share of the new issues of US Treasuries, Agency debt, and Agency-sponsored mortgage-backed securities. The downward pressure on yields exerted by inflows from the GSG countries was reinforced by the portfolio preferences of other foreign investors. We focus particularly on the case of Europe: although Europe did not run a large current account surplus as did the GSG countries, we show that it leveraged up its international balance sheet, issuing external liabilities to finance substantial purchases of apparently safe US “private label” mortgage-backed securities and other fixed-income products. The strong demand for apparently safe assets by both domestic and foreign investors not only served to reduce yields on these assets but also provided additional incentives for the US financial services industry to develop structured investment products that “transformed” risky loans into highly-rated securities.

Our findings do not challenge the view that domestic factors, including those listed above, were the primary sources of the housing boom and bust in the United States. However, examining how changes in the pattern of international capital flows affected yields on US assets helps provide a deeper understanding of the origins and dynamics of the crisis.

NB: Carol Bertaut, Section Chief, Laurie Pounder DeMarco, Economist, and Steven Kamin, Deputy Director, Division of International Finance, Board of Governors of the Federal Reserve System, co-authored this paper with Chairman Bernanke.

The views in this paper are solely the responsibility of the authors and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of any other person associated with the Federal Reserve System. We would like to thank Andreas Lehnert, Geng Li, Karen Pence, and Shane Sherlund for their help putting together the data for this project, as well as many colleagues at the Board for helpful comments. James Coonan provided superb research assistance.

The US housing boom and the bust that followed resulted from the interaction of a wide range of factors, including problems with the originate-to-distribute model for mortgage loans, a deterioration in loan underwriting standards, deficiencies of risk management among financial institutions, contradictions in the incentive structures of the government-sponsored enterprises (GSEs), and problems in the scope and implementation of financial supervision and regulation (Dokko *et al.*, 2009; Bernanke, 2010). In addition to these domestic institutional factors, international capital flows likely played a significant role in helping to finance the housing bubble and thus set the stage for its subsequent bust. Bernanke (2005, 2007) argued that an increase in notional saving relative to investment in many emerging market countries had given rise to a “global saving glut” (GSG), with capital flows to the United States helping hold down US longer-term interest rates earlier in the decade. Lower long-term interest rates, including mortgage rates, in turn contributed to the extended rise in house prices.

In this essay, we build on the GSG hypothesis to flesh out a more complete story of how international capital flows affected the pattern of longer-term yields in the United States. First, whereas the GSG hypothesis is based on a simple framework in which global saving and investment decisions determined the return on a single asset, we now consider how demands for a range of assets interacted with supplies of those assets to help produce declines in certain key interest rates. More specifically, in the spirit of Caballero and Krishnamurthy (2009), we analyse the channels through which the demand for apparently safe assets by foreigners contributed to their substantial acquisitions not only of US Treasury securities (Treasury) and Agency debt (Agencies), but also of highly rated, privately issued mortgage-backed securities (MBS) and other structured investment products backed by US residential mortgages.¹ Second, whereas the GSG hypothesis focused mainly on capital flows into the United States from emerging market economies running current account surpluses –primarily developing Asian economies and oil exporters– this essay shows how capital inflows from other advanced economies also helped to suppress yields on apparently safe assets, including

mortgages. Finally, we discuss how the demand for apparently safe assets influenced their supply, as the US financial services industry developed a multitude of structured investment products that transformed risky loans into highly rated securities.

All told, our framework expands the simple GSG hypothesis to better explain the role international capital flows played in reducing yields on mortgages and other apparently safe assets. The analysis focuses on the period from 2003 to 2007, which encompasses the years when capital inflows into the United States were strongest, Treasury yields were most depressed, and the US housing boom was at its peak. First, we verify that the “GSG countries” –that is, emerging Asia and Middle Eastern exporters– did indeed evince a strong preference for the safest US assets.² On the margin, this preference most likely helped push down yields on MBS relative to other assets, as most MBS were either guaranteed by the Agencies or sold as tranches carrying AAA credit ratings.

Second, the downward pressure on yields exerted by inflows from the GSG countries was reinforced by the portfolio preferences of other foreign investors. We focus particularly on the case of Europe. Europe did not run a current account surplus as did the GSG countries, and thus was not a net exporter of saving to the rest of the world. But Europe leveraged up its international balance sheet significantly, issuing, among other instruments, considerable sovereign debt and bank debt, and using the proceeds to buy substantial amounts of highly rated US MBS and other fixed-income products. In fact, the strong preference of the GSG countries for Treasuries and Agencies appears to have pushed Europeans and other advanced-economy investors, including US investors, into apparently safe “private label” MBS.

Finally, the demand for safe assets by investors, both domestic and foreign, appears to have engendered a strong supply response from US financial firms. In particular, even though a large share of new US mortgages during this period were of lower credit quality, such as subprime loans, Agency guarantees and financial engineering in the private financial services industry resulted in the overwhelming share of mortgage-related securities being rated AAA.

¹ “Agency” refers to the GSEs, most notably Fannie Mae and Freddie Mac, designed to promote homeownership by supporting the secondary market for residential mortgages. These enterprises both guaranteed MBS and purchased them for their own portfolios. Here and throughout this paper, Agency debt refers to both unsecured debt and Agency-guaranteed MBS.

² In the calculations described later, the GSG countries are taken to include all countries of Asia and the Middle East excluding Japan. This group, although not exhaustive, accounts for the lion’s share of investment in the United States by emerging market economies.

Of course, following the onset of the housing bust and financial crisis, the underlying weakness of these securities became evident.

To be clear, in no way do our findings assign the ultimate causality for the housing boom and bust to factors outside the United States. Domestic factors, including those listed in the first paragraph of this paper, were the primary sources of the boom and bust and the associated financial crisis. However, an examination of how changes in the pattern of international capital flows affected yields on US assets is important for understanding the origins and dynamics of the crisis.

1| THE GLOBAL SAVING GLUT AND RETURNS TO TREASURY AND AGENCY SECURITIES, 2003-2007

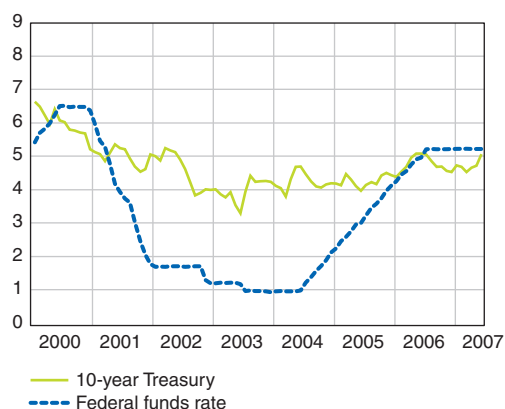
Our research is motivated by two puzzles in the evolution of interest rates during the period leading up to the financial crisis. The first of these puzzles is the very low level of long-term Treasury security yields, which remained relatively contained even as the federal funds rate was raised from 1 percent to an eventual level of 5¼ percent (See Chart 1). Greenspan (2005) famously referred to this development as a “conundrum” and various studies showed that bond yields, both in the United States

and abroad, fell below levels that were consistent with standard macro fundamentals such as inflation, growth in gross domestic product, and fiscal balances (Rudebusch, Swanson, and Wu, 2006; Gruber and Kamin, 2009). The second, related puzzle is the sustained low level of mortgage interest rates, also shown in Chart 1. While part of the weakness in these rates obviously is due to the low Treasury yields, the spread of mortgage rates over Treasury yields also edged down over the period, notwithstanding a sharp step-up in the pace of mortgage issuance; the outstanding stock of MBS and unsecuritised mortgages rose from USD 6.4 trillion at the end of 2002 to USD 11.1 trillion in 2007.

Of these two puzzles, the first has probably received the most attention. There are a number of explanations for the weakness in Treasury yields during this period, including declines in risk premiums (perhaps, at least initially, associated with the “great moderation”) and enhanced demands for long-term assets by pension funds and other institutional investors. In addition, observers have come to attribute at least part of the weakness of long-term bond yields to heavy purchases of securities by emerging market economies running current account surpluses, particularly emerging Asia and the oil exporters. Bernanke (2005, 2007) argued that in these countries, investment rates had fallen short of desired saving, creating a global saving glut that resulted in net capital outflows to the rest of the world and, as a consequence, declines in long-term interest rates. In fact, empirical research for the most

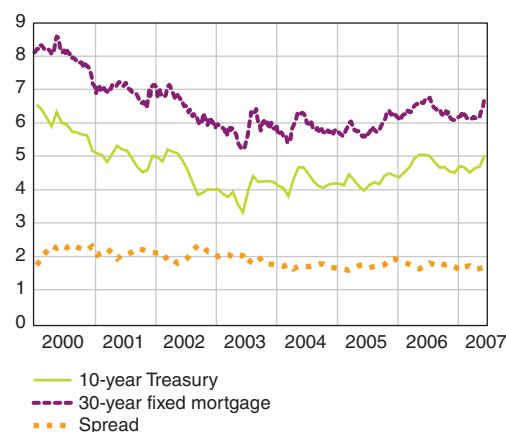
Chart 1
Federal funds rate
and 10-year US Treasury rates

(%)



10-year US Treasury and 30-year US fixed mortgage rates, and spread

(%)



Sources: For 10-year Treasury and federal funds, Federal Reserve Board, Statistical Release H.15; for 30-year fixed mortgage, Freddie Mac.

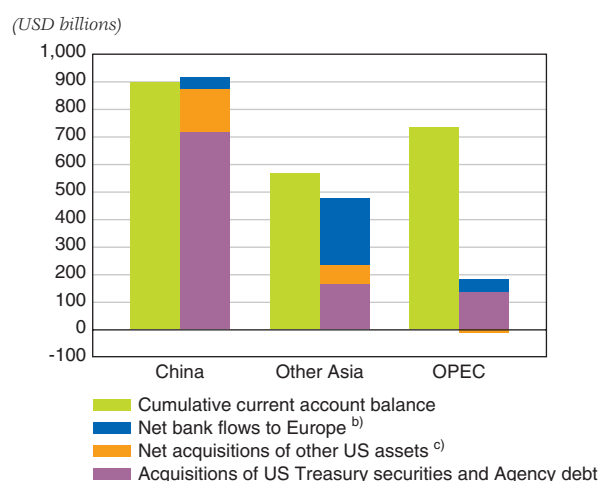
part confirms that such acquisitions had a statistically significant downward effect on bond yields.³

What factors led to the excess saving (or dearth of investment) and the resulting current account surpluses of the GSG countries? Certainly, some of these surpluses were due to the 1997-1998 Asian financial crisis, which substantially reduced investment in emerging Asia, as well as to the run-up in oil and commodity prices in the following decade, which provided commodity exporters with more revenues than they could spend productively at home in the near term. High saving rates in rapidly growing emerging-market economies also contributed to the surpluses. Although this analysis helps explain the sources of the GSG, it has the shortcoming of treating all forms of saving and the resulting capital flows as homogeneous. By contrast, an interesting recent body of literature has focused on the portfolio preferences embodied in capital flows to advanced economies. Specifically, it proposes that these emerging market economies sought safe, high-quality financial assets that their own governments and financial systems could not provide but were being produced in the advanced economies.⁴ Accordingly, the emerging market economies were willing to run current account surpluses in order to finance the acquisition of these safe assets (Caballero, Farhi, and Gourinchas, 2008; Mendoza, Quadrini, and Rios-Rull, 2007). Moreover, the notable depth, breadth, and apparent safety of US financial markets led the emerging market economies to direct most of their capital outflows to the United States (Blanchard, Giavazzi, and Sa, 2005; Clarida, 2005; Cooper, 2005; Hubbard, 2005). If confirmed, this hypothesis about the foreign demand for safe assets could explain the strength of the capital flows from emerging market economies to advanced economies with deep capital markets, such as the United States. It could also explain why yields on the safest US assets, Treasuries and Agencies, were so low.

So, did the emerging market economies running current account surpluses generally acquire safe, liquid assets, primarily in the United States? The answer appears to

be yes.⁵ Chart 2 compares the current account balances of three major categories of GSG economies –China, other emerging Asian economies, and the Organisation of the Petroleum Exporting Countries (OPEC)– with such measures as are available of their overseas asset purchases.⁶ On net, China's current account surpluses were used almost wholly to acquire assets in the United States, more than 80 percent of which consisted of very safe Treasuries and Agencies. The other emerging Asian economies used their current account surpluses to purchase roughly equal amounts of safe US assets and European bank deposits. Data on the allocation of OPEC assets, unfortunately, is incomplete, but it is likely that a good portion of their investments abroad went into purchases of US and European assets that are held by third-party custodians.

Chart 2
Current account surpluses and certain financial acquisitions of GSG regions, 2003-2007 ^{a)}



a) Acquisitions of European and other non-US securities by emerging Asia and OPEC are unavailable.

b) Bank flows to Europe calculated from BIS data.

c) Other US assets comprises corporate securities, bank assets, and other miscellaneous assets included in the Financial Accounts.

Sources: For current account balance, Haver Analytics and BEA; for balance of payments accounts, staff estimates based on Treasury International Capital system and Bank for International Settlements banking data.

³ Bernanke, Reinhart, and Sack (2004) find that Treasury yields declined significantly during intervals around Japanese interventions to purchase dollars in the 2000-2004 period. Warnock and Warnock (2009) estimate regressions of US 10-year bond yields on standard macroeconomic variables as well as foreign official purchases of US Treasury and Agency bonds; they find that foreign purchases significantly lowered US Treasury yields, including by some 90 basis points in 2005. Conversely, Rudebusch, Swanson, and Wu (2006) estimate term structure models of Treasury yields and find that foreign official holdings have no explanatory power. Beltran, Kretschmer, Marquez, and Thomas (2010) find that these models are sensitive to changes in variable definitions and econometric specification, but conclude that, overall, foreign official inflows likely pushed down Treasury yields.

⁴ The demand for these safe assets may have included the demand for international reserves by emerging market economy governments. Most of the acquisitions of US assets by GSG countries were in the form of official inflows.

⁵ See also Brender and Pisani, (2010).

⁶ Comprehensive data on overseas asset purchases by these countries are not available. Therefore, we have attempted to capture these purchases by combining data on GSG-country acquisitions of US assets, based on US balance-of-payments, Treasury International Capital (TIC), and Bank for International Settlements (BIS) banking data, with GSG net bank flows to Europe, based on BIS banking data. Unfortunately, data on foreign purchases of non-US securities, which likely represent the largest gap in our coverage, are not available for most GSG countries.

Chart 3
US securities outstanding

(%)



Note: In all charts, RMBS refers to residential mortgage-backed securities, CMBS refers to commercial mortgage-backed securities, and ABS refers to all other asset-backed securities.

Source: Staff estimates based on Flow of Funds and Treasury International Capital system data.

Chart 3 examines the portfolio preferences of the GSG countries from a different angle, comparing the mix of these countries' holdings of US securities in 2007 to

the mix of US securities outstanding at that time, and produces a reinforcing result. More than three-fourths of the GSG countries' US security holdings consisted

of AAA-rated debt, mainly Treasuries and Agencies, whereas these categories account for only 36 percent of total US securities outstanding.

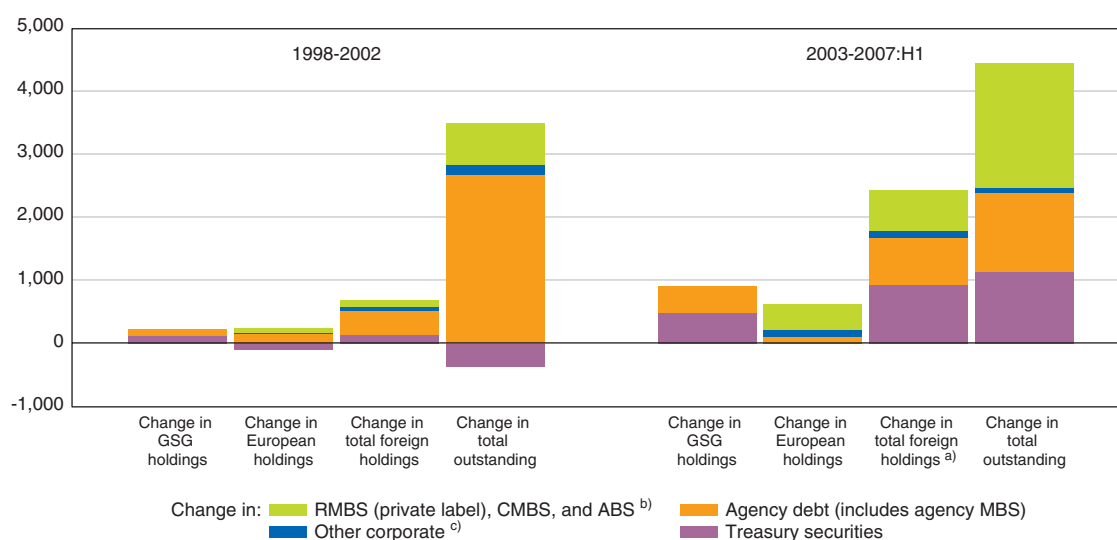
Moving from the one-asset framework underlying the original GSG hypothesis to a multi-asset framework that allows for assets of different degrees of riskiness, the story of how capital inflows from the GSG countries ultimately helped to depress interest rates on US assets perceived to be safe, including mortgages, becomes only a bit more complicated. GSG acquisitions of US Treasuries and Agencies took these assets off the market, creating a notional scarcity that boosted their price and reduced their yield. Because GSG investments were for purposes of reserve accumulation and guided by considerations of safety and liquidity, those countries continued to concentrate their holdings in Treasuries and Agencies even as the yields on those securities declined. However, other investors were now induced to demand more of assets considered substitutable with Treasuries and Agencies, putting downward pressure on interest rates

on these private assets as well. Thus, the interest rates on conforming mortgages shown in Chart 1 declined from their levels at the start of the decade.⁷

For capital inflows from the GSG countries to have put downward pressure not only on Treasury and Agency yields, but also on returns on other safe assets such as highly rated private label MBS, several conditions would have had to be met. First, GSG inflows would have needed to be focused on the safest US assets. Second, these inflows would have had to have been sizable relative to the total net issuance of apparently safe assets in the United States. Chart 4 presents mixed evidence on this point. It compares gross capital inflows into apparently “safe” US securities – Treasuries, Agencies, and AAA-rated private debt – from a number of regions with the increase in the total outstanding stock of safe US securities. On the one hand, acquisitions of safe assets by the GSG countries stepped up sharply from the 1998-2002 period to the 2003-2007 period, both in dollar terms and as a fraction of total net issuance. On the other hand, during the later period, inflows

Chart 4
Inflows to US AAA-rated securities

(USD billions)



a) Of the US AAA inflows not accounted for by GSG countries and Europe, Japan purchased about USD 240 billion of Treasuries and USD 130 billion of Agencies, and Caribbean offshore centers purchased about USD 55 billion of Agencies and about USD 160 billion of AAA RMBS, CMBS, and ABS.

b) We estimated the change in foreign holdings (both total foreign holdings and Europe's holdings) of AAA RMBS, CMBS, and ABS by multiplying the change in foreign holdings of all asset-backed securities by the share of such securities outstanding that are estimated to be rated AAA during the relevant period.

c) We estimated the change in foreign holdings (both total foreign holdings and Europe's holdings) of other AAA corporate debt securities by multiplying the change in foreign holdings of all securities by a weighted share of such securities outstanding that were rated AAA during the relevant period. For both periods, the weighted share averages the shares of financial and non-financial debt securities that were rated AAA. For 1998 to 2002, the weights are determined by the growth in financial debt securities outstanding relative to non-financial debt securities. For 2003 to 2007, when more detailed data on foreign holdings are available, the weights are determined by the growth in foreign holdings of financial debt securities relative to non-financial debt securities.

Source: Staff estimates based on Flow of Funds, Treasury International Capital system and Dealogic data.

⁷ See also the discussions of the effects of capital inflows, especially from the GSG countries, on the US financial market in Caballero and Krishnamurthy (2009); Jagannathan, Kapoor, and Schamurg (2009); Brender and Pisani (2010); Bertaut, DeMarco, Kamin, and Tryon (2010); and Linde, Martin and Vigfusson (2010).

from the GSG countries alone accounted for less than one-fourth of the total increase in the stock of safe US securities. Therefore, one may question whether the effect of GSG inflows on the yields of safe US assets outside the circle of Treasuries and Agencies, such as private label MBS, was all that sizable.

Whereas GSG inflows may not have risen sufficiently to exert a strong downward effect on safe asset yields in the private sector, inflows from all foreign sources may have been large enough to play this role. Chart 4 shows that such inflows rose sharply in the 2003-2007 period, accounting for more than one-half of the net issuance of highly rated US assets. To explain the behaviour of safe asset yields in this period, it may therefore be useful to expand the analysis to include investments by other foreigners besides the GSG countries, which we will do in the next section.

2| THE DEMAND FOR SAFE US ASSETS BY THE ADVANCED FOREIGN ECONOMIES

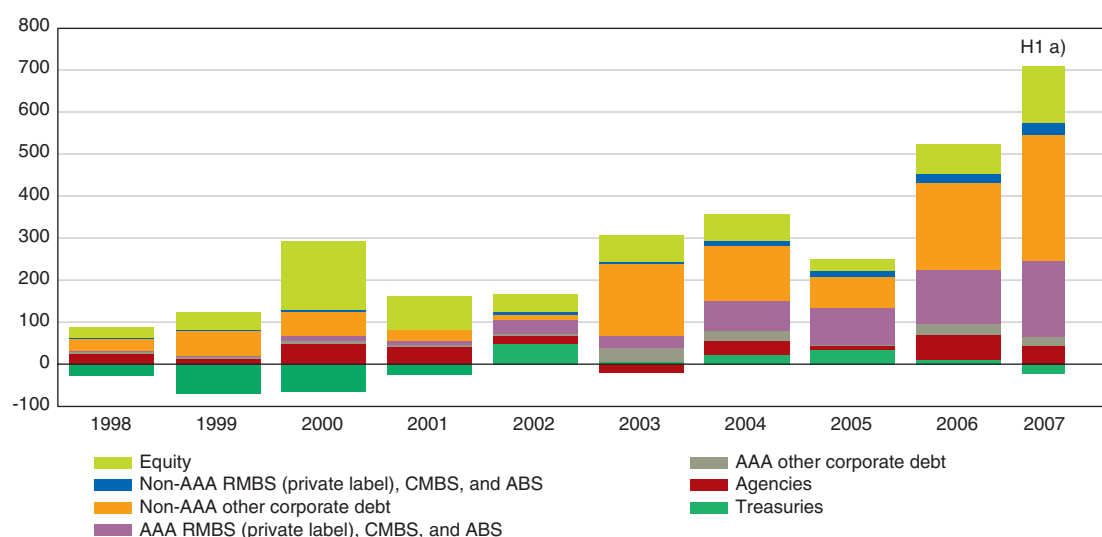
As indicated above, a large share of the highly rated securities issued by US residents from 2003 to 2007 was sold to foreigners –55 percent. This share

was even higher than in the 1998-2002 period –22 percent– even though total net issuance of apparently safe assets rose from USD 3.1 trillion in the first period to USD 4.5 trillion in the second (the net issuance of private label AAA-rated asset-backed securities outstanding, including MBS, rose from USD 0.7 trillion in the first period to USD 2 trillion in the second). That both the level of mortgage interest rates and their spread over Treasury yields could decline during the recent decade, notwithstanding substantial issuance of mortgages, would seem attributable, in part, to the strong demand for safe assets by foreigners.

Among the advanced economies, the most prominent source of gross capital flows into AAA-rated US securities from 2003 to 2007 was Europe.⁸ As indicated in Chart 4, these acquisitions stepped up markedly from the 1998-2002 period and were nearly as large as those of the GSG countries. Moreover, Chart 4 likely understates Europe's purchases of apparently safe US assets, because it depicts purchases of only the safest (AAA-rated) assets. Unlike the GSG countries, whose net purchases of US assets during the period consisted almost exclusively of Treasuries and Agencies, Europeans bought a much wider range of assets, shown in Chart 5.

Chart 5
European inflows to US securities, by type

(USD billions)



a) Annual rate.

Note: The split of European inflows to corporate debt into non-AAA asset-backed securities, non-AAA other, AAA asset-backed securities, and AAA other is estimated. For a description of the estimation process, see the footnotes to Chart 4.

Source: Staff estimates based on Treasury International Capital system data.

⁸ In the statistics presented in this paper, Europe is represented as the euro area plus the United Kingdom, with financial claims between them netted out.

In addition to AAA-rated securities, Europeans purchased substantial amounts of non-AAA-rated securities, particularly corporate bonds –many of these, while not receiving the highest rating, were nonetheless investment grade. Accordingly, taking into account both European purchases of AAA-rated securities and those that were just a little less highly rated, net European acquisitions of apparently safe US assets (more broadly construed) almost certainly exceeded those of the GSG countries.

Although Europe's demands for apparently safe US assets thus substantially reinforced those of the GSG countries, there were some important differences between these two groups of investors. First, as noted earlier, European asset preferences were considerably broader than those of the GSG countries. Returning to Chart 3, it is clear that European investors held a much smaller share of their portfolio of US assets in Treasuries and Agencies than did the GSG countries, while holding a much larger share in AAA-rated asset-backed securities (including private label MBS), as noted previously, as well as in equities and lower-rated debt. In fact, by our estimates, the share of the most highly rated securities in Europeans' US portfolios was about the same as in the total amount of US securities outstanding.⁹ As regards the riskier assets, Europeans held a smaller share of equities, but appear to have held a somewhat larger share of lower-rated instruments, including both corporate debt and asset-backed securities, than the market capitalisation benchmarks.

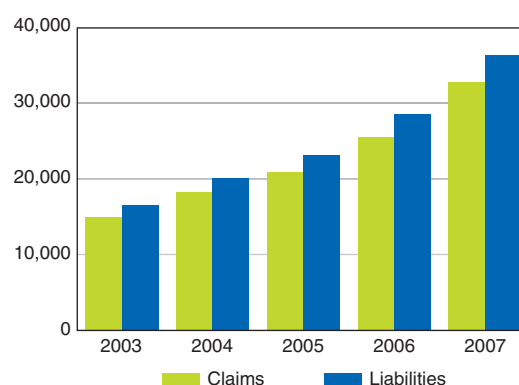
Accordingly, European investments in the United States seem unlikely to have been motivated exclusively by the same objective –the acquisition of very safe, liquid financial assets– as the investments of the GSG countries. Rather, European investors appear to have targeted a portfolio that was riskier than that held by the GSG countries and, indeed, broadly similar to the mix of US securities outstanding. As to what accounted for the substantial increase in European holdings of US assets –including MBS– during the 2003-2007 period, a number of explanations seem plausible. First, as in the United States, reductions in longer-term interest rates in Europe undoubtedly generated interest in assets such as US MBS that offered slightly higher returns while still being highly rated. Second, Europe

started this period with a relatively pronounced degree of “home bias” in its investments, and generalised declines in home bias around the world as financial globalisation progressed likely also motivated acquisitions of US assets (Bertaut, 2008). Third, much of the investment in US MBS around the world came from the expanding off-balance-sheet vehicles of large global banks, and many of those banks were located in Europe (Arteta, Carey, Correa, and Kotter, 2009). A final possibility, advanced by Acharya and Schnabl (2010) among others, is that the regulatory capital charges levied on banks that set up off-balance-sheet conduits to invest in US MBS were inadequate, which also served to encourage investments in these assets.

A second difference between the GSG and European investors is that, whereas the GSG countries were running current account surpluses and investing their accumulated wealth in US securities, Europe was running roughly balanced current accounts and was financing its acquisition of US securities through external borrowing. Chart 6 shows the growth in Europe's gross international claims and liabilities over the period 2003-2007. The fact that Europe was issuing external liabilities and acquiring external assets in roughly equal quantities does not mean, however, that the net effect of these transactions on global financial markets was a “wash”.

Chart 6
Europe's international gross claims and liabilities:
2003 to 2007

(USD billions)



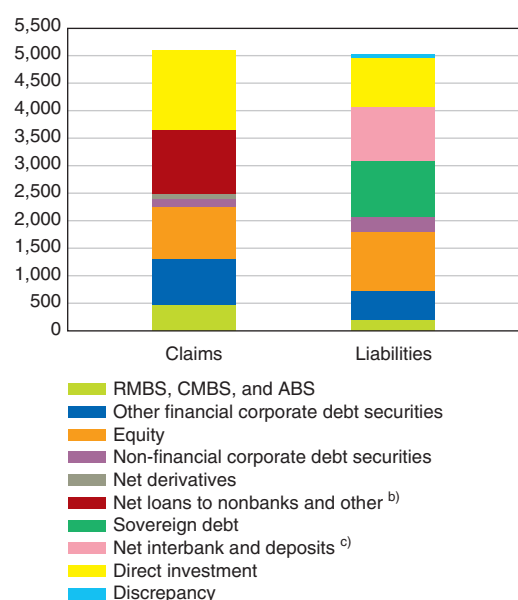
Sources: Bank of England and the European Central Bank via Haver Analytics.

⁹ The composition of foreigners' holdings of US assets shown in Chart 3 is based on the TIC data. These data specify the types of instruments held –e.g., Treasuries, Agencies, corporate debt, MBS, equities– but not their credit ratings. The breakdown of corporate debt and MBS into AAA and non-AAA shares is based on the rating shares for the total amounts outstanding of these securities. Because nearly all US MBS was rated AAA (see Section 3 below), our estimate of the AAA share of European-held MBS is likely to be approximately correct. For European holdings of corporate debt, the breakdown by credit rating is more uncertain.

Chart 7 depicts the evolution of Europe's international balance sheet from 2003 to 2007, showing how its acquisition of external claims was financed by issuance of external liabilities. The composition of these flows of claims and liabilities was broadly similar, but the rise in claims included significant amounts of asset-backed securities and other complex financial instruments, whereas the rise in liabilities was tilted toward traditional securities and bank deposits.

Chart 7
Cumulated European cross-border financial flows ^{a)}
January 2003 to June 2007

(USD billions)



a) Flows of euro area and the United Kingdom with the rest of the world, net of intra-Europe flows.

b) Components of 'Other Investment' in the euro area and United Kingdom Financial Accounts that are not identified as interbank or deposits from nonbank residents, primarily loans to nonbank firms and transactions of brokers.

c) Estimates of interbank flows and deposits from nonbank residents are based on the banking component of 'Other Investment' in the euro area and United Kingdom Financial Accounts, and Bank for International Settlements data.

Source: Federal Reserve Board staff estimates.

Specifically, and focusing first on securities, Chart 7 shows that much of Europe's issuance of externally held securities was in the form of equity and sovereign debt, whereas much of its acquisition of external securities was in the form of asset-backed securities and other debt securities issued by foreign financial corporations, most of which ultimately were issued in the United States.¹⁰ Turning to transactions among banks and other primarily financial institutions, Europe was a net lender abroad to nonbank corporations ("net loans to nonbanks and other"), but was a net recipient of international interbank flows and other deposits from abroad ("net interbank and deposits") during this period.¹¹ As became apparent after the financial crisis broke, many European financial institutions were funding their purchases of US assets with short-term dollar-denominated liabilities like commercial paper or bank deposits, much of which attracted US investors (McGuire and von Peter, 2009, Acharya and Schnabl, 2010).¹²

Thus, even though Europe was not running current account surpluses, its financial firms and investors engaged in a process of intermediation which augmented the supply of financing for MBS and related instruments, especially in the United States. As Acharya and Schnabl (2010) point out, investment inflows from current account deficit countries as well as surplus countries were both quite significant for US financial markets.

The table below fleshes out the interplay between changes in the supply and demand for various US securities during the period of the housing boom. Between year-end 2003 and year-end 2007, the value of total US securities outstanding rose about USD 10 trillion, of which roughly USD 4.5 trillion was absorbed by foreign investors.¹³ The supply of Treasuries and Agencies outstanding rose USD 1.6 trillion, and this was fully taken up by foreigners (on net),

¹⁰ Sovereign debt refers to debt issued by governments. While capital inflows to purchase European sovereign debt helped finance the acquisition of external assets by Europe as a whole, there is no presumption that these inflows financed external asset accumulation by European governments themselves. No sovereign debt appears on the asset side of the balance sheet shown in Chart 7 because the change in Europe's holdings of foreign sovereign debt over the period was negligible.

¹¹ Because the gross two-way flows between Europe and the rest of the world are so large for the "Net loans to nonbanks and other" and "Net interbank and deposits" categories, we show only their net flows in Chart 7. "Net loans to nonbanks and other" primarily contains long-term bank loans to nonbank corporations, intercompany loans between nonbank corporations, and certain transactions by brokers. "Net interbank and deposits," in addition to interbank flows and deposits from nonbank residents abroad, also includes estimates of net repurchase agreements transacted by nonbank corporations, such as brokers. These two categories are derived from and completely cover the "Other Investment" category of the Financial Account of the balance of payments of the euro area and the United Kingdom. But in order to present these categories on the basis shown in Chart 7, we also used data from the BIS, individual European countries' Financial Accounts, and the US Financial Account.

¹² It should be noted that not all of the dollar funding of US asset-backed securities by Europeans is captured by these data. In many cases, US subsidiaries of European institutions, including their off-balance-sheet vehicles, both received dollar-funding and purchased asset-backed securities in the United States or the Caribbean; accordingly, these transactions did not give rise to the cross-border financial flows with Europe shown in Chart 7. This is particularly true of dollar funding through commercial paper vehicles.

¹³ Part of the increase in the value of these securities is due to valuation changes for equities; valuation changes for the debt securities were likely fairly small.

US securities outstanding, 2003 and 2007

(USD billions)

	Total Securities (1)	Treasury securities (2)	Agency debt (3)	Corporate AAA (4)	ABS/MBS AAA (5)	Corporate Non-AAA (6)	ABS/MBS Non-AAA (7)	Equity (8)
Total US securities outstanding, 2003	29,757	3,342	5,969	393	1,439	4,093	254	14,266
Held by foreign investors	5,239	1,477	571	157	162	1,003	29	1,839
Of which: Europe	2,182	345	192	74	86	496	15	974
GSGs	870	449	198	5	11	33	2	172
Held by US residents	24,518	1,864	5,398	236	1,277	3,090	225	12,427
Total US securities outstanding, 2007	40,169	4,113	6,786	425	3,154	5,286	458	19,947
Held by foreign investors	9,796	2,384	1,384	214	788	1,679	114	3,232
Of which: Europe	3,978	399	308	126	487	993	71	1,594
GSGs	2,082	905	656	9	44	72	6	389
Held by US residents	30,373	1,729	5,402	210	2,366	3,607	344	16,715
Memo:								
Change in foreign held /change in value outstanding (%)	43.8	117.5	99.6	182.0	36.5	56.7	42.0	24.5

Note: Changes in holdings and securities outstanding include valuation changes. Global saving glut (GSG) countries include Asia (excluding Japan) and the Middle East. Sources: Staff estimates based on Flow of Funds and Treasury International Capital system.

of which USD 0.9 trillion was purchased by the GSG countries and less than USD 0.2 trillion by Europeans. The amount outstanding of AAA-rated asset-backed securities rose USD 1.7 trillion, of which US residents took USD 1.1 trillion and Europeans USD 0.4 trillion.¹⁴ All told, as indicated at the bottom of the table, the share of the increase in the value outstanding of US securities absorbed by foreigners ranged from 182 percent for AAA-rated corporate securities –that is, foreigners ultimately absorbed all of the new issuance of these securities and bought some from US residents, too– to only 25 percent for equities.

Overall, the substantial *net* capital inflows financed by the current account surpluses of the GSG countries, coupled with the substantial *gross* capital inflows from Europe –as they issued sovereign debt and bank deposits, among other liabilities, to acquire US structured instruments– probably raised net demands for apparently safe US assets. Together with the original GSG hypothesis, this likely helps to explain why US assets perceived to be safe, including MBS, saw little change in yields

despite tightening monetary policy and heavy issuance of mortgages.

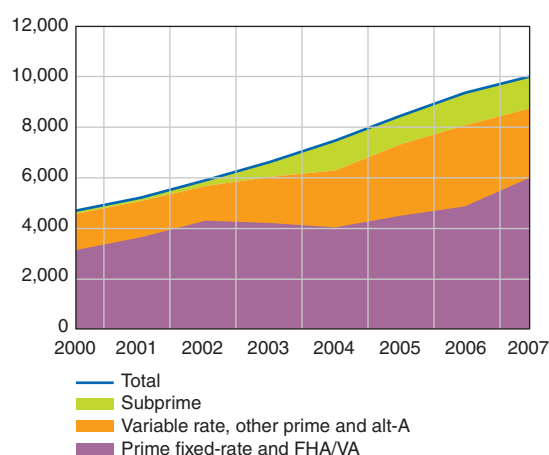
3| CHANGES IN THE SUPPLY OF APPARENTLY SAFE US ASSETS

Given the strength of demand for safe US assets, it would have been surprising had there not been a corresponding increase in their supply. Caballero and Krishnamurthy (2009) argue that the desire to accommodate the demand for safe assets by global investors was a prominent factor in a process that transformed risky loans into highly rated securities. As shown in the top panel of Chart 8, during the US housing boom, not only was there a surge in origination of new mortgage loans, but the share of these loans that were considered riskier –subprime and variable-rate prime including alt A– rose substantially as well. And yet, remarkably, as depicted in the bottom panel, nearly all the surge in asset-backed securities outstanding is estimated to have been rated AAA.

¹⁴ These figures may understate somewhat the amount of US MBS that were ultimately owned by Europeans. Many off-balance-sheet vehicles of European banks were located in the United States, and purchases of asset-backed securities by these vehicles would be recorded as purchases by "US residents." In addition, many vehicles of European and US global banks were located in offshore financial centers, where much of the remaining USD 0.3 trillion in US asset-backed securities were held.

Chart 8
Value of mortgages outstanding

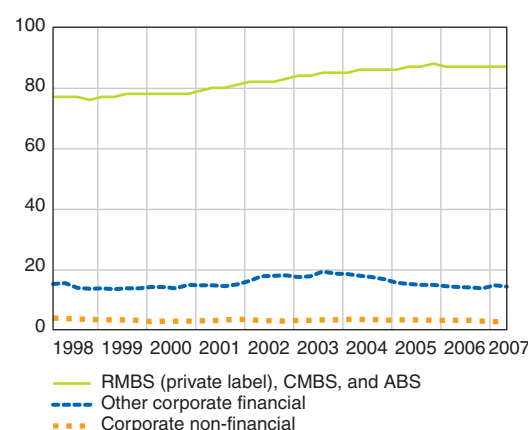
(USD billions)



Source: Federal Reserve Board staff estimates.

Chart 9
Share of bonds outstanding rated AAA, by type

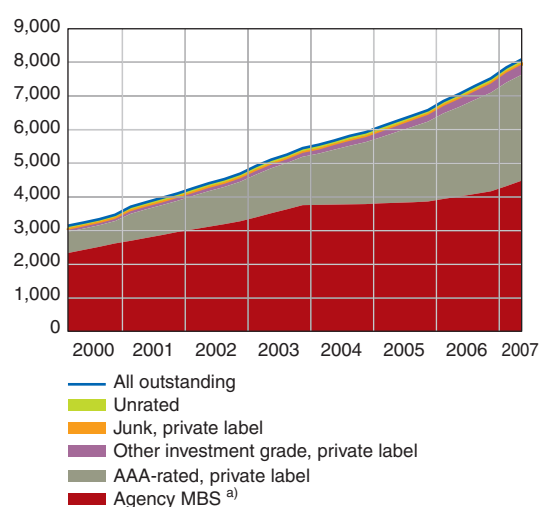
(%)



Sources: For RMBS, CMBS, and ABS, staff estimates based on Dealogic data; for corporate financial and non-financial, Moody's.

ABS, RMBS, & CMBS outstanding, by rating

(USD billions)



a) Includes MBS guaranteed by the government-sponsored enterprises, the Federal Housing Administration (FHA), and the Veterans Administration (VA).

Sources: Flow of Funds and staff estimates based on Dealogic data.

Chart 9 examines the AAA-rated shares of different categories of private securities.¹⁵ The share of private label asset-backed securities that was rated AAA during the housing boom, at about 85 percent, dramatically exceeded the AAA-rated share of

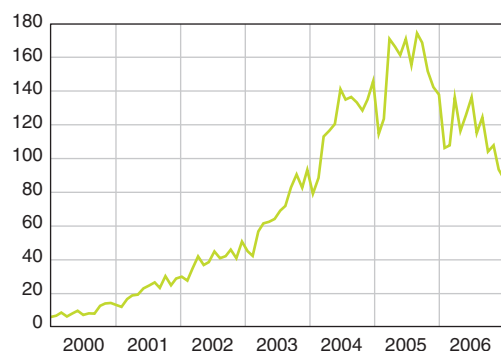
financial corporate bonds (15 percent) and non-financial corporate bonds (3 percent). Moreover, whereas the AAA-rated share of corporate bonds was flat or declining during the height of the housing boom, the AAA-rated share of private label asset-backed securities rose slightly.

The process by which collections of loans, many of dubious quality, were transformed into highly rated structured investment products has been well covered by Gorton (2008, 2009) and Coval, Jurek, and Stafford (2008), among others. In brief, pooling loans and establishing tranches with a pre-established priority ordering for payments allowed many securities to be deemed much safer than the average loan in the underlying pool. The motivation for this financial engineering was clear: there were profits to be made by selling securities at a price that ultimately proved much higher than the value of the underlying collateral. But, equally important, it was recognised that the willingness of investors to deliberately take on additional risk was limited. Investors were willing to reach for some additional yield by purchasing AAA-rated MBS rather than Agency debt (or sovereign bonds at home), but they likely would not have absorbed BBB-rated MBS in significant quantities. Accordingly, the surge in financial engineering to tranche the payouts from mortgages so as to create

¹⁵ Data on credit ratings for corporate bonds were obtained from Moody's DRS data. Data on credit ratings for outstanding MBS were estimated based on new-issue ratings in Dealogic data.

Chart 10
Subprime adjustable-rate mortgage (ARM) issuance

(thousands of loans)



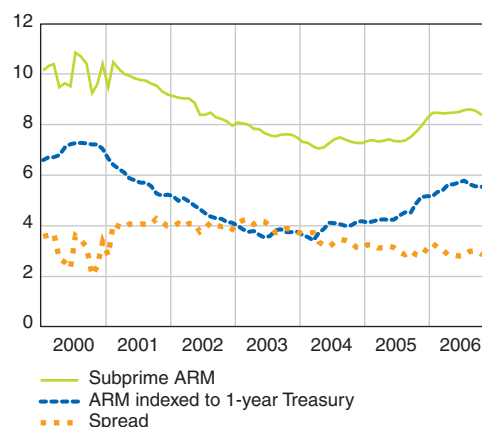
Source: Federal Reserve Board staff estimates.

highly rated debt securities was, at least in part, an endogenous response to the risk preferences of domestic and foreign investors. (See Nadauld and Sherlund, 2009; Gerardi, Lehnert, Sherlund, and Willen, 2008; and Mayer, Pence, and Sherlund, 2009.)

The combination of heavy demand for highly rated MBS, along with the transformation of risky mortgages into highly rated MBS by the financial services industry,

Rates on subprime and conforming adjustable-rate mortgages (ARMs)

(%)



increased the effective demand for “raw materials” –that is, new mortgage originations. As indicated in Chart 10, issuance of subprime adjustable-rate mortgages (ARMs) soared during this period, but spreads of the interest rates on these mortgages relative to those on conforming ARMAs (which were guaranteed by the GSEs) continued to decline. The growing demand for securities backed by these loans on the part of investors, both foreign and domestic, helped keep these spreads low.

In this paper, we have argued that international capital inflows likely played an important role in lowering Treasury yields and returns on other apparently safe US assets, especially mortgages, in the years leading up to the financial crisis. As highlighted by both the GSG hypothesis and the more recent literature focusing on the international pattern of asset supplies and preferences, these capital inflows included purchases of Treasuries and Agencies by emerging market economies seeking safe assets in which to invest their current account surpluses. However, these capital inflows also included purchases of highly rated private label MBS by investors in other advanced economies, especially in Europe, who sought a broader range of assets but continued to place a high value on perceived safety. Although Europe as a whole was not running a current account surplus during this period, unlike the GSG economies, it financed purchases of US securities, including MBS, through issuance of a range of external liabilities. As the composition of home mortgages became increasingly skewed toward subprime and other risky loans, the US financial services industry developed techniques to transform these loans into the apparently safe, AAA-rated securities demanded by investors at home and abroad. The subsequent bursting of the housing bubble and recognition that many of these securities were far riskier than had previously been recognised helped to trigger the financial crisis.

Looking back on the crisis, the United States, like some emerging-market nations during the 1990s, has learned that the interaction of strong capital inflows and weaknesses in the domestic financial system can produce unintended and devastating results. The appropriate response is not to try to reverse financial globalisation, which has conferred considerable benefits overall. Rather, the United States must continue to work with its international partners to improve private sector financial practices and strengthen financial regulation, including macroprudential oversight. The ultimate objective should be to be able to manage even very large flows of domestic and international financial capital in ways that are both productive and conducive to financial stability.

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The challenge of high capital inflows to financial stability: an emerging market perspective

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High liquidity and continued economic weakness in advanced economies have led to a surge in capital flows to emerging markets with strong fundamentals and open financial accounts such as Brazil. While capital inflows have undeniable benefits to emerging economies, they are also potentially destabilising. Past experience has shown that high levels of capital inflows can lead to exchange rate volatility and credit or asset price bubbles. In the context of Brazil's inflation-targeting regime for monetary policy, macroprudential measures have proved to be a useful complement to traditional macroeconomic policies. However, today's imbalanced global economy presents an especially difficult challenge for policymakers. The international financial community needs to work together on two fronts: improving our macroprudential toolkit and building a stronger framework for multilateral macroeconomic cooperation.

Continued economic weakness and the liquidity level in advanced economies have led to a substantial increase in the capital inflows to the emerging markets which have good fundamentals and open financial accounts. While capital inflows have undeniable benefits to emerging economies, they are also potentially destabilising. Historical evidence has shown that excessive levels of capital inflows can bring with them excessive exchange rate volatility, unacceptable credit risk taking and asset price bubbles. The challenge for Brazil and other emerging economies is to adopt policies that, in an environment of imbalanced global economies, allow those countries to keep the benefits of foreign investment while avoiding the problems that might be created by the excesses. The complex negotiations at the level of G20 for a rebalancing of the global economies and better coordination of macroeconomic policies mean that significant progress in this area is not a short term prospect.

In order to provide a better analysis of the challenges faced by emerging economies in this environment let's take Brazil as an example. It has a floating exchange rate and open capital markets; and the Central Bank is building up foreign exchange reserves, within an inflation targeting framework. The sterilised Central Bank interventions in the foreign exchange (FX) markets aim to increase the resilience to FX outflows and to smooth exchange rate movements, rather than to influence the exchange rate trends. This framework has served the country well in the decade since it was introduced, as we have experienced higher economic growth and low inflation for most of the period, in spite of the international financial crisis of 2007-2008. The current global economic conditions present a challenge to this framework as a result of the surge in capital inflows.

Macroeconomic policy measures such as foreign exchange interventions and taxes on foreign investment are the standard first line of defense against excessive capital inflows. In this context macroprudential measures might become necessary. The first goal should be to protect the financial system from boom and bust cycles in foreign exchange, credit or asset markets. These policies are also instrumental in preventing bubbles in the first place. There is a self-reinforcing dynamic between capital inflows and asset prices distortions, in which foreign capital increases asset prices and the resulting returns attract

yet even more capital. Therefore, a well-designed macroprudential policy should limit this feedback loop. Brazil has had a long history of macroeconomic instability, so we have learned not to be complacent about the risks to financial stability stemming from macroeconomic developments. Several aspects of our prudential framework were designed with these risks in mind. First, we set the minimum required level of capital at 11% of risk-weighted assets, instead of the 8% level established in the Basel II accord. Some amount of moral suasion has led the actual average capital level in the system to 17%. This provided our financial system institutions with an extra capital buffer to deal with systemic shocks. Second, the procyclical effect embedded in internal models for credit and market risk is not present, as the use of such models to determine capital requirements has to be approved by the supervisory authority. Additionally, we have in place a prudential rule that limits the cyclical behavior of banks, namely a provisioning rule that takes into account not only incurred losses, but also expected ones. Furthermore, the required bank reserves placed at the Central Bank in Brazil are set at a relatively high level, creating a deep pool of liquidity which is available when international liquidity dries up or in case of any other contingencies. The dual role of the Central Bank as the Monetary Authority and Supervisor of the financial institutions facilitates the timely and targeted use of the banks' reserves.

Finally, our prudential regulation is in general conservative in its outlook; for example, there are limits for higher exposures in general and for foreign exchange exposures in particular. Over-the-counter derivatives trades must be registered in a clearing house, and only financial institutions can enter into credit derivatives trades. Finally, our on-site and off-site supervisions are a high priority and many features of our regulatory framework are already in line with Basel 3. These features provided an acceptable level of protection during the last financial crisis. They also provided substantial policy ammunition to counteract the main impact of the crisis on the Brazilian banking system: a near collapse of the cross border lines led to a domestic credit and liquidity crisis. This was addressed through a reduction in required bank reserves and the channeling of a portion of the funds to the smaller banks, which had been most affected by the crisis; an increase in the deposit insurance limit to 20 million reais for certain long-term deposits and the

purchase of loan portfolios by the privately-financed deposit insurance fund. The recognition of excess provisions as Tier 1 capital was also instrumental. The Monetary Authority acted to restore foreign currency liquidity through the sale of dollars on spot and future markets and the use of the International Reserves to provide credit lines to replace the cross border loans. A strong recovery of the domestic credit markets and the return of ample domestic liquidity have allowed the winding down of almost all of these emergency measures at this point.

As the Brazilian economy has recovered, the Central Bank has raised the benchmark interest rate. As a result, the increased differential between the Brazilian gross domestic product growth and interest rates compared to those of developed economies have attracted the inflows. Not only portfolio and foreign direct investments but also carry trade have surged due to the optimism about the Brazilian economy. It should be noted, though, that the inflow related to direct investment has a relatively lower volatility. Overall, we are once again faced with the challenge of dealing with a wave of potentially volatile capital inflows, an appreciating exchange

rate and a current account deficit. In response, the fiscal authorities have increased the tax on capital inflows for fixed-income investments from 2 to 6%. The Central Bank has increased the purchase of foreign exchange in the open market and also taken steps to limit excessive foreign exchange risk taking in derivatives. Finally it has implemented a substantial tightening of the loan-to-value rules.

Moving from our specific case back to the global situation, we believe that one lesson from the financial crisis is that there is a need to develop better policies to prevent global imbalances from threatening the financial stability. In our view, the policies we need to develop fall into two basic categories: first, we need to build a stronger framework for international macroeconomic cooperation. This framework should provide incentives for the avoidance of potential negative spillovers from national macroeconomic policies. When they occur it should be acknowledged that countries with responsible economic policy frameworks must respond to the eventual spillovers. Finally we strongly support the recent initiatives of the international community of financial supervisors to strengthen the prudential rules.

Global imbalances: the international monetary system and financial stability

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Understanding the link between global macroeconomic imbalances and financial stability is critical not only for understanding the recent financial crisis, but also for what could happen next. The imbalances and financial vulnerabilities that plagued the global economy before the crisis have begun to re-emerge. In a context of deficient global demand and exceptionally low interest rates in many countries, one likely result is excessively risky behaviour in the financial sector. A failure to resolve global disequilibria will ultimately undermine the global recovery and financial stability. Several lines of defence against this outcome are needed, including greater responsibility on the part of households, firms and governments to manage their debts, and enhanced financial sector supervision.

While there were many causes of the financial crisis, its intensity and scope reflected the build-up of unprecedented global disequilibria. For a time, large current account imbalances fostered low real interest rates, subdued macroeconomic volatility and widespread complacency amongst market participants. A stable macroeconomic environment and liquid markets were taken for granted, prompting a search for yield, rising leverage, and dramatic under-pricing of risks. With the international monetary system (IMS) failing to promote timely and orderly adjustment, when it came, the reckoning was brutal. While many, including the Bank of Canada persistently warned about the dangers of global imbalances in the run-up to the crisis, few identified the link between them and financial stability.

Understanding the link between global macroeconomic imbalances and financial stability is critical not only for our understanding of what has occurred, but also for what could happen next. The imbalances and vulnerabilities that plagued the global economy before the crisis have begun to re-emerge. Given the shortcomings of the current IMS and the ongoing strains in the global financial system, these imbalances pose renewed risks to strong and sustainable global growth.

To better understand these risks, this article first explores some of the sources of global imbalances in the lead-up to the crisis and examines how they contributed to financial instability. It then describes how the re-emergence of global imbalances is creating new risks to the global financial system. In light of these risks, the conclusion is self-evident: a failure to resolve global disequilibria will ultimately undermine the global recovery.

1 | GLOBAL IMBALANCES AND FINANCIAL STABILITY PRIOR TO THE CRISIS

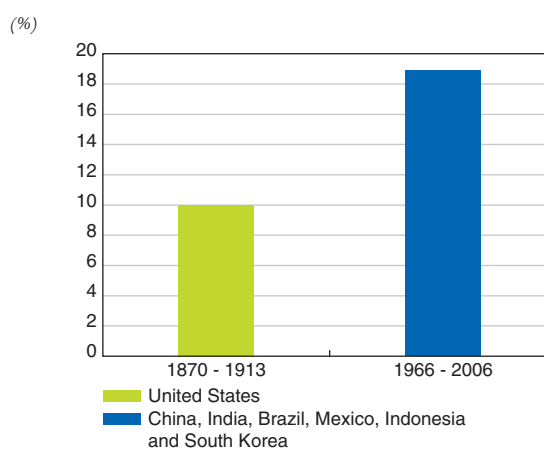
The largest peacetime current account imbalances since the beginning of the 20th century reflected a combination of structural changes and policy choices.

1|1 Structural changes

Two main structural changes drove the re-emergence of global imbalances during the past two decades. First, the integration of China, India and other emerging market economies (EMEs) represented a historically unprecedented, and fundamentally positive, structural shift in the global economy (Chart 1). Never in history has economic integration involved so many people, both in raw numbers and as a percentage of the global population. For example, when North America and the periphery of Europe were integrated during the latter half of the 19th century, their total population was half the size of the then-advanced countries. The comparable ratio for postwar Japan was 10 per cent. Contrast that with China and India today, which alone represent 2.5 times the current population of advanced countries. Adjusted for the percentage of the population in the traded-goods sector, the effective global labour supply quadrupled between 1980 and 2005, with most of the increase taking place after 1990. This trend is set to continue: the globally integrated labour force is projected to double again by 2050 (Carney, 2008).

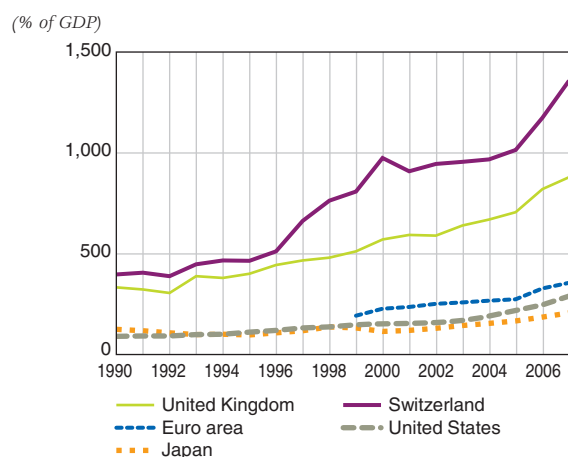
Second, the global economy has opened dramatically –merchandise exports now make up about 20 per cent of global GDP, compared with about 9 per cent at the height of the last great wave of globalisation. Cross-border capital flows are now roughly 15 per cent

Chart 1
Increase in share of world GDP during peak growth periods: United States and EMEs



Source: Maddison.

Chart 2
Gross foreign assets and liabilities



Source: Lane and Milesi-Ferretti (2007).

of global GDP, compared with 3 per cent at the turn of the last century (Carney, 2008).¹ Since the 1980s, capital flows among and between advanced and emerging market economies have exploded, leading to large build-ups in cross-border claims (Chart 2). This deeper financial integration has meant that shocks, both real and financial, are now transmitted quickly across financial markets.

History shows that international systems dominated by fixed and/or managed exchange rates seldom cope well with major structural changes. This failure is the result of two pervasive problems: the downward rigidity of nominal prices and wages and an asymmetric adjustment process. In the short run, it is generally much less costly, economically as well as politically, for countries with balance of payments surpluses to maintain them and accumulate reserves than it is for deficit countries to sustain deficits. Countries with deficits must either run down their reserves or deflate their currencies. The only limit on reserve accumulation for surplus countries is its ultimate impact on domestic prices.

Depending on the openness of the financial system and the degree of sterilisation, this impact can be delayed for a very long time (Carney, 2010a).² In such an environment, great risks to financial stability can build.

Not surprisingly, the current hybrid IMS, with its mix of fixed and floating exchange rates, has been unable to facilitate the required adjustment between surplus and deficit countries.

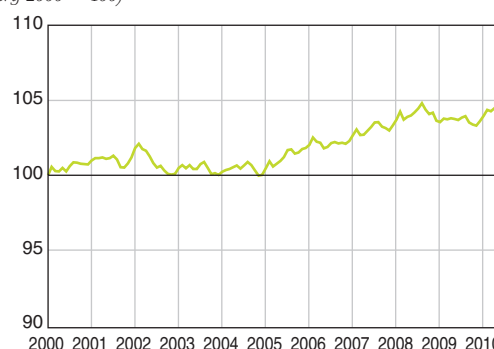
1|2 Policy choices

This reflects policy choices of both emerging market and advanced economies. Many EMEs pursued exchange rate policies that effectively thwarted real exchange rate adjustment. Indeed, given the scale of the economic miracle, it is remarkable that the currencies of the BRICs (Brazil, Russia, India, China) have only appreciated 5 per cent in real terms against the G7 over the past decade (Chart 3). EMEs have accumulated massive foreign reserves, concentrated both in terms of holder (the top five countries hold roughly 50 per cent) and currency (two-thirds are in US dollars).

Maintaining undervalued exchange rates requires capital controls and sterilised intervention, both of which are less than fully effective over time. Financial repression maximises the efficacy of sterilisation but at great cost. With the access of firms and households to credit limited as a consequence of sterilisation, structural forces fostering high savings rates were reinforced. The end result has

Chart 3
BRIC real effective exchange rate against the G7

(January 2000 = 100)



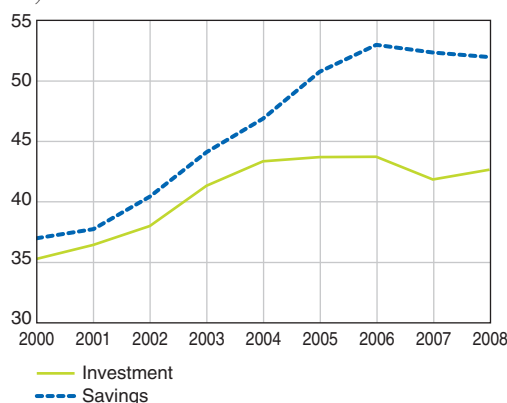
Sources: IMF, Bloomberg, National Statistics Agencies.

¹ Remarks by Mark Carney, Governor of the Bank of Canada: "The implications of globalisation for the economy and public policy", presented to the British Columbia Chamber of Commerce and the Business Council of British Columbia, 18 February 2008. <http://www.bankofcanada.ca/en/speeches/2008/sp08-2.html>.

² Remarks by Mark Carney, Governor of the Bank of Canada: "Restoring faith in the international monetary system", Spruce Meadows changing fortunes round table, 10 September 2010. <http://www.bankofcanada.ca/en/speeches/2010/sp100910.html>.

Chart 4
China's investment and savings

(% of GDP)



Source: OECD.

been a “savings glut” in many emerging markets, particularly China since the early 2000s (Chart 4).

The combination of expansionary monetary and fiscal policies in advanced countries following the 2001 recession and high savings rates in East Asia generated significant global imbalances, massive capital flows, and the “conundrum” of very low, long-term interest rates. These low risk-free rates, in turn, fed the search for yield and excessive leverage across the system. The deregulation of housing and consumer finance reinforced a secular decline in private savings.

Vulnerabilities grew from this combination of macro imbalances and micro failings in risk management, supervision, and financial regulation. Low, stable and predictable inflation and low variability in economic activity – especially when associated with exceptionally low and stable interest rates – bred complacency among financial market participants as risk taking adapted to the perceived new equilibrium.³

Policy-makers in advanced economies were too slow to recognise and address the looming risks. The overall result was a period of increasingly unbalanced growth, without the real and financial signals necessary to promote timely and orderly economic adjustment. Three years ago, the pressures became overwhelming. Financial systems in advanced

economies seized up; virtually every financial asset in the world was repriced; and private demand in advanced economies collapsed.

The policy response to the crash has been an unprecedented easing of fiscal and monetary policy, which has bought time for the necessary adjustments. But a durable solution requires a rebalancing of global supply and demand. This will not happen without changes to the functioning of both the international monetary and financial systems.

2| RE-EMERGING IMBALANCES AND RISKS TO FINANCIAL STABILITY

2|1 A hesitant recovery

Going forward, the recovery will depend critically on a rebalancing of global demand. This is no easy task, and will rely on the implementation by both advanced and emerging market economies of the suite of policy reforms as set out in the G20 Framework for Strong, Sustainable and Balanced Growth. These include:

- financial sector reform and repair;
- fiscal consolidation, appropriately timed, where needed;
- structural reforms to enhance economic growth;
- more market-determined exchange rates.

Progress is being made: financial sector reforms, particularly new capital and liquidity rules (Basel III), have been agreed and are now being implemented. Fiscal consolidation has begun in many countries. However, progress on growth-enhancing structural reforms has been slower, and exchange rate adjustment is still being thwarted.

Real exchange rate adjustment, in particular, will be critical for the rebalancing of global growth. Adjustments in real exchange rates would be most effectively achieved through movements in nominal exchange rates, allowing relative wages and prices to adjust quickly and symmetrically to restore external balance.

³ Indeed, risk appears to be at its greatest when measures of it are at their lowest. Low variability of inflation and output reduces current financial VaR and encourages greater risk taking (on a forward VaR basis), as investors stretch from liquid to less liquid markets. In parallel, low and stable interest rates promote larger asset-liability mismatches across credit and currency markets. These tendencies are particularly marked if there is perceived certainty about the stability of low interest rates.

At present, the international monetary system is sliding towards a massive dollar block. Over a dozen countries are now accumulating reserves at double digit annual rates, and countries representing over 40 per cent of the US dollar trade weight are now managing their currencies. As a result, real exchange rate adjustment is more likely to occur through changes in general wages and prices. The implications for asset prices, output, employment, and thus financial stability, could be considerable, as the absence of nominal adjustment will reinforce inflationary pressures in those economies where exchange rates are significantly undervalued, and disinflationary pressures elsewhere (primarily in the advanced economies).

INFLATIONARY PRESSURES IN EMERGING ECONOMIES

Already, inflationary pressures are rising in emerging economies (Chart 5). Despite divergent growth and inflation prospects, many countries with fixed exchange rates are effectively shadowing US monetary policy, which is not well suited to their circumstances (Chart 6). If this divergence in optimal monetary policy stance persists, the strains on the system will grow.

DISINFLATIONARY PRESSURES IN ADVANCED ECONOMIES

In the major advanced economies, disinflationary pressures are evident (Chart 5). These economies have a diminished ability to expand domestic demand, given the fiscal constraints and scale of

Chart 5
CPI inflation

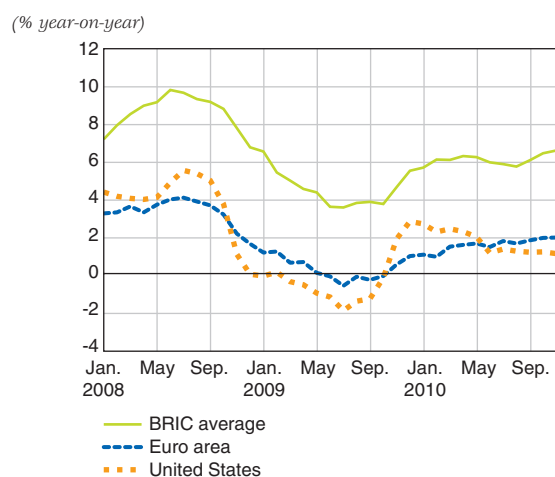
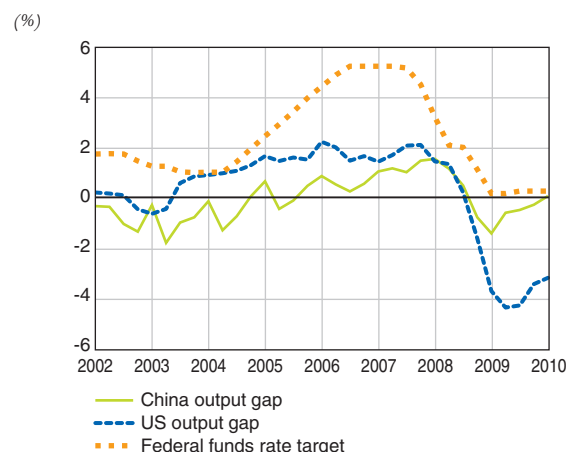


Chart 6
US monetary policy suitable for others?



balance-sheet repair that is necessary. Instead, demand must come from the external sector –as such, advanced countries' international competitiveness needs to be rebuilt through changes to nominal exchange rates or, failing that, lower domestic wages and prices. The dynamic is perhaps most stark in peripheral Europe where the first option is not available. The extent of these disinflationary pressures is best exemplified by the fact that monetary policy remains at the effective lower bound in many jurisdictions, and additional unconventional measures have been introduced.

In this environment, the current frustration of adjustment by surplus countries is leading to deficient global demand. This risks creating a similar dynamic to that being experienced in the Euro area, but on a global scale, with sustained weak growth in many countries. The absence of a rebalancing of global demand could have very large costs. The potential costs are huge –up to USD 7 trillion in lost global output by 2015 (Carney 2010a). Needless to say, the consequences for financial stability would be profound.

2|2 Risks to financial stability

The lack of a rebalancing of global growth and an environment of deficient global demand could affect financial stability through a variety of channels, including: the impact of slow economic growth on the financial sector and fiscal sustainability,

the consequences of sustained low interest rates for a broad range of financial participants, and the de-stabilising impact of excess capital flows to EMEs.

SLOW RECOVERY, SOVEREIGN DEBT AND THE BANKING SECTOR

History suggests that recessions involving financial crises tend to be deeper and have recoveries that take twice as long. In the decade following severe financial crises, growth rates tend to be one percentage point lower and unemployment rates five percentage points higher.⁴ The current US recovery is proving no exception, and in Europe we have estimated that the shortfall relative to pre-crisis trend growth could ultimately amount to 40 per cent of European GDP over the long-term (Carney, 2010b).⁵ This foregone output hits the financial sector directly by reducing the speed with which banks can repair their balance sheets, keeping credit losses elevated, and muting other sources of revenue.

As has been painfully reinforced over the past several months, the problems of banking sector weakness and fiscal sustainability can become intertwined. Slower recoveries will place increased pressure on the fiscal positions of the advanced economies, and in some cases raise concerns about their capacity and willingness to support the financial sector if needed. A re-pricing of sovereign risk could also compromise financial stability by introducing market volatility and increasing bank funding costs. Moreover, financial institutions and institutional investors are major holders of sovereign debt, leaving them exposed to turmoil in sovereign debt markets.

LOW FOR LONG INTEREST RATES

To respond to the deflationary pressures emanating from global imbalances, advanced economies have maintained policy rates at extraordinarily low levels, and implemented unconventional measures to provide stimulative monetary conditions. Historically low policy rates, even if appropriate to achieve price stability, create their own risks. Aside from monetary

policy, authorities will need to remain as vigilant as they have been in the past to the possibility of financial imbalances developing in an environment of still-low interest rates and relative price stability.

While such measures are essential in the current context, sustained low interest rates can create their own risks that could increase the challenges faced by the financial system and require careful monitoring.

In particular, the conviction that interest rates will be low for long can lead to various types of risky behaviour in the financial sector. In response to low returns on typical financial instruments, for example, financial institutions and investors more broadly are actively seeking riskier investments to boost returns. There is strong evidence of this in a variety of markets. Sustained behaviour of this kind will substantially increase risk profiles and raise vulnerabilities to shocks. Reversals in market conditions would lead to large losses on the part of investors and institutions, with follow-on effects throughout our economies.

The pressures on insurance companies and pension funds, with their longer-term guaranteed returns or benefits, are especially apparent. By reducing yields on assets and raising the net present value of liabilities, a sustained period of low interest rates makes these guarantees harder to fulfill. To address potential shortfalls, funds could move into riskier assets in a search for yield and/or shorten their duration to limit asset-liability mismatches.

In another example, banks have used low short-term funding rates to rebuild capital by investing in long-term government bonds. This strategy is effective to a point, but may diminish the sense of urgency with which banks reduce leverage or write down bad assets.

Past experience has in fact shown that low policy rates facilitate “evergreening,” or the rolling-over of non-viable loans. The classic example was Japan in the 1990s when banks permitted debtors to roll over loans on

⁴ See Reinhart and Reinhart: “After the fall,” *Macroeconomic challenges: the decade ahead*, Federal Reserve Bank of Kansas City 2010 Economic Policy Symposium available at <http://www.kansascityfed.org/publicat/sympos/2010/reinhart-paper.pdf>.

Recent work by the Basel Committee in the context of Basel III reviews the literature on the cost of financial crises, and notes the enormous potential costs in terms of foregone GDP for both advanced and emerging economies alike. See “An assessment of the long-term impact of stronger capital and liquidity requirements” available at <http://www.bis.org/publ/bcbs173.pdf>.

⁵ Remarks by Mark Carney, Governor of the Bank of Canada: “Bundesbank lecture 2010: The economic consequences of the reforms” Deutsche Bundesbank, 14 September 2010. <http://www.bankofcanada.ca/en/speeches/2010/sp140910.html>.

which they could afford the near zero interest payments but not principal repayments. By evergreening loans instead of writing them off, banks preserved their capital, but this delayed necessary restructuring in the industry. Moreover, the presence of non-viable firms limited competition, reduced investment and prevented the entry of new enterprises.

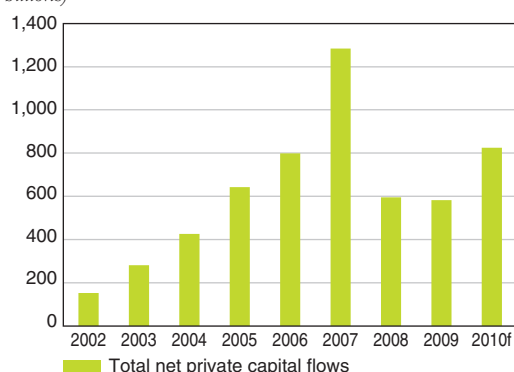
Likewise, household credit tends to expand rapidly in the presence of low interest rates. As a consequence, the proportion of households with stretched financial positions grows significantly. Without a significant change in behaviour, the proportion of households that would be susceptible to serious financial stress from an adverse shock will continue to increase.

EMERGING ECONOMIES, THE SEARCH FOR YIELD AND ASSET PRICE BUBBLES

Persistently low interest rates, and modest economic growth in advanced economies, mean that investors are turning increasingly to EMEs in their search for yield. Capital flows to emerging economies, for example, have rebounded sharply in the aftermath of the crisis (Chart 7). Combined with accommodative monetary policy, these flows have led to concerns that asset price bubbles may be emerging in equity or property markets (Chart 8). Wary of boom/bust cycles, many EMEs are trying to contain these pressures by introducing capital controls (perhaps

Chart 7
Total private capital flows to EMEs

(USD billions)

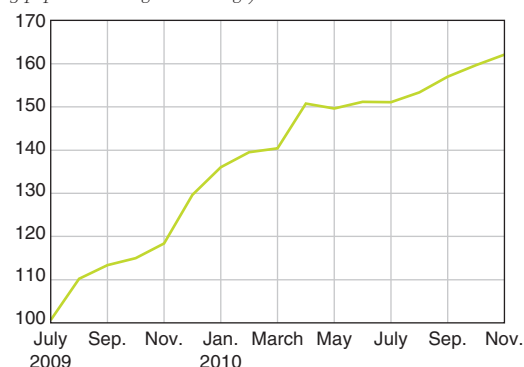


f: Forecast.

Source: Institute of International Finance.

Chart 8
China: second hand apartment price index

(17 city population-weighted average)



Source: Soufun and Bank of Canada calculation.

under the guise of macroprudential policy) –but in essence, such measures only serve to introduce new rigidities into the IMS.⁶ A more durable response would be to address the current rigidities in the IMS that are contributing to global imbalances.

3| MOVING FORWARD

Experience suggests that prolonged periods of unusually low rates can cloud assessments of financial risks, induce a search for yield and delay balance-sheet adjustments. There are several defences.

The first is built on the decisions of individuals, companies, banks and governments. Extraordinary measures are only a means to an end. Ordinary times will eventually return and, with them, more normal interest rates and costs of borrowing. It is the responsibility of households to ensure that in the future, they can service the debts they take on today.

Similarly, financial institutions are responsible for ensuring that their clients can service their debts. More broadly, market participants should resist complacency and constantly reassess risks. Low rates today do not necessarily mean low rates tomorrow. Risk reversals when they happen can be fierce: the greater the complacency, the more brutal the reckoning.

⁶ The record of capital controls is not encouraging, as they are often evaded over time.

The second line of defence is enhanced supervision of risk-taking activities. Stress testing in major economies should focus on excessive maturity and currency mismatches, look for evidence of forbearance (such as ailing industries receiving a disproportionate share of loans or the loosening of standards for existing debtors) and analyse the impact of sharp moves in yield curves.

These efforts will be aided by the imposition of the new Basel III regulations. Measures, including a leverage ratio, new trading book rules and liquidity standards, will help curtail excessive leverage and maturity transformation.

The third line of defence is the development and selected use of macroprudential measures. In funding markets, the introduction of through-the-cycle margining can help curtail liquidity cycles. In broader

asset markets, counter-cyclical capital buffers can be deployed to lean against excess credit creation. Importantly, following the agreement of G20 leaders in Seoul, the Basel Committee endorsed this framework.

These lines of defence are imperfect responses to a difficult global environment. The best policy is to address the underlying disequilibria. Countries need to implement the policy reforms set out by the G20 Framework for Strong, Sustainable and Balanced Growth, and its Mutual Assessment Process. This includes fiscal consolidation, greater exchange rate flexibility for EMEs, implementing structural reforms to increase growth, and continuing financial sector reform and repair. These measures, combined with vigilance on the part of financial sector supervisors, and the need for market participants not to become complacent, are the best means to ensure that the recovery endures.

Global imbalances: the perspective of the Banco de México

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Banco de México

Global imbalances (GIs) have been with us for quite some time. To a large extent, for many years they were disregarded by the world economic powers. Such imbalances provided fertile ground for a major financial crisis to erupt. Regrettably, many of the policy measures implemented as a response to the crisis have exacerbated the damaging potential of GIs. The most recent manifestation of this is the rapid expansion of beggar-thy-neighbour policies that an uncoordinated policy response to GIs is leading to. Under this scenario, G20 policymakers should be alert and devote their efforts to search for possible agreed upon solutions to the underlying disequilibria; otherwise, we could be sowing the seeds for a new, potentially more devastating crisis.

NB: I appreciate the comments and suggestions made by Manuel Ramos Francia and Miguel Diaz Diaz. The arguments presented here are solely the responsibility of the author.

Global imbalances (GIs) are a very complex phenomenon resulting from the interaction of multiple factors. Globalisation of capital markets, a never-before-seen increase in consumption in the world's largest economy, and the emergence of the most populated country as an economic power with the ability to produce vast amounts of goods at very low costs are some of the main elements that allowed for the existence of such imbalances. GIs started more than a decade ago with the persistent current account deficit in the United States and the consequent surplus in a number of countries, among which China stands out. Previously, the major concern resulting from this situation was the possibility of a rapid and disorderly reversal of the imbalances that could engulf the world in a crisis. Nowadays, the main preoccupation stems from the effects of the possible expansion of beggar-thy-neighbour policies to which the necessary correction of GIs is leading, in the context of a fully blown financial crisis, which is still in the process of being resolved.

A question put forth frequently has been the extent to which GIs contributed to such a crisis. While there is no consensus on the role of GIs as a trigger of the financial crisis, there seems to be some agreement regarding the existence of a profound interrelation between the two.

Before the crisis, the inexpensive and abundant flow of resources available in the US financial system, characteristic of GIs, contributed to setting up the conditions necessary for the turmoil to erupt. These resources were allocated to the different sectors of the American economy, among them housing. The magnitude of such capital inflows, combined with the now well-known handicaps in the regulation and supervision of financial institutions, fueled a huge housing prices increase, which evolved into a "bubble". This, together with an extremely active mortgage market, produced a large increase in the perceived wealth of the US population.

The resulting housing price "bubble" in the United States led to an increase in consumption above the levels consistent with permanent income. *Ex ante* this situation was not worrisome as the increase in wealth was perceived to be permanent. However, *ex post* it became clear that the housing price increase was only temporary. Therefore, the higher consumption levels that US society got

used to become unsustainable, as many households were left with large debts to repay without really having the capacity to do so. This is the current scenario for the United States, a situation in which a reduction in consumption levels and patterns seems to be unavoidable; however, the way in which this adjustment will take place is uncertain due to its magnitude, the instruments available to harness it, and the political complications surrounding the issue.

A main element of the recent crisis is that it was global and shattered the stability of the entire financial system, producing panic among investors. At the height of the crisis in late 2008 and early 2009, capital flowed to the United States as a result of paradoxical "flight to safety" considerations; paradoxical because as a result of such considerations resources flowed to a country with a banking crisis, an expansionary fiscal policy, a lax monetary stance and large current account and fiscal deficits. It is difficult to envisage capital flowing into a country with such characteristics, but it did in the case of the United States, given its institutional strength, its wealth, and the perception that the US Government had sufficient degrees of freedom to deal with the circumstances (as it has done so far). But these phenomena precluded a substantial real depreciation of the dollar, which would have eased the transition costs out of the crisis and would have contributed to alleviate the pressures coming from the GIs, as a matter of fact accelerating their correction. In this sense, the token capital flows switched off one of the main adjustment mechanisms to the GIs. In effect, historically it has been precisely an abrupt adjustment in the exchange rate which has been the main correction mechanism in those episodes where countries have accumulated unsustainable deficits in the height of fiscal imbalances, monetary expansion, and a fully fledged banking collapse.

After the eruption of the crisis, GIs levels were significantly reduced, but this seems to have been mostly a short-term response, given that trends are already returning to what they were before. This fact emphasises the importance of closely monitoring and studying current account balances and other aggregates to assess the measures that need to be taken to reduce the possible risks associated with them.

With respect to the parties on the other side of the imbalance, the three largest economies after

the United States (i.e. China, Germany and Japan) have had persistent current account surpluses for some time. However, China presents the most interesting case due to the international perception regarding the management of its currency derived from its growth strategy. Given this, it is reasonable to focus the discussion on China and the United States, although we ought to keep in mind that China is not alone as a counterpart to the huge US current account deficit.

All in all, and even if it might sound surprising, the fundamentals of the Chinese economy are supportive of a relatively depreciated real exchange rate. In particular, high precautionary savings related to the lack of social safety nets, a foreign reserve strategy based on acquiring US Treasury securities influenced by the underdevelopment of the Chinese financial system, and a very abundant and elastic labor supply – with the consequent low real wages – resulting from migration patterns from rural areas to production centers, all contribute to the compression of absorption, and therefore, to a relatively depreciated real exchange rate.

Under these circumstances, the way to address GIs is by fostering structural reforms aimed at reducing the underlying deficiencies of countries like China that limit exchange rate flexibility. The creation of social safety nets and the development of its financial system could reduce Chinese savings levels and the dependency on US Treasury securities as the principal source of risk-free assets. Along the same lines, China could also allow for the flow of reserve money to sectors that have been closed and are underdeveloped, easing the direct downward pressure on the exchange rate and creating the real sources of development without the need of a constantly undervalued real exchange rate.

As a matter of fact, the need for more exchange rate flexibility among G20 economies stems from the conviction that it would lead to a less costly adjustment of GIs in terms of global growth and financial volatility. The necessary consumption adjustment in the United States due to households' deleveraging process and the complicated situation in its labor market imply possible deflationary risks. However, a deflationary process in an economy with high leverage levels would only compound the problem. This complex situation makes understandable the implementation of an extraordinarily accommodative monetary policy

by the US Federal Reserve. Regrettably, this is nevertheless producing unintended consequences worldwide. Precisely because of this, more exchange rate flexibility in some Asian economies, and in China in particular, is urgently needed, since it would lead to a situation where the degree for monetary accommodation in advanced economies would be reduced.

In the recent past, investment in emerging market economies has become more attractive for several reasons. Among these are the higher rates of growth in such countries, the fact that they are coming out of the crisis without any significant structural damage, and also that they have more degrees of freedom regarding the potential implementation of policies geared towards stimulating growth. However, this relative attractiveness of emerging economies has been compounded by the aggressive monetary expansion in the United States. As a result, there has been a massive increase in the flow of resources to these countries. This by itself could be a good sign. However, the speed and amounts at which capital is inflowing can represent destabilising forces, and have generated concern among some export-driven economies whose currencies are appreciating in real terms to the detriment of their export sectors. In this context, it is important to differentiate among those countries whose currencies have been appreciating due to underlying structural phenomena and those that are suffering mainly due to the abnormally lax monetary policy stance in advanced economies, mainly in the United States.

Increased capital flows can be a powerful force towards development; however, to get the most out of them it is necessary to differentiate between those capital flows that arrive in search of long-term projects and those short-term resources that simply are attracted due to lax monetary conditions elsewhere. In this sense, it is important for emerging economies to generate incentives to drive flows towards productive long-term projects, and reduce incentives for flows that could result in an unwarranted increase in domestic consumption. To do this, it is necessary for those countries to open up and allow investment flows into sectors that are presently restricted, so as to reap the full potential of the increased capital flows.

Some countries are using the potential negative externalities produced by rapid and massive capital inflows to justify the introduction of taxes and other

controls applicable on them, as well as interventionist exchange rates policies. Such reactions, in combination with the lax monetary policies in the advanced economies, threaten the long-term financial stability and growth of the world economy by placing it on the verge of a currency-trade predicament in which no one wins. This is the case because while the policies used are implemented to solve short-term issues, they impose long-term distortions on the economy, hurting activity. Additionally, the efficacy of these policies is limited due to the increasingly global nature of capital markets. The trend towards restrictions on capital flows, trade barriers, and even “currency wars” reminds us of a protectionist era that we have fought hard to put behind us.

It is important to highlight the fact that those countries that resist joining these practices are more likely to incur short-run costs, although they are also more likely to receive future benefits derived from stable capital flows and the avoidance of introducing major distortions to their economies. In this sense, policymakers are faced with a short-term versus long-term conundrum in which making decisions is not simple. A close look at past experiences has shown that focusing on the long run has been more fruitful; nevertheless, circumstances might force the broad adoption of undesired policy actions if the pressures become overwhelming.

Let us just hope that if these measures are applied, they are done so in the least harmful way possible.

All in all then, I believe that it is urgent for the world to move to a scenario with higher policy coordination among countries. Of course this means paying more than lip service to shared responsibilities. On the one hand, surplus countries should put in place structural policies conducive to more appreciated *equilibrium* real exchange rates. On the other hand, deficit countries should implement policies that are consistent with more depreciated *equilibrium* real exchange rates, that is, policies that recognise that domestic absorption needs to be at levels that are sustainable and not policies that could have very adverse externalities for most countries and that in the end will probably only postpone the adjustments that need to take place anyway.

At the international level, this policy discussion can be compared with a regular prisoner's dilemma. While staying put achieves a more efficient outcome, incentives are such that individual movements are desirable for each player but together can imply collective ruin. In this sense, policymakers in the G20 countries must place enough emphasis on the repeated nature of the game pursuing the more efficient equilibrium by inducing countries to cooperate.

Wrapping up, it could be asserted that GIs generated fertile ground for the financial crisis to erupt. When it materialised, it destabilised the global financial sector, which in turn has had significant effects on the growth prospects of the main advanced economies. Furthermore, sluggish growth rates observed after the turmoil generated incentives for policymakers to try to induce growth through a broad range of expansionary policies. A scenario in which GIs are not corrected can make matters worse for the global economy. Some sources of concern along these lines are the fact that some developed countries have larger and increasing public debt derived from onerous stimulus packages and bailout costs, and that policies are increasingly distorting capital flows and monetary conditions with the intention (sometimes veiled) of getting an edge on other countries. Under this scenario, policymakers should be alert and searching for creative solutions to these new conditions; otherwise, we could be sowing the seeds for a new, potentially more harmful and devastating crisis.

Complementarity and coordination of macroeconomic and financial policies to tackle internal and external imbalances

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Policy responses to the global crisis have helped stabilise the economies and contained the threat of financial instability. But growing sovereign indebtedness, a weakened financial system and uneven economic growth prospects at the global level pose risks of new imbalances and vulnerabilities. To limit those risks it is essential to address both macroeconomic and financial market failures. Important changes in financial market regulation and banking supervision are already being introduced. In the macroeconomic area, an effort is being made to strengthen the coordination of economic policies in the context of the G20. New institutions, such as macroprudential authorities, are being set up in many countries to monitor and contrast the emergence of systemic risk. There are, however, several areas where policy frameworks need to be further strengthened. At the international level we need surplus and deficit countries to rebalance global demand and ensure a return to sustained global growth, without conflicting policy actions leading to potential instability. Effective macroprudential policies require a clear definition of responsibilities, and need to be consistent with the conduct of monetary policies. In Europe, more effective economic governance is needed to proceed on the route towards greater economic integration and to fortify the euro, including tighter rules on fiscal policies, a broader surveillance over macroeconomic imbalances and an effective mechanism for crisis management.

1| THE RECOVERY

FROM THE GREAT RECESSION: RISKS AND PRIORITIES AHEAD

Until now the economic recovery has been strong in emerging countries; weaker than would be required to reduce unemployment in the United States; uneven and generally sluggish in the euro area.

Policy responses have differed according to countries' cyclical position and policy priorities. In advanced economies, monetary policies remain accommodative in order to put the recovery on a firmer root. However, the expectation of low interest rates for a prolonged period could encourage excessive risk-taking in financial markets, creating asset price distortions and vulnerabilities. In the years preceding the crisis, persistently low global interest rates and optimistic expectations of continued macroeconomic stability (the "great moderation") led market participants to underestimate risks in many asset classes. This helped to create a financial environment conducive to the explosion in private debt and the widening of external imbalances. A compression of risk and liquidity premia brought on by the "search for yield" provided strong incentives for financial institutions to increase leverage.¹ These phenomena may well reappear as economies and financial systems recover from the crisis, unless their underlying causes are addressed. Hence the need for central banks to put in place a timely and determined monetary policy correction, once macroeconomic conditions permit it, and for supervisory and regulatory policy to contain the accumulation of risks by financial institutions.

Budgetary policies in Europe are now clearly directed at reducing public sector deficits and containing debt growth; this is not yet the case elsewhere. It is essential that governments deliver the fiscal adjustments they have committed to implement, particularly in those euro area countries where concerns over the sustainability of public debt are more acute. In perspective, a sound fiscal position is also necessary to meet the pressures arising from population ageing. In countries where age-related expenditures are expected to grow significantly, reforms of pension, health and long-term care systems are urgent.

Growth-enhancing structural policies can reduce the burden of fiscal adjustment and make it credible.

The situation of international financial markets has clearly improved since the most acute phase of the crisis, but strains still remain. In Europe, in particular, the interplay between sovereign risk and the fragility in parts of the banking sector are still creating significant tensions.

International imbalances, which had temporarily narrowed as an effect of the recession, are beginning to widen again. Capital flows into some emerging markets, driven by interest-rate differentials, are putting pressure on exchange rates. Some countries are using foreign exchange intervention to resist appreciation, in order to support their exports. External imbalances are not necessarily bad *per se*. In open economies, it is desirable for saving to be invested where it is used the most productively, and imbalances can therefore emerge naturally from differences in saving behaviour, in rates of return on capital, or in the degree of risk or liquidity of different assets. However, persistent imbalances can be symptoms of underlying distortions if the incentives to save and invest and the pricing of risk and liquidity are themselves distorted.

An uneven recovery, diverging economic policies, protracted low levels of interest rates, risks related to the increase of sovereign debts, large imbalances in payment systems and pressures on exchange rates are all factors that pose a significant threat to the global economy.

In order to effectively tackle these risks and put the recovery on safer grounds, action by policy makers is necessary in many areas. The rest of the article concentrates on three of them. First, the framework for international coordination needs to be significantly improved: we now need to strengthen cooperative arrangements that could support growth and make the global economic and financial system less prone to excesses and crises; this includes the completion of the financial regulatory reform. Second, we need to implement well-designed macroprudential policies that, together with monetary policies that guarantee price stability, contain the emergence of financial imbalances. Third, there is an urgent need for a reform of the framework for economic governance in Europe.

¹ See, among others, Adrian and Shin (2008) and Brunnermeier (2009).

2 | INTERNATIONAL COORDINATION: THE G20 FRAMEWORK

At the 2009 Pittsburgh Summit the G20 pledged to work together to ensure a lasting recovery and set the world economy on a path of strong and sustainable growth over the medium term. To meet this goal, the Framework for Strong, Sustainable, and Balanced Growth has been launched. The backbone of this framework is a multilateral process through which G20 countries identify objectives for the global economy and the policies needed to achieve them. The evaluation of the mutual consistency of such policies is the objective of the “mutual assessment process” (MAP) of their progress towards meeting these shared objectives.

In particular, the MAP requires an assessment of the nature and the root causes of impediments to the adjustment of persistently large imbalances. Indicative guidelines composed of a range of indicators would serve as a mechanism to facilitate the timely identification of large imbalances that require preventive and corrective action.

As agreed by the G20, there must be a shift to a more balanced global pattern of demand. In economies with substantial external surpluses and large reserve positions, policies should aim at fostering private demand. In most advanced economies supply-side policies and structural reforms ought to enhance potential growth. These conclusions follow from a hard-won recognition of the inevitability and welfare-improving nature of collective action.

Progress is being made, but important policy challenges remain in order to meet the objectives of strong, sustainable and balanced growth. In particular, only limited steps have been taken towards external rebalancing. Priority areas include: structural reforms and greater exchange-rate flexibility to strengthen domestic demand in emerging economies; further fiscal consolidation in advanced economies based on “growth-friendly” measures; and product and labour market reforms across all G20 members to boost productive capacity.

Tackling the problem of external imbalances is crucial. One may wonder what would have happened to the global economy had this rebalancing been implemented in due time. Such a counterfactual scenario has been studied at the Bank of Italy,² focusing on the period 2002-2007. Overall, the results of the exercise, obtained simulating a global macro-econometric model, highlight the complementarities of policy actions in deficit and surplus countries for the correction of both internal and global imbalances. In the simulation period in the United States there would have been a slowdown in activity, as opposed to the sharp fall observed in the last recession. Importantly, housing price increases would have been much smaller and closer to historical experience, while the improvement in the current account balance would have been substantial. At a global level, the dispersion of current account balances would have remained almost unchanged, where in fact it actually doubled.³

Whereas there is no guarantee that the Great Recession would have been avoided, the global environment would have been much more balanced. As a result, the propagation of the crisis would probably have been less destructive, because both the US financial system and the global economy would have been less vulnerable.

In a global system where external imbalances remain large and capital flows may be subject to sudden reversal, it is essential to rely on a financial system that is at the same time efficient and more robust, immune to the perverse incentives that led to the accumulation of excessive risk that eventually generated the crisis.

Under the aegis of the G20 and through the activity of the Financial Stability Board (FSB) and its members, the reform of the rules governing the global financial system is taking important steps forward. Our aim is to recreate a financial system with less leverage, where transparency allows us to identify and manage risks, system-wide prudential and regulatory oversight is strengthened and ailing intermediaries can fail without disruptions to the rest of the system and the real economy.

² See Catte et al. (2010).

³ The dispersion is calculated as the sum of the absolute values of the current account balances in the United States, Japan, Germany and China scaled by world GDP.

The new Basel rules are a milestone of the reform. They introduce a homogeneous definition of banks' capital across countries; they significantly increase both the quality and quantity of banks' capital, thus raising their ability to absorb losses; they constrain bank leverage, on- and off-the-balance sheet; they introduce new liquidity standards, thus reducing liquidity mismatches within the system. The new rules are being introduced gradually, in order to preserve the capability of the banking system to finance the economy.

The second step is to address the risks created by systemically important financial institutions (SIFIs): institutions that, because of their dimension, complexity and presence in vital parts of the global financial system, if in distress, might endanger the entire system and would therefore be bailed out at all costs. Last November the G20 approved the proposals of the FSB on SIFIs, which are based on four pillars:

i) implementing in every country a resolution framework which would enable authorities to resolve SIFIs without disruptions to the financial system and without taxpayer support; in order to achieve this, we need to modify national legislations with the requisite legal and statutory powers and tools to transfer businesses or create bridge banks to maintain essential financial services and impose losses on creditors. We also need to define agreements at the international level between host and home authorities that clearly identify roles and responsibilities in resolving an institution;

ii) requiring SIFIs, and initially in particular global SIFIs, to have a higher loss absorbency capability than non-systemic intermediaries, beyond the minimum requirements of Basel III. This could be met by introducing an equity capital surcharge, or a required level of contingent convertible capital, or else a requirement to issue a certain amount of "bail-in-able" securities (i.e. debt instruments that could suffer losses or be converted into shares in situations of distress for the firm). These latter capital instruments would also help in disciplining creditors and shareholders, hence correcting the moral hazard problems posed by the systemic institutions that are "too-big-to-fail".

iii) adopting a more effective and intense supervision of SIFIs, commensurate to their size and complexity. In many countries this will require an effort to

strengthen the supervisory authorities' mandates, independence, resources and powers.

iv) improving critical infrastructures, including the standardisation of over-the-counter (OTC) derivative products as well as their exchange and clearance in regulated platforms with central counterparties; such measures will help to reduce contagion among institutions upon default and will ensure that key infrastructures do not themselves pose a systemic threat.

The FSB is also working on another problem that emerged from the last crisis: the role and functioning of Credit Rating Agencies. The aim is to avoid an excessive and mechanical reliance of institutions and markets on official ratings, in particular by reducing their scope in regulation, and to limit in this way the most obvious drawbacks of the current system, in terms of procyclicality and potentially destabilising pressure on the markets.

Finally we need to prevent regulatory arbitrage from leading to an accumulation of risks in the "shadow banking" sector, that –though hardly hit by the crisis and consequent stricter controls– continues to play a major role in liquidity transformation and credit intermediation. Designing regulatory safeguards to address the risks associated with a resurgence of the shadow banking activity will be a key priority of the FSB's agenda in the coming years.

We will never be able to avoid all crises. But the changes under way will help to significantly reduce their likelihood and scale.

3| MACROPRUDENTIAL POLICIES AND THEIR INTERACTION WITH MONETARY POLICY

The development of well-designed macroprudential policies is another fundamental front that is taking shape in the international landscape. New institutions are being created around the globe with the responsibility of monitoring and limiting financial imbalances and systemic risk. These include the IMF-FSB framework for assessing financial vulnerabilities at the global level, the constitution of the Financial Stability Oversight Council (FSOC) in the United States and of the European Systemic

Risk Council (ESRB) in the European Union, as well as similar initiatives in other countries. There are a number of challenges that need to be addressed by policy makers in this area.

A first important question concerns macroprudential policy objectives. The final objective for macroprudential policy must be financial stability. However, this objective is hard to measure and proxy. Financial crises are infrequent events, can take many different forms and may have many different causes. All this makes macroprudential policy more difficult to make operational than, for instance, monetary policy, for which we have a clear mandate (price stability, inflation targets), with relatively precise proxies (measures of inflation) and instruments (short-term interest rates).

Against this background, when shaping the mandate for the macroprudential authority, a trade-off emerges between clarity and specificity, on one side, and robustness, on the other. At one extreme we have a “broad” definition of objectives, such as reducing the likelihood and the severity of financial crises, as well as ensuring the resilience of the financial system. This formulation of the mandate has been chosen for the main macroprudential bodies created in the aftermath of the crisis, including the ESRB and the FSOC. At the other extreme, the objectives could be “specific” and contemplate, for instance, “moderating the credit cycle”.

A “broad” mandate is all-encompassing and obliges the macroprudential policy authority to look at every potential source of crisis. At the same time, this very feature might make it harder for the authority to motivate its actions clearly. Risk warnings or policy recommendations based on a certain set of analyses could easily be challenged by the addressee on the basis of an alternative set of analyses. Furthermore, it is not obvious how one may assess compliance with this mandate. Financial crises have occurred on average every 20 years: it is difficult to hold the macroprudential policy authority accountable during periods in which no financial crises occur, and so measuring its performance can be challenging.

By contrast, a “specific” mandate (e.g. moderating the credit cycle) would be relatively simple to define and monitor. Risk warnings or policy recommendations based on this type of mandate would be harder to

challenge, and could trigger more expedite and effective action. A “specific” mandate would also simplify accountability. However, the flip side of the coin is that the macroprudential authority could not be held accountable for not acting upon signals and events falling outside its mandate: it would be difficult to blame it if a crisis developed while credit growth was subdued, e.g. because credit growth took place outside the official definition of credit.

Altogether, there are good reasons why the “broad” type of mandate was chosen by the ESRB and by the FSOC. At the same time, regulators and the macroprudential authorities themselves should be wary of the risks posed by this formulation in the coming years, which shall be crucial for the establishment and the success of the new policies.

Similar difficulties emerge in the definition of the appropriate tools for macroprudential policies. As systemic financial risk can emerge from many sources, there may be on occasion the need to act with very different instruments. This implies that in general macroprudential authorities will have to act “through” other authorities, for example those responsible for micro-prudential, fiscal or other economic policies. At the same time, the evidence shows that financial crises are very often associated with large fluctuations in credit and asset prices. Most analyses, including the Bank of Italy's, indicate that in order to moderate the growth of credit and asset prices and reduce the likelihood of financial crises, instruments such as countercyclical variations in banks' capital requirements or in loan-to-value ratios may be useful.

This means that instruments of macroprudential policies will affect variables that are also affected by monetary policy, such as credit supply or loan rates. The potential interaction between the two sets of policies needs to be well understood and taken into account.

As recently emphasised also by Governor Noyer,⁴ the objectives of macroprudential and monetary policies must remain clearly distinct. In particular, the crisis has reinforced the case for monetary policy to remain firmly focused on maintaining price stability: inflation expectations have remained well anchored throughout the crisis, giving monetary authorities the flexibility to react strongly to the downturn, also with unconventional measures.

⁴ See Noyer (2010).

While price stability remains the primary objective, it is also a clear lesson from the crisis that monetary policy should also be better prepared to counter developments in money and credit that can fuel the build-up of financial disequilibria, even in the absence of immediate inflationary dangers.⁵ In this endeavour monetary policy can receive substantial support from macroprudential policies: by reducing the pro-cyclicality of credit creation, they can help to dampen the economic cycle.

On the other side, coordination failures might arise between the macroprudential authority and the central bank. In this regard, the key question concerns the relationship between the policy interest rate and the “new” macroprudential instruments. It is necessary to fully understand the macroeconomic effects of macroprudential policies. This is the case, in particular, if one accepts the view that macroprudential tools, such as capital buffers, should be steered discretionarily.

The theoretical and empirical analysis of the interaction between monetary and macroprudential policies is at a very early stage; we must push forward a research agenda on these topics. Current research at the Bank of Italy indicates that macroprudential policies based on countercyclical capital buffers or a loan-to-value ratio to smooth fluctuations in lending may help to dampen output fluctuations. However, lack of cooperation between monetary and macroprudential authorities may create the risk of a coordination failure and suboptimal macroeconomic results (such as significant instability of macroprudential and monetary policy instruments).⁶ These results are due to the fact that macroprudential policy and monetary policy affect closely related macroeconomic variables but have different objectives, so that at times they can push in different directions.

In this respect, the new European institutional arrangement seems appropriately designed. In the European Union, consistency between macroprudential and monetary policy will be ensured by the composition of the ESRB, where central banks play a prominent role. Moreover, the potential

conflicts among the two policies will be limited by the fact that the tools and actions of macroprudential policy will normally be more selective, on a sector basis and geographically defined than is the case for monetary policy.

4 | A NEW EUROPEAN ECONOMIC GOVERNANCE

Recent financial market turbulence, especially that associated with the sovereign debt crisis in some euro area countries, has made it painfully clear that the economic integration and interdependence created by the common currency requires stronger coordination of economic policies and an enhanced governance.

Monetary union (EMU) is not in question. There is a strong, common interest in preserving the euro, which ties together all participating countries –the sound ones and those at present in distress. Since its inception, the euro has emerged as a strong and credible currency in international markets; during the crisis it has provided an anchor of stability. It represents a crucial step towards greater European unity. The process is certainly incomplete and there are areas of fragility, some of which came under scrutiny because of the crisis. We need to address these hardships by moving forward rather than backward.

Policymakers in Europe must now concentrate their action on at least three areas:

First, they need to deliver the growth-friendly fiscal adjustments they have committed to implement.

Second, they need to focus on the structural reforms that Europe needs in order to boost potential growth; current problems in many countries stem as much from excessive debt as from the weak economic growth expected in the years ahead.

Third, they need to agree on a thorough reform of European economic governance. The crisis highlighted some major shortcomings. Fiscal rules and procedures have proved unable to deliver prudent

⁵ It has been pointed out, especially in work at the Bank for International Settlements (see, for example, Borio and Lowe, 2004) that thanks to the success of macro-stabilisation policies and to structural changes in the responsiveness of aggregate supply (partly as a result of globalisation), inflation expectations are now much more firmly anchored, and episodes of excess creation of liquidity and credit tend to be reflected primarily in asset price bubbles rather than in consumer price inflation. Moreover, asset price cycles tend to be associated with large changes in indebtedness and add to financial vulnerabilities, thus posing significant risks for macroeconomic stability in the medium to longer run (Visco, 2009).

⁶ See Angelini, Neri and Panetta (2010). Similar results are obtained by Bean et al. (2010).

policies: many member states entered the crisis with an already high public debt and insufficient margins of manoeuvre; in the case of Greece, the surveillance did not even guarantee the use of proper accounting and sound statistical standards. Moreover, macroeconomic imbalances were not given an adequate role in the design of EMU governance: tensions hit not only countries with problems of public finances, but also those with a high external deficit, unbalanced growth and/or a highly indebted private sector. Finally, an appropriate framework to safeguard the financial stability of the euro area in crisis situations was missing altogether.

Reform proposals have been set out in all the three areas by the European Commission and the Task Force chaired by President Van Rompuy.

Concerning fiscal surveillance, the Report of the Task Force states that “the debt criterion ... should be made operational to be effectively applied”. This proposal is clearly welcome. It is well known that, while the Maastricht Treaty requires countries with high public debt to reduce it “*at a satisfactory pace*”, this provision has never been effectively implemented. The Report also envisages a wider range of sanctions, both financial and political, to be applied progressively, starting at an early stage in the budgetary surveillance process, in order to strengthen the incentives to comply with the rules in good times. However, the procedures remain too lengthy and largely determined by discretionary decisions of the European Council. This is the fundamental problem of multilateral surveillance as it is currently conceived. There is no independent enforcer of EU rules: the supervisors are the supervised themselves.

With regard to the surveillance of macroeconomic imbalances, the Task Force proposes an alert mechanism, based on the analysis of macroeconomic and competitiveness developments, and an enforcement mechanism that includes sanctions if a country in “excessive imbalance position” does not comply with the Council’s recommendations. As the crisis showed, macroeconomic imbalances may lead to unsustainable development and dangerous spillovers to other countries.⁷ However, designing

and implementing effective control in this area presents several challenges. First, timely detection of macroeconomic imbalances may be problematic; second, identifying and reaching a consensus on the appropriate policies to tackle structural problems is not simple, to say the least. To avoid long and unproductive negotiations between the Council, the Commission and the country under examination, we need transparent procedures, a clear commitment on the part of member states and a clear focus on a limited number of indicators, the ones directly related to threats to financial stability. In this area, I expect that the ESRB will provide a significant contribution to the analysis and prevention of some of the major imbalances.

Finally, it is important that the euro area endows itself with a framework capable of addressing financial distress and avoiding contagion. The consequences of the absence of a well-defined crisis resolution mechanism clearly emerged last spring with the Greek crisis: the uncertainty increased the costs of finance for virtually all member countries, including those providing financial support. A crisis management framework has to be designed so as to ensure appropriate incentives for countries applying for financial support and for private credit markets, in order to limit moral hazard. At the end of November 2010, the Eurogroup agreed on the main features of a crisis management framework aimed at safeguarding the financial stability of the euro area as a whole. In particular, it has (i) stressed that assistance will be based on a stringent programme of economic and fiscal adjustment and on a rigorous debt sustainability analysis; (ii) clarified that the mechanism does not represent an unconditional bailing out and that there is always a possibility that private creditors may incur losses if the country concerned does not succeed in implementing the necessary adjustment.

These proposals move in the right direction. However, many important issues have yet to be settled. This is a classic case of “the devil being in the details”. It is only with a clear manifestation of cooperation, solidarity and steadiness that the European community and the euro will be fortified.

⁷ See, for example, Giavazzi and Spaventa (2010).

Policy responses to the global crisis have helped stabilise confidence and limit the threat of financial instability. Countries acted together at the peak of the crisis. Yet, despite announcements about the importance of coordination, subsequently they resorted to policies that appear to have an essentially national focus. Strengthening multilateral coordination to mitigate global distortions remains a priority. In fact, the large accumulation of public debt and a protracted situation of abundant liquidity now carry the risk of creating new imbalances and vulnerabilities.

It is equally essential to proceed decisively with the reforms of financial regulation and supervision already drafted by the Financial Stability Board and the Basel Committee. These reforms will make financial systems both more resilient and less pro-cyclical and will correct the incentive distortions that played an important role in this crisis.

In general, this approach suggests striving for greater global governance. Global problems, after all, require global solutions, which calls for an important role for international organisations like the IMF and global forums such as the G20, alongside stricter international codes and standards.

In Europe, countries have responded to the crisis both individually, with fiscal policy measures designed to contain sovereign risk and prevent contagion, and collectively, with new institutions and rules. This process is not yet complete. Countries with the weakest public institutions were not in a position to overcome their economic policy difficulties on their own. With European rules that are quasi-automatic, fast-acting and sensitive to market signals, they can draw on the stronger countries for the determination they themselves lacked.

A monetary policy that ensures medium-term price stability and a stronger framework for controlling public deficits are fundamental. Restoring economic growth is equally essential for maintaining financial stability. This is the front on which the Union's cohesion will be tested: the ability to foster harmonious, sustained growth for all the member states, with common rules which, like those governing public finances, will provide help to those countries lagging behind in undertaking the needed structural reforms.

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Global imbalances: common problem to solve for both advanced and emerging market economies

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The recent crisis has shown that in order to enhance financial stability the international community should not only remove deficiencies in the regulation of financial institutions and markets, but also find a durable solution to the problem of global imbalances. The initial result of the financial crisis and economic recession was the lessening of global imbalances, including the reduction of the current account deficits and surpluses in the leading trading nations and moderate growth in the savings rate in advanced economies. In the future, however, unless productive measures are taken, the post-crisis global economy with unprecedentedly big public debt in many systemically important countries may again face the perils of global imbalances such as currency wars, protectionist pressures and financial instability.

Solutions to this problem are as varied as its causes and call for coordinated actions by both the developed and developing countries. In addition to the adjustment of the macroeconomic and exchange rate policies, there is a need to proceed with structural reforms aimed at raising the savings rate in the advanced economies and stimulating domestically driven growth in the emerging market countries. Taking into account the persisting precautionary motives for many developing economies with volatile capital account to hold sizeable international reserves, the development of a fair global financial safety net within the reform of the international financial infrastructure alongside with the strengthening of the national financial systems will play an important role in restoring balanced global growth.

NB: Alexey Ulyukaev, First Deputy Chairman of the Bank of Russia; Vladimir Smenkovskiy, Adviser to the Chairman of the Bank of Russia and Elizaveta Danilova, Chief Economist, Market Operations Department, co-authored this article with Chairman Ignatiev.

Restoring global current account balance, distorted during the past decade, is a top priority for the international community focused on ensuring sustainable long-term economic growth. Global imbalances have created formidable problems for the world economy, as they provoked excessive decline in long-term real interest rates and surge in high-risk lending on the global scale thus becoming one of the most important reasons for the world financial crisis. For several years prior to the crisis ample liquidity and low cost of financing had stimulated ineffective allocation of world resources, maintained an excessive level of consumption in many countries, created asset price bubbles and led to growth in foreign and domestic debt.

In the years preceding the crisis many economists had warned about the threats of the growing imbalances in the trade and capital flows among the world's leading economies, especially the exorbitant current account deficit in the United States and current account surplus in China caused by excessive savings in the developing countries and excessive consumption in the developed nations. Many believed that a crisis could break out if global investors suddenly stopped buying US debt securities, compensating for the growing US current account deficit, and this would seriously hurt the US economy and affect aggregate global demand. However, the trouble came from where it was least expected, the US mortgage market, while the low-risk dollar-denominated assets not only remained attractive, but became a 'safe haven' for the investors who withdrew their funds from the riskier emerging markets.

As the crisis evolved, the local problem of one market, although the world's largest one, created by the poor quality of subprime mortgage loans and the perils inherent in securitisation, provoked a major financial crisis and the financial markets became virtually paralysed. The contagion of the crisis spread all over the world because in the pre-crisis years most investors failed to adequately assess their risks and there were numerous drawbacks in the regulation and supervision of the financial institutions and markets.

Imbalances in the global economy created conditions that encouraged banks and other investors to take excessive risks before the crisis and they may destabilise the world financial system in the future, too. More stringent regulation and new

restrictions imposed on the banking sector in the leading economies will motivate banks to look for new markets and new instruments with higher returns. Thus, to prevent new crises or minimise their consequences, the world community should not only reform regulation, tightening capital and liquidity requirements for banks, upgrading the financial infrastructure and tackling the problem of the systemically important financial institutions, but also address the problem of global imbalances.

1 | CAUSES OF GLOBAL IMBALANCES

Global imbalances are a complex problem, a peculiar vicious circle created by both the developed and developing countries. On the one hand, imbalances are the result of the deficiencies in macroeconomic policies implemented by the advanced economies in the pre-crisis period. For a long time their monetary policy was too accommodative; it focused too much on consumer price index dynamics and ignored some important indicators of potential threats to financial stability, such as asset and commodity prices. Even when the Federal Reserve's target rate began to rise in the second half of the 2000s, US long-term interest rates remained unchanged. That extremely unusual situation largely resulted from the increased global imbalances: as trade surpluses grew, the developing exporting countries accumulated international reserves and invested these funds in US Treasury securities. Given the persistence of excess liquidity and low cost of resources, banks did not hesitate to take high risks and thus contributed to financial instability.

In addition, the developed countries' commitment to long-term fiscal consolidation amid rapid economic growth was insufficient in the pre-crisis years. Most of them in fact continued to pursue a procyclical fiscal policy, which also stimulated excessive consumption. They failed to take advantage of growth in tax revenues from the booming housing, construction and financial services sectors for reaching budget surpluses. Therefore, when tax revenues fell sharply during the crisis, the vulnerability of the fiscal sectors of these countries became apparent.

On the other hand, imbalances were partly caused by the policy pursued by certain developing countries, which stimulated exports and economic growth

by undervaluing their currencies. That led to significant growth in their gold and foreign exchange reserves, although one should admit that there are also objective factors behind the trade and current account imbalances of different countries.

Furthermore, there was another rationale behind the excessive propensity for savings of some of the emerging economies that accumulated significant gold and foreign exchange reserves –the desire to create a security buffer against possible external shocks, which is the aftermath of the regional financial crises of the 1990s. This group of countries includes Russia. These countries are characterised by high capital and financial account volatility, massive inflow of speculative capital (which can quickly flee the country as soon as the first shock emerges), heavy dependence on exports and volatile markets and relative weakness of the financial system. The accumulation of reserves is the objective necessity for these countries as there are no adequate and predictable lending arrangements in the international financial institutions providing guaranteed access to credit in the required volumes.

The empirical models analysing the unprecedented growth in reserves over the past decade are based on this very rationale in the behaviour of developing countries. One of the early suggestions on this issue is the Guidotti-Greenspan rule elaborated after the crisis of 1997-1998 stating that a country's reserves should cover at least its short-term foreign debt. According to the latest models of international reserves build-up (O. Jeanne)¹, a country defines its optimal amount of reserves, comparing potential crisis costs (capital flight and decline in output) with the opportunity cost of keeping reserves (instead of making more profitable investments). Analysing model predictions for Asian countries, the author

comes to the conclusion that the level of their reserves is justified if the expected crisis loss exceeds 60% of gross domestic product (GDP), whereas, according to the author's estimate, the expected loss from the contraction of capital inflow approximates 10-15% of GDP. Nevertheless, many countries especially susceptible to the risk of capital outflow may face considerably bigger loss as a consequence of a major crisis. For example, as a result of the 1997-1998 crisis Korea and Malaysia sustained indirect losses (the difference between the actual and potential GDP growth rates in the post-crisis years) equalling about 50% of GDP (IMF estimate).²

In case of a crisis, reserves may be channelled to repay the foreign debt of the government, banks and companies with government interest, secure imports and support the domestic currency rate which will help minimise the negative consequences of the crisis for the economy. The experience of Russia confirms this well: during the latest crisis we had to use a substantial portion of our reserves to maintain financial stability and minimise the shock effect of the crisis for the businesses and households. Thanks to controlled and gradual devaluation of the rouble, public confidence in the national currency and banking system was preserved. Since August 2008 the deepest fall of the RUR/USD exchange rate during the crisis equalled 48%, while the capital outflow in the period from 2008 Q3 to 2009 Q1 amounted to USD 195 billion. If Russia had not had enough reserves, the rouble's fall would have been more dramatic and its consequences for financial and macroeconomic stability would have been more disastrous. In other emerging economies capital outflow during the most severe phase of the crisis was considerably lower than in Russia (see Table 1) so the reserves accumulated by Russia proved to be adequate to the existing risks.

Table 1
Foreign sector indicators in certain G20 countries during the crisis

Country	Maximum currency exchange rate fall against US dollar since 1 st August 2008 in %	Contraction in international reserves over corresponding period in %	Contraction in international reserves in billion of US dollars	Capital outflow over corresponding period in billion of US dollars
Russia	48	36	212.8	193.0
Republic of Korea	45	19	46.0	42.6
Brazil	60	-2	-3.2	17.1
India	22	19	57.3	11.4

Source: Bank of Russia calculations based on Bloomberg data.

1 Jeanne (2007): "International reserves in emerging market countries: too much of a good thing?", *Brookings Papers on Economic Activity*.

2 Laeven and Valencia (2008): "Systemic banking crises: a new database", *IMF Working Paper*, September.

When the global economic situation is stable, a vast amount of international reserves in the developing countries facilitates the reduction of country risk, reduces the cost of credit for the private sector, making global capital allocation more effective. So, the causes and consequences of global imbalances resulting from the policies of the emerging market countries are complex and controversial.

The United States and some other advanced economies are 'forced' to accept investments as a result of the policies pursued by their trading partners and international investors, who actively invest in their government bonds and private sector debt securities. For example, in the period from 2001 to 2007 foreign investments in US Treasury securities increased by 2.7 times and in US corporate bonds by 3.1 times.³ However, this 'forced' situation proved extremely comfortable for these countries in the pre-crisis years: while saving very little, they consumed very much, borrowing funds from the whole world at minimum interest rates and placing a part of these funds in the developing countries at much higher rates.

One reason for the sustainability of global imbalances is the imperfect international monetary system, which is largely based on the domination of the US dollar as a reserve currency and lacks adequate instruments of providing global liquidity. The main reserve currency status of the dollar causes the growth of the US double deficit (fiscal and current account), making it easy to

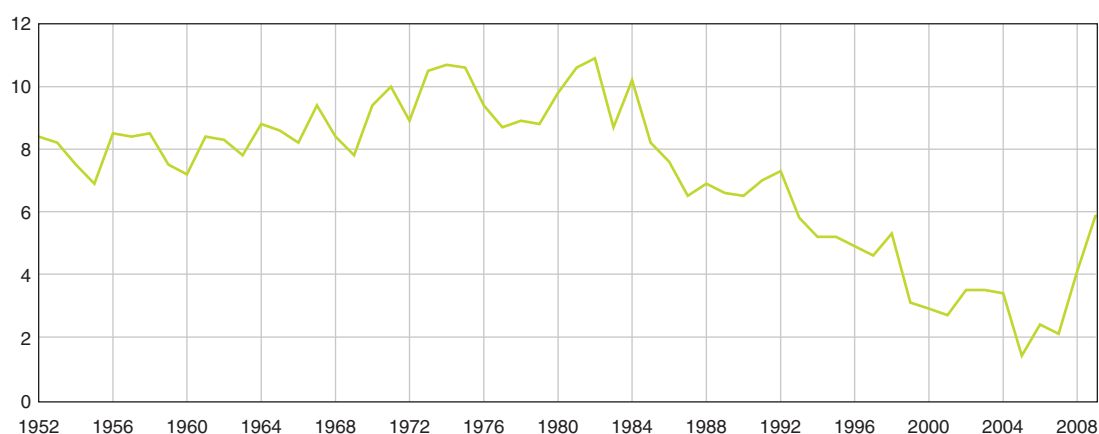
finance, and this hinders the reduction of the US structural fiscal deficit. Imbalances increased not only because the IMF had no mechanism to ensure all countries effective access to borrowings from the IMF facilities, but also because there were no tools to force most of the member states to implement IMF recommendations within bilateral and multilateral surveillance.

Thus, the analysis of the causes of global imbalances shows that their growth is a common problem for the developed and developing countries, and should be solved by all nations together.

2 | IMPACT OF FINANCIAL CRISIS ON IMBALANCES IN GLOBAL ECONOMY

The disastrous financial crisis has led to the marked contraction of lending in the United States and, as a result, there has been a fall in consumption. US households, having lost access to cheap loans, increased savings. As a consequence, the US personal savings rate (personal savings as a percentage of disposable income) has risen to the highest level since the early 1990s (Chart 1). In the first half of 2010, the public propensity for savings remained unchanged at about 6%. In 2010, the national savings rate, which includes also corporate and government savings, rose as well and the IMF expects in the next five years its moderate growth to the pre-crisis level (Table 2).

Chart 1
US personal savings rate as a percentage of disposable personal income



Source: US Department of Commerce Bureau of Economic Research.

³ Data on US international investment position. Source: US Department of Commerce.

Table 2
National savings rate dynamics and outlook for certain G20 countries

(% of GDP)

Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Japan	30	28	27	28	28	27	23	23	23	24	24	24	24
United Kingdom	16	15	14	14	16	15	13	12	13	14	15	15	16
United States	16	18	15	16	14	12	11	12	14	15	16	16	16
France	19	21	20	21	21	20	17	18	18	19	19	19	19
Germany	21	20	23	26	29	28	23	25	24	24	23	23	22
Brazil	16	14	19	19	18	17	15	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	43	37	51	53	52	52	52	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
India	27	25	34	35	36	34	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Russia	28	36	31	31	31	31	22	26	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: IMF (data and outlook for advanced economies), World Bank, national statistics, Bloomberg.

At the same time, there was a significant contraction in the US current account deficit and a simultaneous reduction in China's current account surplus (Table 3). Thus, initially the crisis somewhat mitigated the existing imbalances but this effect seems to be rather short-term.

In 2010, the developing countries, especially China, have displayed again rapid GDP growth rates, whereas the world's leading economies (the United States, the United Kingdom and the eurozone as a whole) have registered the slowing of economic growth. According to a preliminary estimate as of January 2011, in 2010 China's GDP grew by 10.3%, which represents an increase of 1.1 percentage points in comparison with the same figure of 2009. Beginning from 2012, the US current account deficit will start to increase again, according to the IMF forecast.

The problem of global imbalances may deteriorate further because during the crisis all the leading economies registered significant growth in government debt. The exacerbation of the problem of

global imbalances and the increase in the government debt burden may put in question the existence of risk-free assets in the economy and this, in turn, may destabilise the financial system, as the assessment of almost all financial assets is based on the existence of risk-free assets.

The state of the fiscal sector in Russia is better than in other G20 countries and this provides greater potential for the use of stimulating measures, in case there is a need for them, and contributes to financial stability.

The stimulating monetary policy still pursued by the leading industrialised nations will, on the one hand, facilitate the devaluation of their currencies, making their exports more competitive and reducing global imbalances. On the other hand, the injection of vast amounts of liquidity will stimulate the flow of speculative capital to the emerging markets where interest rates are considerably higher, and this will further increase the risk of financial instability, asset price bubbles and an abrupt capital outflow.

Table 3
Current account of certain countries: historical dynamics and IMF forecast

(USD billions)

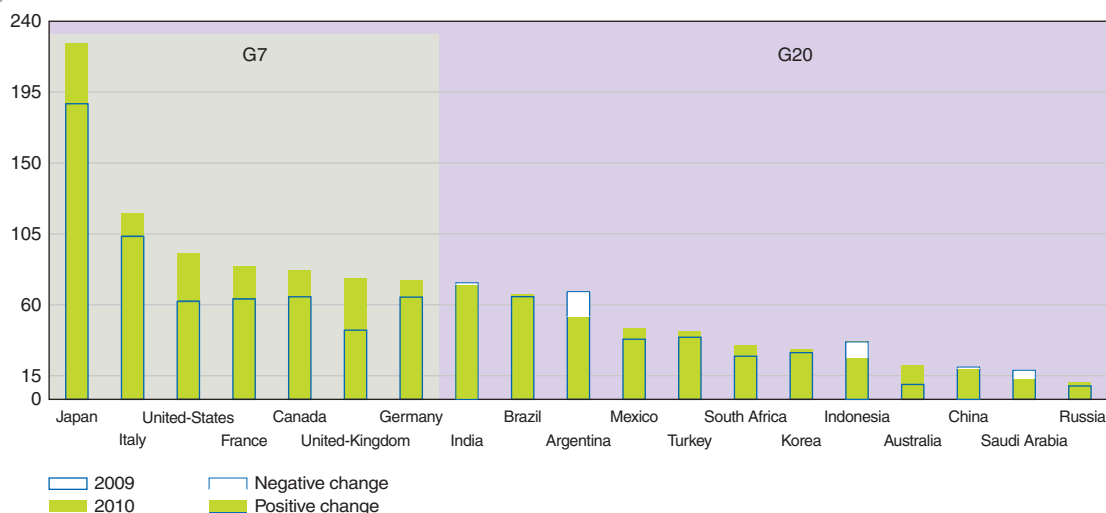
Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Japan	111	120	166	170	211	157	142	166	133	135	130	126	122
United Kingdom	-14	-39	-60	-83	-73	-44	-24	-50	-49	-45	-36	-32	-32
United States	-114	-416	-748	-803	-718	-669	-378	-467	-400	-420	-466	-524	-602
France	7	19	-10	-13	-26	-55	-51	-46	-46	-46	-48	-51	-54
Germany	-30	-33	143	188	254	246	163	200	196	182	173	161	145
Brazil	-18	-24	14	14	2	-28	-24	-52	-65	-77	-81	-84	-92
China	2	21	161	253	372	436	297	270	325	394	494	621	778
India	-6	-5	-10	-9	-8	-25	-36	-44	-50	-54	-53	-53	-53
Russia	7	47	84	94	77	104	50	70	62	47	44	37	33

Source: IMF website, World Economic Outlook Databases, October 2010.

Chart 2

G7 and G20 consolidated government debt: IMF estimate as of end of 2010 and change in 2009-2010

(% of GDP)



Source: Bank of Russia calculations based on IMF data.

In these circumstances many countries with a free capital movement regime are imposing restrictions on foreign capital inflows again. The latest financial crisis provided empirical evidence that in some cases restrictions on the movement of capital may help change the structure of investments (in favour of less risky long-term investments) and avoid the most damaging consequences of the crisis.⁴ As a result, the IMF, which had advocated for decades the free movement of capital by countries that had already liberalised their capital account, has now somewhat softened its stance: speaking in Shanghai in October 2010, the IMF Managing Director said that restrictive measures could be used in some cases when capital inflows may have a destabilising effect.

It should be noted that the range of possible measures aimed at containing capital inflow may be quite wide and include various administrative and market instruments and instruments of prudential regulation, which are designed to increase the stability of the financial institutions and affect the inflow of foreign capital indirectly. For example, in October 2010 Thailand imposed a 15% tax on income from government bonds paid to foreign investors and Brazil levied a tax on foreign investment (differentiated tax rates were set on the shares of Brazilian companies, bonds of Brazilian issuers, etc). As for the measures

announced by South Korea last June, their principal objective was to contain growth in banking sector foreign liabilities. These prudential measures include a limit on the currency derivatives position, a restriction on foreign currency-denominated loans extended by banks and higher liquidity requirements for the Korean banks' assets denominated in foreign currency.

Russia removed all restrictions on the movement of capital in 2006 and it has no plans to reinstate them. We believe that some regulatory measures aimed at maintaining stability of the financial sector, containing excessive lending and preventing asset price bubbles may be useful under certain circumstances. However, by and large, Russia remains committed to the principles of the capital flow liberalisation and this, in our opinion, is the right approach from the viewpoint of the long-term improvement of the investment climate.

On the whole, Russia managed to protect itself from the most destructive consequences of the capital outflow during the crisis. When export revenues grew as a result of the rise in oil prices and the Russian economy was infused with an unprecedented amount of foreign capital, the Bank of Russia and the Russian Government accumulated significant reserves and

4 Ostry et al. (2010): "Capital inflows: the role of controls", IMF Staff Position Note, February 19.

created stabilisation funds, which protected the economy from capital losses when private investors panicked. No new restrictions were imposed on capital inflow or capital outflow.

There is no doubt that reserves and stabilisation funds are extremely important weapons in fighting the crisis, but they are not enough. Experience has shown that even vast reserves may not be sufficient to maintain stability on the foreign exchange market at the height of an acute crisis when these reserves are spent up quickly because of the worsening expectations and herding behaviour. Therefore, the policy of accumulating reserves and funds should be backed up by other measures, including macroeconomic ones and policy co-ordination with trading partners.

3| MEASURES TO MITIGATE GLOBAL IMBALANCES AND ASSIST FINANCIAL STABILITY

An exchange rate policy readjustment by some emerging economies and G20 countries' refusal to participate in 'currency wars' are important steps in tackling the problem of global imbalances, but these are not enough. It is necessary further to raise the savings rate in the industrialised nations on the basis of large-scale structural reforms. The projected measures to cut budget deficits in most of these countries, the reforms of the pension, education and healthcare systems and the abolition of excessive subsidies in some sectors will help these countries optimise expenditures in their economies and preserve the achieved economic growth rates on the basis of the maximum use of their internal resources while restricting the growth in foreign debt.

On the other hand, it is extremely important for the emerging economies to stimulate domestic consumption. The impressive national savings rate in China (about 52% of GDP in 2009) and its rapid growth (from 37% of GDP in 1999) is based on its world's highest savings rates in all sectors – government, corporate and household. These levels were achieved, in part, owing to tempestuous economic growth rates and, in part, they were the upshot of some institutional and demographic

factors (the restructuring of state companies, the transition to the pre-funded pension system and the significant expansion of the share of the working-age population), whose effect will abate in the future. The state sector, whose savings made the biggest contribution to the rise in the savings rate in China, is expected to increase spending on social programmes.

In its consultation reports within the framework of Article IV, the IMF notes that in order to reorient its economy to growth in domestic consumption, China should, in addition to increasing social transfers and implementing structural reforms in the corporate sector, allow the renminbi's appreciation, which will increase private sector consumption. It is clear that China is facing a dilemma: letting the currency get too strong seems dangerous because in that case the country may lose its competitive advantage, while the refusal to strengthen the exchange rate is fraught with the risk of overheating the economy.

To resolve the problem of global imbalances, the international community should also address the problem connected with the accumulation of reserves by developing countries for the purpose of creating a buffer reserve. More rapid rates of growth in these countries create objective conditions for the inflow of foreign capital. But reserves are necessary as a safeguard against a possible sharp capital outflow. The development of a global financial safety net in the future will help reduce countries' needs in gold and foreign exchange reserves. The further improvement of IMF instruments, especially the Flexible Credit Line and Precautionary Credit Line, will play a major role. These mechanisms should be accessible for the countries with a sound macroeconomic and financial regulation policy, which nevertheless suffer from high financial account volatility. It is important in this case to ensure that the use of these instruments does not become a distress signal in regard to the countries applying for the IMF credit lines. On the contrary, they should serve to bolster investor confidence and stabilise the situation.

To assist financial stability in the emerging economies, it is needed to make carry trade and other speculative investments less attractive and take steps to increase the share of long-term investments. Making speculative investments in rouble assets less attractive by ensuring a more

flexible rouble exchange rate is one of the measures being carried out in Russia at present. Measures to strengthen the financial system and improve regulatory rules will contribute to minimising the risk of a double crisis, when the outflow of foreign

capital provokes residents to actively withdraw funds from the financial system. In addition, Russia, like other emerging economies, must stimulate the development of stable internal sources of growth in the real economy.

Obviously, global imbalances cannot be eliminated overnight and the world economy will still face this problem for a time. However, we must not allow imbalances to grow to such an extent that international relations will be thrown back to the time of currency wars and protectionism. To prevent such a development is the joint responsibility of both the countries with a current account deficit and countries with a current account surplus. Meanwhile, the best long-term solution to the problem of imbalances would be for both the developed and developing countries to ensure a more balanced correlation between national savings and investments by carrying out the necessary structural reforms. At the same time, it is clear that an open global economy, free international financial markets and a more effective and equitable international monetary system should constantly assist the international community in attaining these goals.

Global balance and financial stability: twin objectives toward a resilient global economic system

CHOONGSOO KIM

Governor

Bank of Korea

Under the impetus of the recent global financial crisis, there has been a growing recognition that the global imbalances are a systemic problem that has a great bearing on the macroeconomic policies of a number of countries as well as on cross-border capital flows, and that they might be linked both directly and indirectly to the global crisis. In this sense, the G20, as the premier forum for the resolution of global economic issues, should lead the drive for comprehensive and systematic reforms to attain global balance and financial stability, twin objectives toward a resilient global economic system.

For this, we must first flesh out the Framework established in 2009 to boost policy coordination among member countries. Our efforts made in building the Global Financial Safety Nets and in financial regulatory reform must be maintained, and tangible outcomes must be reached on key issues including improvements in the International Monetary System and the establishment of a Macroprudential Policy Framework. In addition, central banks must develop monetary policy frameworks that can effectively address the problem of boom and bust in asset prices so as to ensure financial stability.

The policy coordination pursued by the G20 is indispensable for the shared growth of the global economy, but is not an easy task as it may run counter to the short-term interests of individual countries. However, we have succeeded in narrowing differences between our opinions on major issues over the course of previous G20 meetings, which is itself a valuable step in building up mutual trust. In this regard, I believe the G20 will formulate substantive policy coordination in the future, based upon mutual trust.

The recent global financial crisis has led us to a realisation that global imbalances are a systemic problem which has a great bearing on the macroeconomic policies of a number of countries as well as on cross-border capital flows. They may be seen as being both directly and indirectly linked to the recent financial crisis. More people have come to support the view that the global imbalances and financial instability were mutually reinforcing through their interlinkages, and precipitated a fully-fledged global crisis due to globalisation.

Based on a growing consensus that the global imbalances are a problem that must be tackled to secure sustainable and stable growth of the global economy, the G20 countries agreed on the need for structural analysis to identify their causes, together with close international policy coordination. To this end, at the 2009 G20 Pittsburgh Summit, the G20 leaders called for the establishment of a Framework for Strong, Sustainable and Balanced Growth. At the 2010 G20 Seoul Summit, they consequently adopted a comprehensive policy action plan (the so-called “Seoul Action Plan”) for the future policy directions of G20 countries.

In what follows, I will first review trends in global imbalances, then touch on the issues of their

causative factors, their sustainability, and their linkages with financial stability. Then, I seek to suggest some feasible policy responses for alleviating global imbalances and preventing the recurrence of financial crises.

1 GLOBAL IMBALANCES: TRENDS, CAUSES AND SUSTAINABILITY

1|1 Global imbalance trend

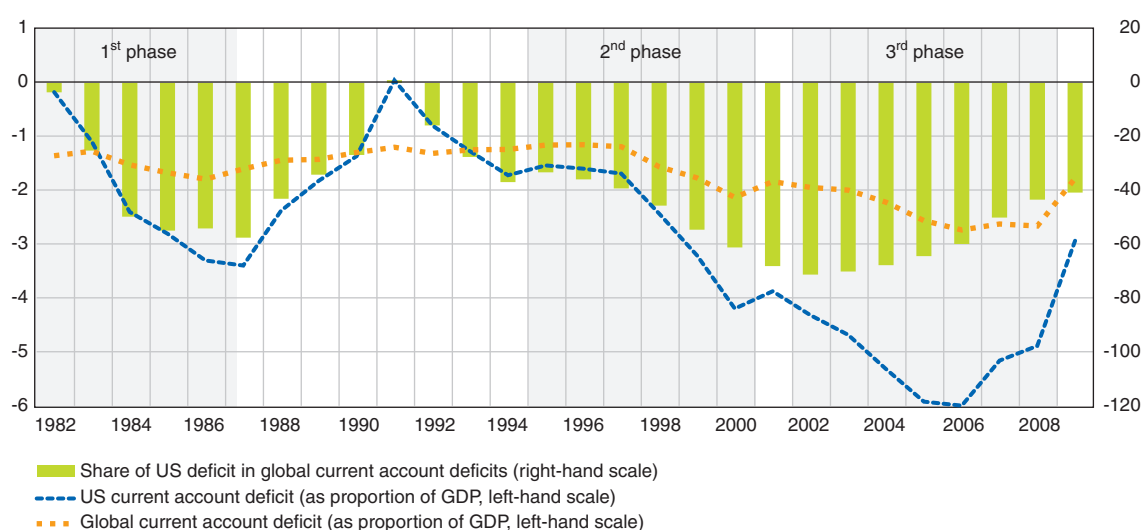
Looking at the period from the 1980s, we can identify three major phases of global imbalance episodes, each having its own distinct characteristics and causative factors, but with an emphasis on the changing US deficit.

FIRST PHASE OF GLOBAL IMBALANCES: THE 1980s

The United States registered large current account deficits from 1980 onwards, highlighting the issue of current account imbalances.¹ During this period, its deficits in trade with advanced countries such as Japan and Germany made up almost 50% of the total US current account deficits.

Chart 1
Global imbalance trends

(%)



Source: IMF WEO database, April 2010.

¹ The US current account deficit increased as a ratio against GDP from 0.2% to 3.4% during 1982-1987, while increasing as a percentage of the total global current account deficits from 3.5% to 57.5% over the same period.

Current account imbalances at that time were a problem that was confined to a few advanced countries, and so they were more or less easily dealt with within advanced-country cooperative forums such as the G5. To be more specific, the current account imbalances were resolved quickly through the exchange rate adjustments made in line with the 1985 Plaza Accord, the US fiscal deficit reduction under the 1987 Louvre Accord, and the efforts to boost domestic demand in both Japan and Germany, running the largest current account surplus positions.

SECOND PHASE OF GLOBAL IMBALANCES: THE 1990s

Global balance appeared to have been restored in the first half of the 1990s, until imbalances again worsened with the rapid widening of the US current account deficit from 1996. While Japan, the furthest in the black on the current account, continued to record large surpluses, they also widened significantly in oil-producing countries and emerging Asian countries after the 1998 Asian Currency Crisis.

During this period, the US economy recorded rapid growth with the development of the information technology (IT) sector, and capital inflows to the United States increased

as well. This led to a strong dollar, which further entrenched the chronic US current account deficit.

THIRD PHASE OF GLOBAL IMBALANCES: EARLY 2000s

In the early 2000s, the problem of current account imbalances spread out to encompass not just the United States and other G7 countries, but a number of certain European countries, emerging countries and oil producers, becoming a worldwide phenomenon.²

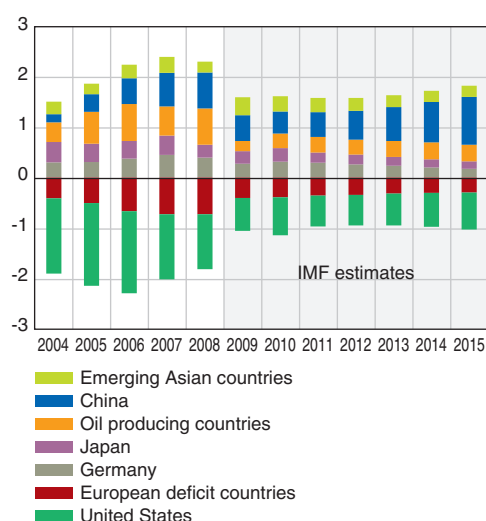
Prior to the global financial crisis, the current account deficit-to-GDP ratio in the United States increased from 3.9% in 2001 to 5.2% in 2007,³ while those of certain European countries running a current account deficit⁴ expanded on average from 2.0% to 5.0%³ during the same period. Meanwhile, among countries running a current account surplus, advanced countries including Japan and Germany, emerging Asian countries and oil producers all recorded larger surpluses during this period.

CURRENT TRENDS AND PROSPECTS

When the global financial crisis erupted in 2008, the world economy contracted sharply, and the global

Chart 2
IMF current account forecasts

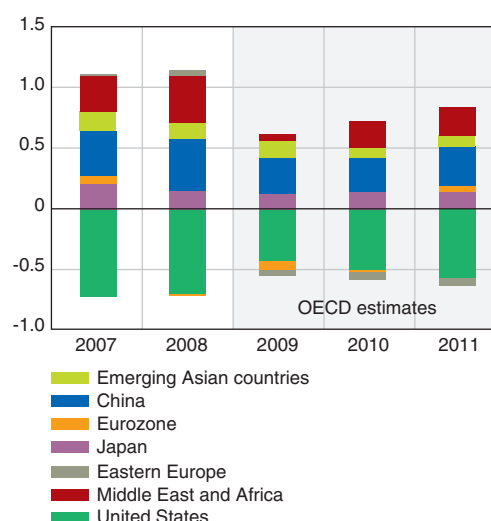
(% of global GDP)



Source: IMF WEO Database, October 2010.

Chart 3
OECD current account forecasts

(USD trillions)



Source: OECD WEO, April 2010.

² Total current account deficits as a percentage of global GDP increased from 1.8% in 2001 to 2.7% in 2006.

³ IMF WEO database (April 2010).

⁴ Greece, Italy, Spain, Turkey and the United Kingdom.

imbalances eased temporarily.⁵ However, since global economic activity began to recover from early 2010, they have been increasing once again. International organisations such as the IMF and the OECD forecast that global imbalances will not be as large as prior to the crisis for the time being, but that they will steadily expand as the United States and other economies continue to recover and consumption increases.

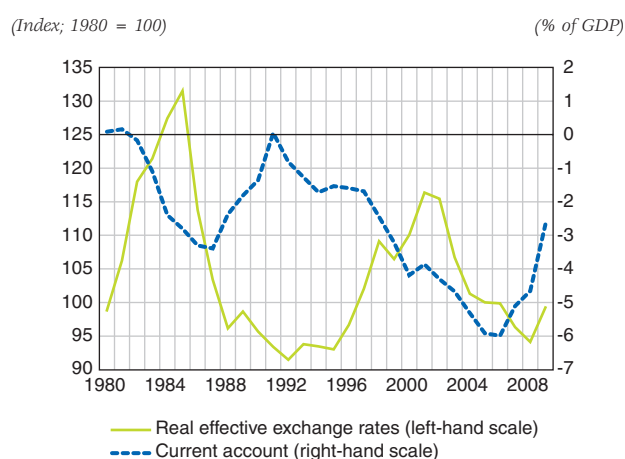
In retrospect, the trend of global imbalances since the 1980s shows they are becoming a global issue, expanding from a matter of concern to a small number of advanced countries to affect many others, including emerging economies. The response to global imbalances must therefore also be made through global cooperative forums such as the G20.

1|2 Imbalances and sustainability: causative factors

CAUSATIVE FACTORS OF IMBALANCES

Among academics, a great deal of argument has been raised about the factors that bring about these imbalances. However, there is not just one factor that can explain them: the question of what generates them is a very complex, structural issue.

Chart 4
US current account and real effective exchange rate of US dollar



Sources: IMF WEO database, April 2010, BIS.

Persistent foreign exchange rate misalignments among major countries

One of the major arguments is that the accumulation of US current account deficits is related to inflexible exchange policy on the parts of some of its major trading partners and that the US dollar must depreciate further in order to resolve this issue.⁶ This argument relies basically on the inverse relationship between the US current account and the exchange value of the dollar since the 1980s.

Widening differences in net savings rates between major countries

Another argument⁷ emphasises widening differences in net savings rates between deficit and surplus countries. Major surplus countries including China and Germany showed steady increases in positive Net National Savings (savings rate – investment rate) prior to the global financial crisis, while the United States and the United Kingdom recorded decreased saving rates. In this argument, there are structural factors other than exchange rates behind this trend.

They attribute the large current account surpluses of emerging countries to economic and social factors such as opaque corporate management, inadequate social safety nets, and demographic structure. To be more specific, financing channels have been limited due to their less developed capital markets, and corporate governance and management, especially in large corporations, have lacked transparency.

Table 1
Net national savings trends of major surplus and deficit countries

(% of GDP)

	1996	1998	2000	2002	2004	2006	2008
China	2.0	4.2	2.4	2.5	2.5	7.5	7.9
Germany	-0.6	-0.8	-1.6	2.2	4.8	6.5	6.7
United States	-1.8	-1.4	-2.8	-4.1	-5.2	-4.2	-5.7
United Kingdom	-0.8	-0.4	-2.7	-1.7	-2.1	-3.4	-1.6

Note: Net National Savings = saving rate – investment rate.

Investment rate = [(Gross domestic fixed capital formation + increase in stocks)/GDP] × 100.

Source: Bank of Korea, Economic Statistics System (ECOS).

⁵ Total current account deficits as a percentage of global GDP decreased from 2.7% in 2008 to 1.8% in 2009.

⁶ Mussa (2004), Obstfeld and Rogoff (2005), and Blanchard et al. (2005) proposed devaluations of the US dollar of 30%, 15-34%, and 40-90%, respectively in order to resolve the country's chronic current account deficit.

⁷ Chamon and Prasad (2010), Servén and Nguyen (2010).

Firms generally have been heavily dependent on internal funding, causing corporate savings in these countries to be relatively higher than in advanced countries. Furthermore, the inadequacy of social safety nets, such as pension systems, health care, etc., has motivated precautionary savings, while it has been difficult for households to approach the financial markets to, for instance, take out consumer loans. Lastly, in their demographic structure, these countries mostly have a large share of young people, who normally show a greater propensity to save.

For the structural factors behind the declining US saving rate, some authors⁸ cite the decline in long-term interest rates in line with the dissolution to some degree of economic uncertainty⁹ from the 1980s. Moreover, some¹⁰ posit that current account deficits increased because asset prices soared prior to the global financial crisis, and expectations of further increases encouraged an expansion of consumption (reduced savings).

Increased fiscal deficits

In the case of the United States and several European countries, the expansion of the fiscal deficit was seen as a main reason for a persistent current account deficit.¹¹

In general, an increased fiscal deficit serves as a factor in sustaining a current account deficit because it narrows the savings-investment gap in the overall economy and reduces the public sector savings capacity. In the case of the United States, security costs increased exponentially after 9/11 in 2001 and the fiscal balance shifted into deficit¹² from 2002. In the case of European countries running a current account deficit, the tax base has been weakened due among other things to high unemployment rates, while fiscal deficits have widened as a consequence of the aging population and increased welfare provisions.

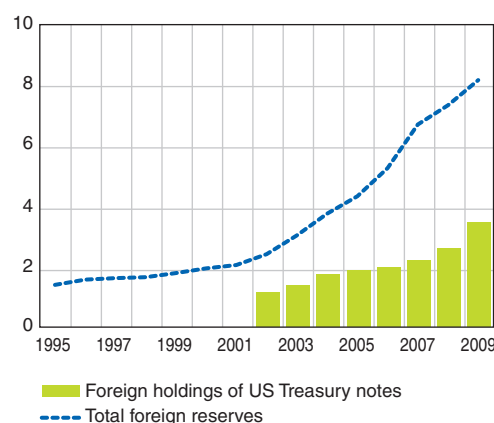
Preference for safe assets

Regarding the reasons for the persistence of the global imbalances, some academics¹³ claim it to be caused by imbalances in the supply of and demand for safe assets, which many prefer for their perceived safety and liquidity.

After the Asian Currency Crisis in the 1990s, the demand for safe assets increased as emerging countries accumulated large volumes of precautionary reserves against the possibility of another crisis. In contrast, because of the bursting of the Japanese asset bubble in the 1990s and Europe's economic slowdown, advanced countries other than the United States had a significantly lower capacity for supplying safe assets, and demand has therefore concentrated on the United States with a consequent supply/demand disequilibrium for safe assets in the early 2000s.

Chart 5
Total foreign reserves and foreign holdings of US Treasury notes

(USD trillions)



Note: The data of foreign holdings of US Treasury notes are not available from 1995 to 2001.

Source: IMF COFER.

8 Barnett and Straub (2008) analysed monetary policy as the factor exerting the greatest influence on US current account movements.

9 The trend of decline in the volatility of macroeconomic variables in this period is generally referred to as the "Great Moderation".

10 Fratzscher et al. (2007) analysed that the asset price hikes, as in the case of housing, shocked the market and led to an increase in long-term consumption and exchange rate appreciation, which continually widened the US trade deficit.

11 Obstfeld and Rogoff (2005), Salvatore (2006).

12 Normandin (1999) conducted analysis with a VAR model using the US national income and balance of payments data from 1950 to 1992, and published results noting that one dollar of fiscal deficit led to between 0.22 and 0.98 of a dollar of current account deficit.

13 Caballero (2006), Caballero et al. (2008).

Securing collateral to attract overseas investment capital

While peripheral (emerging) countries sought to increase their exports to core (key currency) countries by exchange rate depreciation as part of their economic growth strategy, there were also efforts within peripheral countries to expand core country assets, such as US Treasury notes, that serve as collateral for securing stable investment capital in such forms as FDI from the core countries. This is cited as another reason behind the global imbalances.¹⁴

In the former Bretton Woods System, the United States was the core country with Japan and Europe the peripheral ones. More recently, however, emerging economies have become the peripheral countries, forming the “Bretton Woods II” system, and this serves as a factor in sustaining the global imbalances.

SUSTAINABILITY

Given the interaction in the global economy between the various causative factors of global imbalances, there are two different views as to whether they could persist in the future.

Disequilibrium approach

Advocates of the disequilibrium approach¹⁵ argue that the global imbalances are not sustainable because they reflect macroeconomic imbalances such as exchange rate misalignment among major countries, the low savings rates and widened fiscal deficits of current account deficit countries. Therefore, they are concerned about the possibility of the global financial market becoming unstable and the global economy facing a hard landing should the macroeconomic imbalances not be adjusted, and, in consequence, the exchange value of the US dollar drop abruptly due to the accumulation of US net external debt.

Equilibrium approach

The equilibrium approach¹⁶ states that current account surplus and deficit countries will form a symbiotic relationship, as surplus countries continue to show high demand for the assets of deficit countries, such as US Treasury notes. This approach thus views the global imbalances as being sustainable in the future, due to the tendency toward high

savings rates in China and other surplus countries, to emerging countries' securing of collateral to attract investment capital (FDI, etc.), and to the preference for safe assets.

Recent approach

The global imbalances have come to be seen as being both directly and indirectly linked to the global financial crisis, partly supporting the disequilibrium approach. There is therefore now a widespread consensus that countries need to coordinate their macroeconomic policies, structural reforms and overall economic policies to correct the global imbalances.

Although the recent financial crisis led to neither a plunge of the US dollar nor a hard landing of the global economy, deviating from the forecast of the disequilibrium approach, we cannot ignore the possibility that its prognosis may prove correct in the future. Efforts must therefore be continued to deal with the problem in the global economy by way of the G20.

2 | LINKAGES BETWEEN GLOBAL IMBALANCES AND FINANCIAL STABILITY

2|1 Characteristics of global financial crisis

In the post-Bretton Woods era there were three major financial crises that took place prior to the recent global financial crisis: the 1980s Latin American foreign debt crisis, the 1990s Nordic Banking Crisis, and the 1990s Asian Currency Crisis. These crises differ in their causes, but are similar in that they were scarcely linked with global imbalances. The recent global financial crisis was fundamentally different, however, as it was triggered, spread and intensified through mutually reinforcing interactions between global imbalances and financial sector imbalances. This mechanism of crisis generation formed quite recently against the backdrop of the financial account liberalisation, financial deregulation and the acceleration of financial innovation.

¹⁴ Dooley et al. (2003, 2007).

¹⁵ Summers (2004), Obstfeld and Rogoff (2005), Cline (2005, 2007), Bergsten (2007), Feldstein (2008).

¹⁶ Dooley et al. (2003), Caballero (2006), Caballero et al. (2008).

Box**Characteristics of major financial crises in the 1980s and 1990s****Latin American foreign debt crisis**

In the 1980s, Latin American countries including Mexico pushed ahead with government-led economic growth strategies focused on raising domestic demand, as well as encouraging the export of resources and the fostering of import substitution industries. In this process, their external debt increased greatly, especially in the public sector, leading to a foreign debt crisis. What is seen as a decisive factor in this situation is the sharp reduction in Latin American countries' debt repayment capacity and the abrupt surge in capital outflows as international interest rates rose precipitately whereas the prices of oil and other commodities fell.

Nordic banking crisis

During the 1980s, three Nordic countries –Sweden, Finland and Norway– experienced significant increases in bank loans, excessive credit expansion and the build-up of asset price bubbles while pursuing social welfare policies by way of progress in financial liberalisation and the exemption of loan interest from tax. Then, around 1990, these countries all raised their policy rates and scrapped tax exemptions on interest earnings, while at the same time experiencing an economic slowdown due to a decline in exports brought about by a global economic downturn. This led to plunging asset prices and increased insolvencies, resulting in a banking crisis in the region.

Asian currency crisis

Thailand, Indonesia and Korea had stable macroeconomic policies with relatively strong fiscal soundness and were promoting gradual financial liberalisation. Despite these conditions, they were hit by the crisis in the late 1990s due to high debt rates in their private sectors and sudden stops in capital flows. Related to this crisis, academics¹ warn that if negative investor expectations as to government policies are formed, these expectations can become self-fulfilling and lead to sudden stops in capital flows and the eruption and spread of financial crisis.

¹ Obstfeld (1996), Calvo (1998), etc.

2|2 Views on linkages between global imbalances and financial instability

There have been contrasting opinions put forward as to whether the global imbalances played a major role in the recent global financial crisis. Some argue that the linkages between the two are fairly weak, while others see significant interactions between them.

WEAK LINKAGES

Some¹⁷ voice the opinion that the global imbalances were not closely related to the recent global crisis. Their argument runs that, in the crisis, the continuous capital flows to the United States strengthened the US dollar in contrast to the predictions of the disequilibrium approach. These pundits see the cause of the recent crisis as being insufficient financial

regulation and weak supervisory measures, and insist that the global imbalances were rather a sideshow or played the role of an innocent bystander.

STRONG LINKAGES

This school of thought argues that although the global imbalances did not directly cause the recent financial crisis, they played a critical role in heightening the possibility of its outbreak.

Before the crisis, current account surplus countries increased their holdings of foreign reserves in US dollar-denominated assets, inducing long-term interest rates at a low level, a phenomenon called the “Greenspan conundrum”. Low interest rates thus led to the formation of the asset price bubble, which is why the global imbalances are seen to have played at least the role of a handmaiden in the eruption of the crisis.¹⁸

¹⁷ DeLong (2008), Dooley and Garber (2009), Backus and Cooley (2010).

¹⁸ Obstfeld and Rogoff (2009), Blanchard and Milesi-Ferretti (2009), Roubini (2009), Portes (2009).

Shin (2009), Acharya and Schnabl (2009), and others believe that the global imbalances played a critical role in the recent crisis, as in the process of asset bubble formation they added to financial innovation and induced the rapid growth of financial intermediaries. From the 2000s, foreign investment in US financial products like asset-backed securities (ABS) increased dramatically, which helped form the asset price bubble through rapid credit expansion. At the same time, the wealth effect associated with the asset price appreciation increased consumption to a large extent, intensifying the vicious circle of global imbalances.

Despite the acceleration of financial innovation and rapid growth of financial intermediaries, however, there was a failure to exercise adequate financial regulation and supervision, which allowed excessive financial institution risk-taking to continue. Central bank responses were also ineffective in addressing the problem of boom and bust in asset prices, contributing to the escalation of financial system instability.

The recent global financial crisis has demonstrated that, in an environment where there is only a limited number of reserve currencies, global imbalance accumulation disrupts stability within

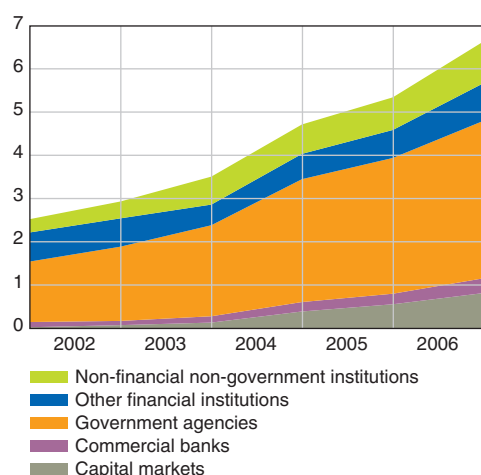
the International Monetary System (IMS), and thus also increases the possibility of crisis.

Following the collapse of Lehman Brothers in September 2008, the global financial system became highly unstable and an intense “dollar crunch” occurred. Some emerging economies faced acute currency mismatch problems as they had a heavy dependence on foreign capital for business investment funds and faced a liquidity crunch due to sudden outflows of foreign capital. The dollar crunch was a serious problem not only for emerging markets but also for reserve currency areas like the United Kingdom and the euro area. It moderated only after the US Federal Reserve supplied dollar liquidity under central bank swap agreements¹⁹ concluded with central banks in both major advanced and emerging economies.

As we have seen above, an examination of the linkages between the global imbalances and financial instability demonstrates a close relationship between them, through which they became mutually reinforcing. It would be no exaggeration to say that the global imbalances contributed both directly and indirectly to the outbreak of the recent crisis, which entails that enhancing financial stability by their correction will help prevent the recurrence of crises.

Chart 6
Proportion of foreign investment in US treasury notes

(USD trillions)

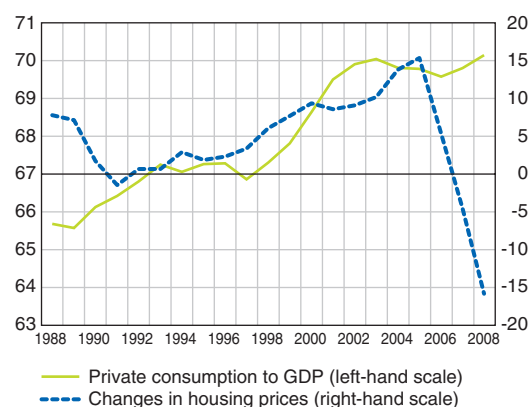


Sources: US Treasury, Shin (2009).

Chart 7
US housing price index and consumption trends

(%)

(%)



Source: S&P/Case Shiller National Home Price Index.

¹⁹ The currency swap facilities made available under the central bank swap agreements of the US Federal Reserve were USD 80 billion with the Bank of England, USD 120 billion with the Bank of Japan, USD 240 billion with the ECB, and USD 30 billion each with the Bank of Canada, the Reserve Bank of Australia, and the Bank of Korea.

3| RESOLVING GLOBAL IMBALANCES AND PREVENTING FINANCIAL CRISES

3|1 Sustaining a systematic response through the G20

The G20, as the premier forum for international economic cooperation, has since the outbreak of the recent global financial crisis, focused on measures to respond to it effectively, to prevent its recurrence and to establish a foundation for sustainable and balanced global growth in the future.

At the Seoul Summit in November 2010, G20 leaders endorsed specific agreements on key agenda items, including further development of the Framework, IMF reform, financial regulatory reform and the improvement of Global Financial Safety Nets (GFSNs). They also set the foundation for continuing efforts to develop a new global economic paradigm, by agreeing to further discuss the establishment of a Macroprudential Policy Framework and measures to enhance International Monetary System stability –new agenda items proposed by Korea and France, respectively.

These efforts by the G20 are prompted by a recognition of the need for countries to sustain a comprehensive and systematic response through the G20, rather than taking separate measures on individual issues, as the recent crisis was triggered and amplified by the interlinkages between the global imbalances and the financial instability engendered by asset price bubbles. The G20 will therefore continue its efforts to improve the Framework, financial regulatory reform and the GFSNs based upon the achievements made in 2010, and along with this it will prepare measures to secure stability in the IMS.

FURTHER DEVELOPMENT OF THE FRAMEWORK

Global imbalances are not merely an issue of exchange rates. Resolving them calls for both current account surplus and deficit countries to improve their overall economic policies, including macroeconomic and structural policies through close coordination.

The governments and private sectors of current account surplus countries must, on the one hand, be encouraged to lower their savings rates and expand domestic demand, by fostering service industries, etc.

Current account deficit countries must, on the other hand, take measures to raise savings in the public sector and develop policy options that induce higher private savings even after economic recovery.

FINANCIAL REGULATORY REFORM

It is generally admitted that the recent financial crisis occurred as global imbalances were intensified by the inadequacy of financial sector regulation and supervision. Taking this on board, additional discussions on the establishment of a Macroprudential Policy Framework, on financial regulatory reform from an emerging markets' perspective and on stronger regulations on shadow banking as proposed by France must take place as the G20 leaders agreed at the Seoul Summit. This needs to be accompanied by the agreed reform of banks' capital and liquidity standards.

In particular, the establishment of a Macroprudential Policy Framework promises to reduce side effects such as asset price bubbles that can be caused by sudden increases in capital flows, by mitigating financial sector procyclicality and preventing systemic risks that may occur from strong linkages among financial institutions. For this, it is essential that we develop diverse macroprudential policy instruments that can mitigate procyclicality, including countercyclical capital buffers and dynamic provisioning. We must also develop regulations on and supervisory measures for Systemically Important Financial Institutions (SIFIs), as stronger linkages among financial institutions lead to network externalities whereby the mismanagement of an individual institution can affect other institutions, and cause the spreading out of a crisis through spill-over effects.

In the wake of the global financial crisis, central banks also need to sustain their efforts to maintain financial stability by developing monetary policy frameworks that can effectively address the problem of boom and bust in asset prices.

BUILDING GLOBAL FINANCIAL SAFETY NETS

The GFSNs will serve as effective instruments for countries to cope with sudden capital stops, by complementing their foreign reserve holdings. At the same time, they will contribute to the prevention of crises and their ex-post resolution, ultimately helping restore global economic balance.

Emerging countries may have less incentive to accumulate foreign reserves, which will in turn reduce distortions in exchange rates due to market intervention. Exchange rate uncertainties may in addition be relieved as global imbalances could be unwound, which would help both advanced and emerging economies. In 2010, the IMF lending facilities were improved to expand the GFSN functions but, as discussed at the Seoul Summit, efforts directed toward improving GFSNs must be continued.

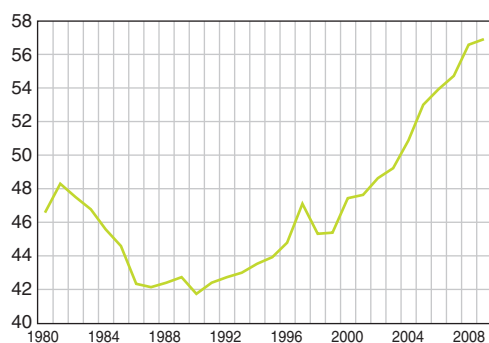
SECURING STABILITY IN THE IMS

The recent crisis has underlined the point that the IMS is becoming less stable. The current IMS, involving the use of a limited number of reserve currencies, must be improved in terms of its institutional aspects as well as policy aspects including greater exchange rate flexibility.

The IMS currently rests on the assumption that global imbalances will resolve themselves as a matter of course under flexible exchange rate systems, implying that countries need to heighten the flexibility of their national exchange rate policies. Moreover, while the IMS is still managed under conditions where there is only a small number of reserve currencies, the proportion of global trade involving non-reserve currency countries has been increasing, in turn further reducing the IMS's stability. We therefore need to continue discussions on how to deal with these problems.

Chart 8
Proportions of global trade
in non-reserve currency countries

(%)



Note: • Reserve currency countries include euro area member countries, Japan, the United Kingdom and the United States.

• Euro area member countries excluding Belgium, Slovak Republic, Slovenia.

Source: IMF (International Financial Statistics).

In this context, we need to keep in mind what a Belgian economist pointed out as a dilemma at the outset of the Bretton Woods System. Robert Triffin in 1947 warned that, if global trade relies on one key-currency like the US dollar, the issuance of that currency necessarily expands in line with increases in global trade, resulting in an unmanageable level of debt for the key-currency issuing country and growing IMS instability. This warning talk warrants our keen attention as shown by the “reserve currency crunch” in the course of the 2008 global financial crisis.

3|2 Future challenges for the G20

During 2010, the G20 sought to overcome the global financial crisis and establish a new post-crisis global economic paradigm, and it may pride itself on not-inconsiderable achievements including the reaching of agreements on several agenda items, by steadily narrowing the differences in opinion among its members. Despite such progress, however, global uncertainties remain –those related for example to the possibilities of a contraction of the economy in major countries, and of further deterioration in national fiscal deficits, which again makes policy coordination among countries more difficult than before.

In regard to the G20's efforts to resolve the global imbalances and enhance financial stability, some have expressed concerns about the feasibility of the G20 agreements. Considering that the G20 does not have a long track record, and that there is no hard printed rule on the implementation of the agreements, these concerns are plausible.

Nevertheless, under certain conditions, soft rules can be just as effective as hard printed rules. This is the case when the G20 builds up in a systematic and orderly manner a history of cooperation on the basis of members' mutual respect and of the accumulation of measures put in place. Once this condition is met, countries may have to pay significant reputational costs when they decline to comply with what has been agreed. Although we should of course be careful not to draw too rosy a picture, we believe the G20's star can be reasonably said to be in the ascendant, in consideration of how much closer the opinions of advanced countries and emerging market countries have progressively come in the course of our meetings since its outset.

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Global imbalances: the perspective of the Bank of England

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In 2009, demand in the world's major economies fell, relative to its pre-crisis trend, by around USD 2.5 trillion or 5 per cent of GDP. The financial crisis damaged virtually every country. Global imbalances helped to fuel the financial crisis. And today they threaten the sustainability of the recovery in global demand. Global imbalances are a reflection of today's decentralised international monetary and financial system. All the main players around the world are rationally pursuing their own self interest. But the financial crisis has revealed that what makes sense for each player individually does not always make sense in aggregate. These actions had collective consequences. The main lesson from the crisis is the need to find better ways of ensuring the right collective outcome. Improved financial regulation will help to intermediate the flows associated with global imbalances. But the global economy will remain vulnerable to the risks associated with imbalances if they are not tackled at source. Two principles should underpin the way ahead. First, discussions should focus on the underlying disagreement about the right speed of adjustment to the real pattern of spending and hence the reduction in these imbalances. This discussion should be informed by countries' ability to follow that path in a sustainable way. Second, many policies, in addition to changes in exchange rates, will be needed to reduce imbalances. If agreement is not reached on these two principles, at best there will be a weak world recovery; at worst, the seeds of the next financial crisis will be sown.

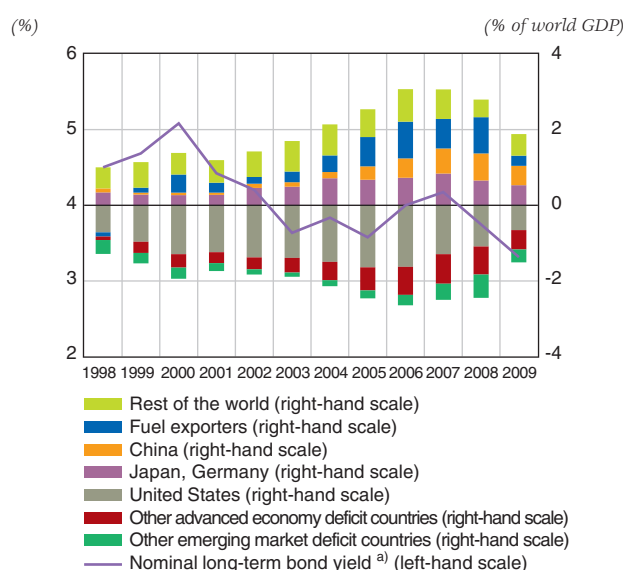
In 2009, demand in the world's major economies fell, relative to its pre-crisis trend, by around USD 2.5 trillion or 5 per cent of GDP. The financial crisis left almost no country unscathed. While unprecedented policy measures allowed the world to escape a second Great Depression, the global recovery so far has been uneven and it remains fragile.

This article looks at the role global imbalances played in fuelling the financial crisis, and the importance of achieving a rebalancing of global demand in order to foster a sustainable recovery. Its key message is that, in today's highly interconnected global economy, a top priority for national policymakers must be to find ways to rebalance global demand. That is important to ensure both (i) the level of world demand is sufficient for the world recovery to continue and (ii) that future crises are avoided.

1 | IMBALANCES CONTRIBUTED TO THE FINANCIAL CRISIS

Since the breakdown of the Bretton Woods system in the early 1970s, international monetary arrangements have evolved into a decentralised system. Countries are free to make independent choices about their monetary, exchange rate and financial stability policies. Greater

Chart 1
Current account imbalances and long-term interest rates

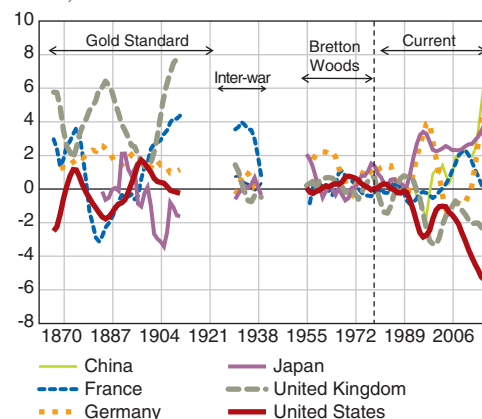


^{a)} Advanced economies.

Source: IMF World Economic Outlook.

Chart 2
Current account balances ^{a)}

(% of own GDP)



^{a)} 5-year moving average.

Sources: IMF World Economic Outlook; Taylor (2002); Bank of England calculations.

capital mobility has also been one of the defining features of the current regime. In the run-up to the recent crisis, net capital flows more than doubled in less than a decade (Chart 1) and global imbalances widened to near unprecedented levels (Chart 2).

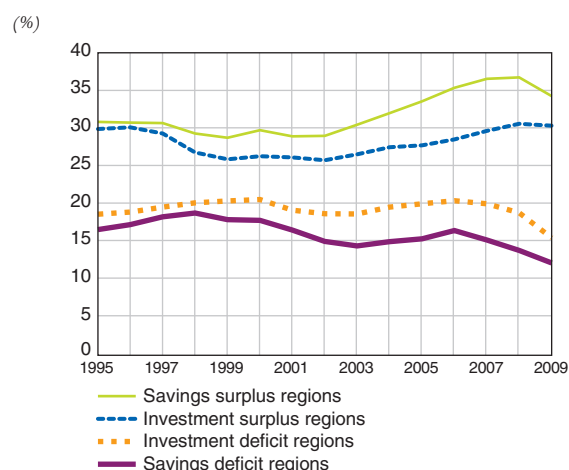
Increased capital flows can raise global output to the extent that they seek out the most productive investment opportunities, transferring savings from countries where the marginal product of capital is low to countries where the marginal product of capital is high. But in today's system, some advanced economies such as the United States and the United Kingdom have been running large and persistent current account deficits, while emerging market economies, in particular in Asia and among oil exporters, have been running current account surpluses. This 'uphill' flow of capital from the dynamic, labour-abundant emerging economies to the mature advanced economies is, at least in some instances, puzzling. So factors other than differences in the marginal product of capital must have been at work (Lucas, 1990). It is notable that the purchasers of foreign assets have been emerging market *public* sectors rather than private sectors. As a result, there has been a more than ten-fold increase in reserve holdings over the past 15 years. The governments in those economies have been playing an intermediary role, channelling domestic saving away from the local economy and into international capital markets. And emerging market economies' asset of choice has been safe, typically sovereign financial assets.

These growing *flow* imbalances have been accompanied by growing *stock* imbalances. The US net external liability position quadrupled in size in the course of a decade, rising to USD 3.5 trillion in 2008 (25 per cent of GDP). And the net external asset positions of Japan and Germany rose by around USD 1.7 trillion and USD 0.8 trillion respectively (around 35 per cent and 25 per cent of 2008 GDP) over the same period, while Chinese net external assets reached USD 1.5 trillion, a third of GDP, in 2008.

What drove these net capital flows 'uphill'? Chart 1 illustrates that these flows were associated with a decline in long-term interest rates, pointing to either a fall in *desired* investment or an increase in *desired* saving at the global level. Were such changes to occur in any given country, they would tend to increase that country's current account balance, leading either to a smaller deficit or a larger surplus. But the fact that global current account imbalances were growing over this period indicates that these shifts in saving-investment balances occurred in countries that were already running surpluses.

Chart 3 demonstrates that rising saving-investment imbalances in surplus countries were driven primarily by increased saving, rather than decreased

Chart 3
Savings and investment rates
in current account deficit and surplus regions ^(a)



(a) Surplus regions are those with current account surpluses greater than 1% of GDP in 2008 and include Commonwealth of Independent States and Mongolia, Developing Asia, Japan, Middle East and Newly Industrialised Asia; deficit regions are those with current account deficits greater than 1% of GDP and include Central and Eastern Europe, Sub-Saharan Africa, United Kingdom and United States.

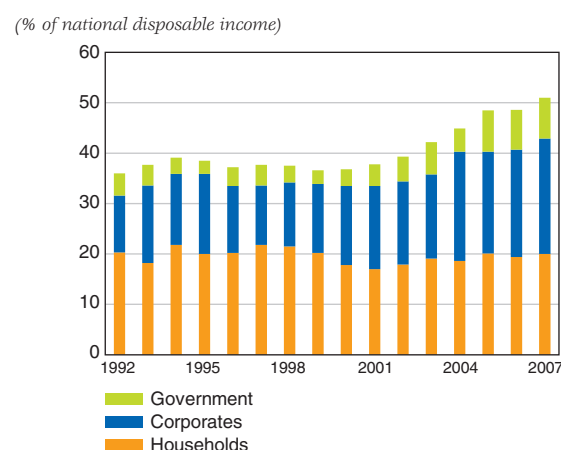
Note: percent of GDP shown as percent of surplus regions' GDP and percent of deficit regions' GDP

Source: IMF World Economic Outlook.

investment. Although investment had been high and rising in surplus countries, saving had been even higher, and increasing at a faster rate. A 'savings glut' in surplus countries created ever-larger net capital outflows that allowed the United States –and other deficit countries– to finance continued borrowing.

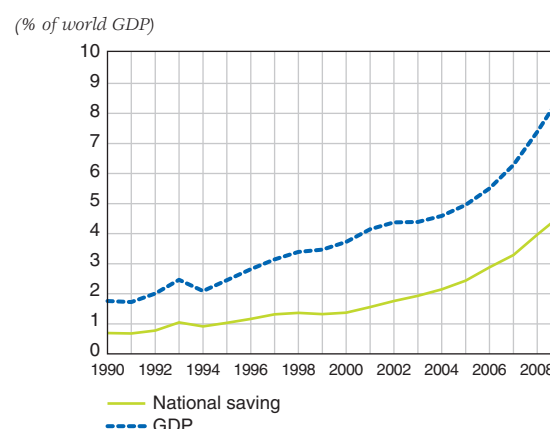
In an accounting sense, the increase in emerging market saving as a share of world GDP reflected two factors. Taking China as an illustration, Chart 4 shows that in China, national savings increased as percentage of national disposable income from 2001 onwards. Chart 5 shows that Chinese GDP has doubled

Chart 4
China's national savings



Source: speech by Governor Zhou Xiaochaun, 3 July 2009, [http://www.pbc.gov.cn/image_public/UserFiles/english/upload/File/AddressattheGlobalThink-tankSummit\[1\].pdf](http://www.pbc.gov.cn/image_public/UserFiles/english/upload/File/AddressattheGlobalThink-tankSummit[1].pdf).

Chart 5
China's national savings and GDP



Source: IMF World Economic Outlook.

as a share of world GDP since 2001 –accentuating the increase in Chinese savings as a share of world GDP.

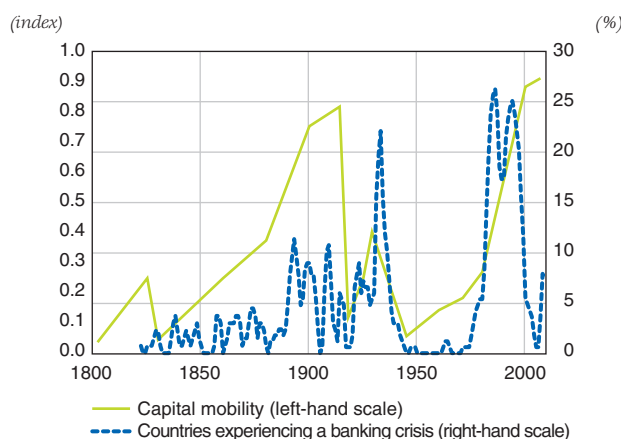
There are three possible, inter-connected, reasons why domestic saving in emerging economies increased. First, many of these economies adopted a strategy of *expanding manufactured exports to create employment*. This required maintaining highly competitive exchange rates and resulted in a substantial accumulation of foreign exchange reserves. Second, in the aftermath of the Asian crisis governments decided to accumulate reserves for *precautionary reasons*. And third, *low levels of financial development* may have played an important role through a variety of channels including (i) households choosing to self insure because of incomplete access to domestic insurance markets (Mendoza *et al.*, 2007); (ii) an insufficient supply of ‘safe’ financial assets at home which encouraged emerging market investors to accumulate ‘safe’ assets from advanced economies’ financial markets (Caballero *et al.*, 2008); (iii) the scaling back of government-provided social safety nets and provision of health and education services, which encouraged households to build-up saving buffers (Chamon and Prasad, 2010); and (iv) inadequate provision of financial services, which forced companies to retain earnings to finance future investment.

Meanwhile, policymakers in advanced economies followed a strategy of aiming to maintain an adequate level of overall demand consistent with steady, low inflation. In some cases, that implied that they ran substantial current account deficits. At the time, all the economies seemed to gain: just as the high-saving countries created employment, the low-saving economies enjoyed faster real consumption growth as the price of imported manufactured goods fell.

Within their own terms, all these actions were rational. All the main players –countries, regulators, central banks, and commercial banks– were rationally pursuing their own self interest. But what made sense for each player individually did not make sense in aggregate. These actions had collective consequences.

In particular, the ‘glut’ of savings helped push down on government bond yields –Warnock and Warnock (2009), for example, estimate that if there had been no foreign official purchases of US government bonds

Chart 6
Capital mobility ^(a) and the incidence of banking crises ^(b)



(a) Obstfeld and Taylor's capital mobility index is judgemental and takes values between 0 and 1.

(b) 3-year average.

Sources: Bordo *et al.* (2001), Obstfeld and Taylor (2004), Reinhart (2010) and Bank of England calculations.

in the year to May 2005, the 10-year Treasury yield would have been around 80 basis points higher. In an attempt to maintain returns at previous higher levels, other investors ‘searched for yield’, which encouraged risk taking, much of it under the guise of ‘financial innovation’, resulting in an underpricing of risk. This was evident in reduced discrimination between assets of differing credit quality and the development of increasingly complex financial instruments employing leverage to generate higher returns. Such risk taking was possible because of inadequacies in financial regulation and supervision.

The pattern of growth, with the associated imbalances and mis-pricing of risk, was not sustainable: as we know only too well, the ensuing financial crisis threatened the entire stability of the financial system. Indeed, as Chart 6 illustrates, financial crises have been a hallmark of the current incarnation of the international monetary and financial system (IMFS), with the reappearance of global financial instability coinciding with the rapid increase in capital mobility. Chart 7 shows that the change in countries’ non-performing loan (NPL) ratios between 2007 and 2009 and their current account balance in 2007 are correlated, though of course the direction of causation could go both ways. By comparison, the relationship between the change in countries’ NPL ratios and their banks’ capital ratios is insignificant.

Table 1
Selected metrics for measuring the performance of the IMFS over time

PANEL A:		World GDP (per capita) ^{a)}		World inflation ^{b)}	
		Growth Annual average Per cent	Volatility Coefficient of variation	Average Per cent	Volatility Standard deviation Percentage points
Pre-Gold Standard	(1820-1869)	0.5	—	—	—
Gold Standard	(1870-1913) ^{c)}	1.3	1.2	0.6	3.0
Interwar Period	(1925-1939) ^{c)}	1.2	3.3	0.0	4.6
Bretton Woods	(1948-1972) ^{d)}	2.8	0.3	3.3	2.1
	<i>memo: 1948-1958 ^{d)}</i>	2.7	0.4	3.1	2.9
	<i>1959-1972</i>	3.0	0.3	3.5	1.3
Current	(1973-2008)	1.8	0.7	4.8	3.5
	<i>memo: 1973-1989</i>	1.4	0.8	7.5	3.4
	<i>1990-2008</i>	2.2	0.6	2.3	0.9

PANEL B:		Downturns		Current account imbalances
		Years of negative World GDP growth Share of period Per cent	Years of negative country GDP growth ^{e)} Share of period, median country Per cent	Surpluses and deficits Per cent of World GDP ^{f)}
Pre-Gold Standard	(1820-1869)	—	—	—
Gold Standard	(1870-1913) ^{c)}	7	19	2.4
Interwar Period	(1925-1939) ^{c)}	21	27	1.2
Bretton Woods	(1948-1972) ^{d)}	0	4	0.8
	<i>memo: 1948-1958 ^{d)}</i>	0	0	0.8
	<i>1959-1972</i>	0	0	0.8
Current	(1973-2008)	0	13	2.2
	<i>memo: 1973-1989</i>	0	18	1.6
	<i>1990-2008</i>	0	11	2.8

PANEL C:		Incidence of crises		
		Banking crises ^{h)} Number per year	Currency crises ⁱ⁾ Number per year	External default ^{j)} Number per year
Pre-Gold Standard	(1820-1869)	0.6	—	0.7
Gold Standard	(1870-1913) ^{g)}	1.3	0.6	0.9
Interwar Period	(1925-1939)	2.1	1.7	1.5
Bretton Woods	(1948-1972)	0.1	1.7	0.7
	<i>memo: 1948-1958</i>	0.0	1.4	0.3
	<i>1959-1972</i>	0.1	1.9	1.1
Current	(1973-2009)	2.6	3.7	1.3
	<i>memo: 1973-1989</i>	2.2	5.4	1.8
	<i>1990-2009</i>	3.0	2.4	0.8

a) Denominated in constant international dollars, as defined by Maddison (2006).

b) Nominal GDP-weighted average of 12 countries.

c) Where world-level data are unavailable, a subset of reporting countries is used.

d) World GDP data begin in 1950.

e) Sample of current G20 countries (including EU countries), where data available.

f) Sum of absolute values of surpluses and deficits. Based on available data for a sample of G20 and EU countries.

g) Currency crises data begin in 1880.

h) Based on a sample of 56 countries, using data based on methodology developed by Bordo et al. (2001).

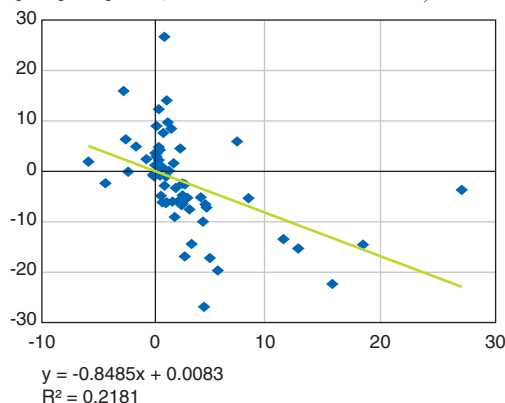
i) Based on a sample of 56 countries, using data based on methodology developed by Bordo et al. (2001) and supplemented by Reinhart (2010), Mecagni et al. (2009) and Hutchison and Noy (2006).

j) Based on a sample of 45 countries. External defaults as defined by Reinhart (2010).

Sources: Bordo et al. (2001); Global Financial Data; Hutchison and Noy (2006); IMF World Economic Outlook; Maddison (A.) (2006) updated data are available from <http://www.gdpc.net/MADDISON/oriindex.htm>; Mecagni et al. (2009); Reinhart (2010); Taylor (2002) and Bank of England calculations.

Chart 7
Current account balances and non-performing loan (npl) ratios^{a)}

(X axis: pickup in npl ratio; Y axis: current account/GDP %)



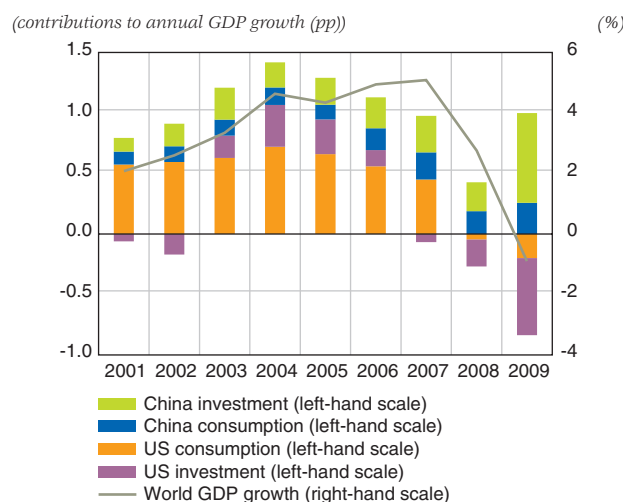
a) Current account balance as a share of GDP in 2007 and change in non-performing loan ratios between 2007 and 2009.

Sources: IMF Global Financial Stability Report and World Economic Outlook.

Table 1 also shows that relative to Bretton Woods, today's IMFS has proven durable, but it has also coexisted, *on average*, with: slower, more volatile, global growth; more frequent downturns; higher inflation and inflation volatility; larger current account imbalances; and more frequent banking crises, currency crises and external defaults. However, to some extent these period-average metrics obscure significant improvements over the current period, with the 'great moderation' period post-1990 associated with much better outcomes than those achieved in the 1970s and 1980s. Nevertheless, with the important exception of inflation, the outcomes achieved during the Bretton Woods period were better than those attained since 1990. While this does not imply causation of course, it does suggest that better outcomes may be possible.

Indeed, the main lesson from the crisis is the need to find better ways of ensuring the right collective outcome. Reforms to financial regulation and the structure of the banking system need to take place in order to prevent another financial crisis. Many of these reforms are already underway. Improved financial regulation will help to intermediate the flows associated with global imbalances. But we cannot expect too much of regulation: it may well be circumvented or diluted over time, and there will be leakages, both across borders and through the shadow banking system. So the global economy will remain

Chart 8
Chinese and US contributions to global growth



Source: IMF World Economic Outlook.

vulnerable to the risks associated with imbalances if they are not tackled at source. That will require some way of ensuring that countries' policies result in a sustainable outcome.

2 | REBALANCING OF GLOBAL DEMAND IS THE KEY TO A SUSTAINABLE RECOVERY

All countries accept that global rebalancing is necessary. But there is a clear difference between the *ex ante* path of adjustment desired by the surplus countries, which are faced with the need for a structural shift away from reliance on exports, and the *ex ante* path of adjustment preferred by the deficit countries, which are under greater pressure to reduce the burden of debt in both private and public sectors. Talk of currency conflicts is a symptom of a deeper disagreement on the appropriate time path of real adjustment. The reason this matters is that, since surpluses and deficits must add to zero for the world as a whole, differences between these desired *ex ante* adjustment paths are reconciled *ex post* by changes in the level of world output. And the risk is that unless agreement on a common path of adjustment is reached, conflicting policies will result in that *ex post* path taking place at an undesirably low level of world output.

Today's IMFS has become distorted. The major surplus and deficit countries are pursuing economic strategies that are in direct conflict. And there are some innocent victims. Those emerging market economies which have adopted floating currencies are now suffering from the attempts of other countries to hold down their exchange rates, and are experiencing uncomfortable rates of capital inflows and currency appreciation. So there is more to this issue than a bilateral conflict between China and the United States.

Current exchange rate tensions illustrate the resistance to the relative price changes that are necessary for a successful rebalancing. The need to act in the collective interest has yet to be recognised, and, unless it is, it will be only a matter of time before one or more countries resort to protectionism as the only domestic instrument to support a necessary rebalancing. That could, as it did in the 1930s, lead to a disastrous collapse in activity around the world. Every country would suffer ruinous consequences. But, to borrow a phrase, in order to be tough on protectionism, we need also to be tough on the causes of protectionism.

So what needs to be done? I would suggest two principles for the way ahead. First, focus discussion on the underlying disagreement about the right speed of adjustment to the real pattern of spending. This discussion should be informed by countries' ability to follow that path in a

sustainable way. Without agreement on this, policies will inevitably conflict. Once broad agreement is reached, it should then be easier to agree on the instruments of policy. Second, in terms of policy instruments, put on the table many potential policy measures – not just the single issue of exchange rates. That should include, in addition to exchange rates, rules of the game for controlling capital inflows, more efficient means for countries to self insure, plans to raise saving in the deficit countries, structural reforms to boost demand in the surplus countries and even the role and governance of the international financial institutions.

What is needed now is a “grand bargain” among the major players in the world economy. A bargain that recognises the benefits of compromise on the real path of economic adjustment in order to avoid the damaging consequences of a move towards protectionism. Exchange rates will have to be part of such a bargain, but they logically follow a higher level agreement on rebalancing and sustaining a high level of world demand.

A natural forum in which to strike a bargain is the G20 Framework for Strong, Sustainable and Balanced Growth. So far, the process has failed to achieve a move to a better outcome. If we cannot achieve cooperation voluntarily then a more rules-based automatic system may need to be considered to restore global demand and to maintain future global economic and financial stability.

Global imbalances contributed to the financial crisis and a rebalancing of global demand is the key to a sustainable recovery. While financial regulation will help to intermediate the flows associated with global imbalances, it has limitations. If we, collectively, do not deal with these problems at best we will have a weak world recovery and at worst we will sow the seeds of the next financial crisis. It is in our hands to avoid both those outcomes.

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Global imbalances and developing countries

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The main distinguishing features of present-day global imbalances go beyond their sheer amount and generalisation. First, the world economy is characterised by an increased and dynamic presence of many developing countries that simultaneously have turned from deficit into surplus economies. Second, imbalances happen in a context of variable exchange rates and under an accelerated process of financial globalisation. Third, the international reserve currency is basically the currency of just one advanced country in the world.

Both the variability of exchange rates –in principle freeing countries of the need to defend their parities– and the easy availability of private foreign finance –liberating them from the limits imposed either by the amount of foreign exchange reserves or the conditional access to IMF resources– go to a great extent to explain the increase and generalisation of current account deficits. But, additionally, the capacity of the United States to run deficits financed by the fact of their issuing the international reserve currency, has decisively contributed to the explosion in the magnitude of the imbalances. Of course, the ability to finance deficits by resorting to foreign inflows is dominated by its variability and by the accumulation of debt frequently ending up in severe crises. Thus, financial stability is endangered.

On the surpluses side, quite a few major advanced countries persist in generating them instead of promoting fast rates of growth and improving the lot of their own citizens. Thus, the old-time deflationary bias that places limits on deficit countries while leaving the major surplus countries to unfettered run restrictive policies playing beggar-thy-neighbour on the rest of the world still rules the present-day non-system. Surely, many fast growing developing countries, having on the contrary become the dynamic force in the world economy, play a completely different role based on their having overcome the restrictions that deficits used to place on their performance.

Redressing global imbalances to avoid financial instability, therefore, would, at the international level, require regulating “speculative” private international capital flows, on the one hand, and devising a new international monetary system that would run on the basis of a multilateral reserve currency. Additionally, a less restrictive mechanism than the conditionality-run IMF should be established for clearing temporary imbalances with similar obligations for surplus and deficit countries, although growth rates and the stage of development would have to be taken into account.

Redressing global imbalances, however, should not be made at the expense of growth in the world economy that as mentioned before has come to increasingly depend on the developing countries’ economies. Room, therefore, would have to be built for the surpluses of the developing countries following successful export-led strategies to be accommodated within such a system. This way, developing countries will keep being able to pursue expansionary policies, reduce inequality and continue to represent a dynamic force in global terms.

In the last months, global imbalances have been back under the limelight. With a recovery even mild and fragile, some of the largest imbalances that had decreased under the impact of the slowdown in economic activity, have resumed climbing.

For instance, with some ups and downs, the US balance of trade deficit has been increasing since April 2009. In turn, a few other major countries have been expanding their surpluses. Most recently, Germany and Japan have seen their trade balances growing, while that of China –after a strong upswing in the years 2003-2008– has been gradually decreasing as depicted, with monthly frequency, in the following graph. In addition, the IMF estimates that the United States current account deficit will be increasing from USD 378 billion, last year, to USD 466.5 billion in 2010, while the combined surplus of Germany and Japan will increase this year to USD 366.5 billion from USD 305 billion last year (China's current account surplus is estimated to reach USD 270 billion, less than the sum of those two major advanced countries and 4.7% of its GDP not far away from the 4% standard being suggested by the US Secretary of Treasury at Seoul in November this year).¹

The renewed rise in global imbalances is a cause for concern as the experience of the last forty years has shown that their sustainability after a point is far from assured and that they give way to current account reversals accompanied by crises characterised by major changes in exchange rates and in capital flows.²

Some of the features of the last few years in the accumulation of current account mismatches, however, set it apart from the previous experiences.

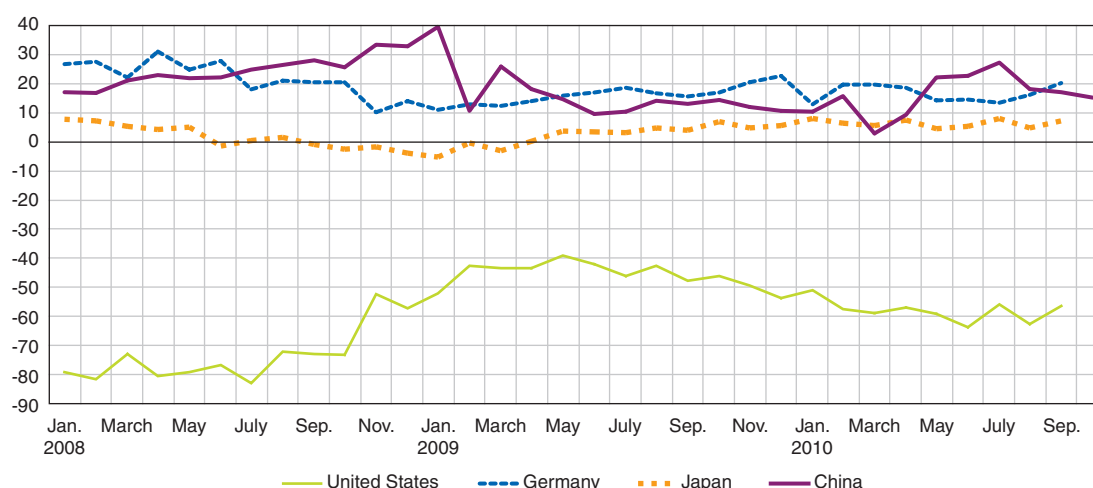
1 | MAGNITUDE AND GENERALISATION OF GLOBAL IMBALANCES

The magnitude of global imbalances both in absolute terms and relative to world GDP is much larger than in the previous three decades as may be gathered from the following graphs.

A second trait of global imbalances is their generalisation to an increasing number of countries. Measures of their dispersion do confirm that it is on the rise (the dispersion grows over time

Chart 1
China, Germany, Japan & US trade balances

(USD billions; seasonally adjusted monthly figures)

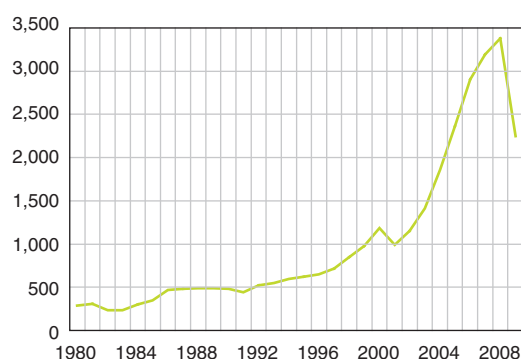


Source: IBRD GEMData, Goods exports and goods imports, seasonal adjusted value, November 2010.

- ¹ See IMF, WEO, Database, by country, October 2010. China's trade surplus increased in October but it is difficult to predict if it's a seasonal movement or if it reveals a switch in its downward trend.
- ² At the beginning of the 1970s, accumulation of current account imbalances led to the demise of the Bretton Woods system plus the temporary introduction of trade protectionist measures by the United States. Again, the 1980s showed a renewed accumulation of current account mismatches with a serious overvaluation of the US dollar, to some extent managed through international agreements but anyway leading to serious disruptions. And of course, the 1990s were characterized by serious imbalances, most specifically involving some developing countries ending up in drastic negative shifts of many points of their GDP in capital flows and overall crises.

Chart 2
Current account balances
Sum of absolute values

(USD billions)



Source: IMF, WEO, Database, October 2010.

even if the United States and China are excluded), accompanied also with asymmetries and “fat tails”, i.e., there are some extreme cases. Dispersion is found to be closely associated with financial globalisation.³ Persistence is also an attribute of imbalances; but even correcting for a trend in this direction, the case of the US deficit stands on its own as it is much larger than what that trend would explain.⁴

But as it will be shown later, in the aggregate, developing countries have in this first decade of the XXIst century managed to become surplus countries when they used to be deficit ones; a true break in the above mentioned persistence of current account signs.

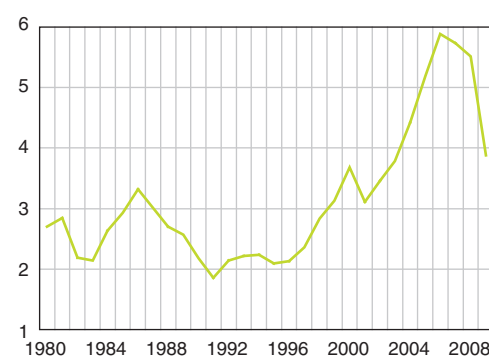
2| FINANCIAL GLOBALISATION AND THE PREDOMINANCE OF THE US DOLLAR AS A RESERVE CURRENCY

2|1 The process of financial globalisation and developing countries

Of course, as just mentioned, the increase in magnitude, but more specifically the generalisation

Chart 3
Current account balances
Sum of absolute values

(% of world GDP)



Source: IMF, WEO, Database, October 2010.

of current account imbalances, is associated with an equivalent process in relation with financial flows as well as to the specific case of the United States being able to finance its deficits by the issuance of the predominant “reserve currency”. In the last two decades the process of “financialisation” –or financial deepening– and of its internationalisation has built up room to resort to private finance, liberating countries of the limits placed by their foreign exchange reserves or borrowing under “conditionality” from the IMF to manage their balance of payments deficits.

As to “financialisation” just in the United States, beginning in 1980 and up to 2007, financial assets as a proportion of GDP had gone up from 192 to 442 per cent.⁵ Worldwide, between 1990 and 2007, financial assets went from a figure close to that of world GDP in the initial year to more than 3.5 times world GDP in the last one (from USD 55 billion to 196 billion).⁶ Moreover while in the year 2000 only 11 countries had financial assets above 3.5 times their own GDP, by 2007 this “financial depth” had reached 25 countries, some developing countries among them. In this last year, 50 per cent of the increase in financial assets was located in the developing countries.⁷

Up to 2007, internationalisation of financial flows was even faster than the process of financial deepening.

³ See Faruquee, Hamid and Jaewoo Lee (2009): “Global dispersion of current accounts: is the universe expanding?”, IMF Staff Papers, Vol. 56, No. 3. See, also, Baclet and Vidon (2008): “The world distribution of external imbalances: revisiting the stylised facts”, Banque de France, Occasional Paper, No. 6, June.

⁴ See Faruquee, op.cit., Figure 5, p. 548 and Baclet, op.cit., Chart 4 D, p. 6, this last one shows a spike in “kurtosis” in the early 2000s that almost disappears when the US is excluded.

⁵ See McKinsey Global Institute: “Global capital markets: entering a new era” (September 2009), Exhibit 1 and IMF “Global financial stability report” (April 2009), Table 3 where it might be verified that for emerging market countries as a whole, the relation between financial assets and GDP was 272% but for Asia it was 389%.

⁶ See McKinsey Global Institute: “Mapping global capital markets: Fifth annual report” (October 2008) and “Fourth annual report” (January 2008).

⁷ See McKinsey Global Institute, (October 2008), op.cit., Exhibit 7.

Beginning in 1990 international capital movements were growing at 15 per cent per year reaching a volume 8.3 times that of the initial year (while international trade only increased 3.4 times in that same period). Their proportion, in 2007, relative to that of world GDP was around 20 per cent (some USD 11 trillion).⁸ Admittedly, the largest part of these international financial movements involved the United States, the United Kingdom and the euro area. But flows involving developing countries were growing at twice the rate of those involving only the advanced ones.

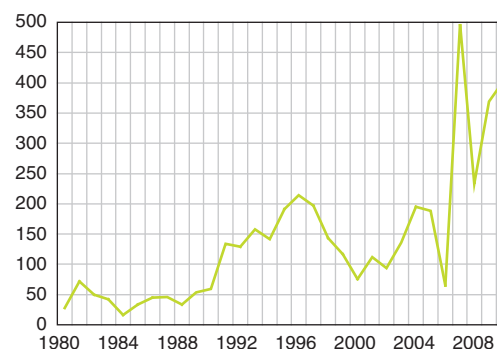
The following graphs show the accelerated expansion of net capital inflows to developing countries and most specifically of private capital flows as net official flows –bilateral and multilateral– not only lost importance but in several years actually became negative. The process was facilitated by the measures of financial account liberalisation undertaken by the developing countries. But as more than one study has argued the “push” factors in major financial centres are much more important than the “pull” factor of policies in the receiving country.⁹

2|2 The instability of capital flows and the “boom-bust” cycles in developing countries

But what also stands out under examination of the performance of capital flows to developing countries is their instability. Particularly unstable are official flows, on the one hand, and private flows other than foreign direct investment. The sheer fact that capital flows show such a degree of instability underlines the fact that they are not driven by policy errors in the receiving countries as many observers would like us to believe. If such would be the case differences in

Chart 4
Emerging markets and developing countries
Net capital inflows

(USD billions)



Source: IMF, WEO Database, October 2010.

cyclical position and policy mistakes in the different countries would cancel each other out. Therefore, “push” factors are driving net capital flows from developed to developing countries to a great extent connected to financial conditions in the mature economies.

In fact, to a certain degree capital flows tend to be countercyclical vis-a-vis the performance of the source economies. On the downside of the cycle with interest rates at low levels both due to a dearth of opportunities for investment but also as a consequence of the attempt by monetary authorities to stimulate activity, low interest rates “push” investors to search for more profitable placements, the nowadays so-called “carry-trade”, like under quantitative easing 2 (QE2) in the United States right now. The contrary happens at the top of the cycle.¹⁰ Additionally, capital flows have shown to be pro-cyclical, i.e., rather than smoothing income and consumption in the receiving country, they do the contrary.¹¹

⁸ See McKinsey Global Institute (October 2008), op.cit., Exhibit 4 and (January 2008), op.cit, Exhibit 3.2.

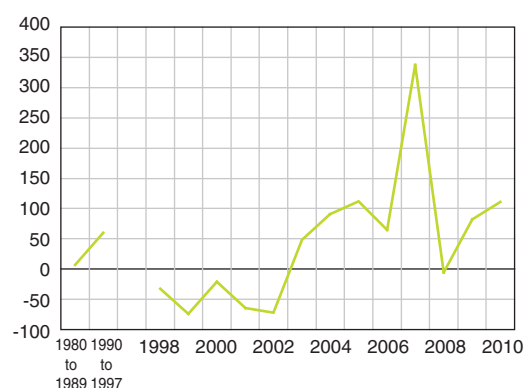
⁹ For a contribution summarising and reformulating other studies on “push” vis-a-vis “pull” factors in the determination of capital flows to developing countries, see Ferrucci, Herzberg, Soussa and Taylor: “Understanding capital flows to emerging market economies”, in Bank of England Financial Stability Review, June 2004. Their conclusion was: “The main lesson to be drawn is that banking flows and bond spreads are both significantly influenced by push factors, although banking flows relatively less so, possibly due to the nature of the bank-borrower relationship. This implies a need for caution by developing countries in borrowing too heavily during times of a benign external financing environment, as a reversal in credit conditions is more often than not beyond the control of the borrower”. “...it is important to bear in mind that what is a sustainable level of leverage during good times is potentially unsustainable over a longer horizon, regardless of the creditworthiness of the borrower”.

¹⁰ See, for instance, Suter, op.cit. or Pettis: “The volatility machine”, OUP (2001), especially Chap. 4 “180 years of liquidity expansion and international lending”. The first Secretary General of UNCTAD, Raúl Prebisch, had already detected such a pattern in the 1920s in the case of an Emerging Market of that era, i.e., Argentina. In various issues of the “Economic Review” of the Banco de la Nación Argentina in the years 1928 to 1929, Prebisch describes, for instance, how the “boom” in Wall Street and the tight monetary policy introduced by the Federal Reserve to cope with that era of “irrational exuberance” had driven funds away from the Argentine market that had entered in a previous period of easier money conditions in the United States. Moreover, Prebisch argued that the volatility of capital flows was one of the two main driving forces behind the “Argentine economic cycle”, the other one being the behaviour of exports.

¹¹ See, for instance, Lane: “Do international investment income flows smooth income?” Trinity College Dublin and CEPR (May 2001).

Chart 5
Emerging markets and developing countries
 Net private capital inflows excluding foreign direct investment

(USD billions)



Source: IMF WEO Database, October 2010.

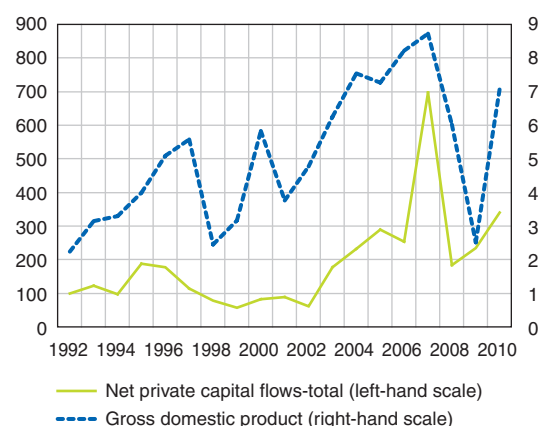
The above behaviour leads to a well established boom-and-bust cycle in developing countries dominated by “push” factors associated with the instability of capital inflows responding to the domestic cycles of the major advanced economies.

Responding to such a “push” cycle another one gets established in the developing country that acquires some independence vis-a-vis the first one. During the first phase, driven mainly by events in international markets –although also influenced by a shift to “market-friendly” policies in the developing countries– private capital starts flowing to these far-away lands. Those inflows simultaneously add to demand and provide the wherewithal –in terms of foreign currency– to start an economic expansion. In an environment of growth, government revenues increase and price stability is achieved with more ease, most specifically as the easy availability of foreign finance tends to depress –viewed from the “pesos” per foreign currency ratio– the exchange rate, a crucial element of price pressures in those economies. A virtuous cycle looks like having been instituted.

Chart 6
Emerging and developing countries
 Net capital inflows and GDP rates of growth

(USD billions)

(at constant prices, % rates of growth)



Source: IMF, WEO Database, by country groups, October 2010.

Fragilities, however, accumulate through trade deficits, foreign indebtedness and an exchange rate that puts the tradable goods sectors at a disadvantage.

A sudden “rationing” of capital flows and/or the increase in “country risk” spreads, results in less growth and declining government revenues. Higher interest rates and lower growth rates determine a reduced debt sustainability requiring –at high levels of indebtedness– larger and larger primary and/or trade surpluses, to avoid an explosive increase in, respectively, public or external debt ratios to GDP. Reduced debt sustainability calculations lead to further rationing and higher interest rates. The country is forced to undergo a drastic macroeconomic adjustment. The crisis has set in. Notice that even if the beginning of such a cycle got support from the “push” cycle originated in the advanced economies, the crisis in this case does not necessarily require an increase in international interest rates.¹² Once it gets started it is an endogenous process, in the final phase capital outflow responding more to the circumstances of the developing country economy than to international phenomena.¹³

¹² Although, for instance, the increases in interest rates in the United States at the end of 1970s and beginning of 1980s and, again, in early 1994, had a lot to do with the following crises, the first one, almost only in Latin America and the second, first in Mexico and then extended to a whole series in Asia, Russia and Latin America.

¹³ See, for instance, “When it rains it pours: Procyclical capital flows and macroeconomic policies” by Kaminsky, Reinhart and Vegh, NBER Working Paper No. 10780, September 2004. Their conclusions are: 1. that net capital inflows are pro-cyclical (vis-a-vis the borrowing countries including OECD countries and not only for EMEs), 2. that fiscal and monetary policies in developing countries are also pro-cyclical and 3. that periods of large capital inflows are associated with expansionary macroeconomic policies and the contrary happens in periods of capital outflows.

Several mechanisms could explain the pernicious effects of instability on growth. One key channel could be the negative effect on “animal spirits” discouraging firms to expand their investment in more output capacity. Instability also could lead to restrictions on access to long-term finance necessary for development projects. On the whole, in the words of Kose and Prasad, financial integration “seems to strengthen the negative relationship between growth and volatility”.¹⁴

2|3 Financial inflows and growth in developing countries

More in general, however, the relationship between financial opening up or between capital inflows and growth, beyond indirect effects via instability has seriously been put into question. From doubts about a positive effect to the conclusion that there might be a negative effect of capital inflows for growth, the literature has made significant progress in the years previous to the present-day crisis.

Already, back in the 1990's Jagdish Bhagwati had insisted in the fact there were no theoretical grounds –equivalent to those that applied to international trade– to support the view that financial opening-up was good for growth.¹⁵ But then Rogoff *et al.* at the

Research Department of the IMF and again, in a first version, Raghuram Rajan, from the same position, were some of the authors of a stream of papers showing that capital inflows could not necessarily be good for growth, in fact, in the case of Rajan and his co-authors, actually deleterious to growth. Additionally, Professor Aizenman at the University of California would show that self-financing was associated with high rates of growth. In the two last cases, and in that of other less well-known authors, running a current account surplus –paradoxically for traditional thinking on the subject– was shown to be good for growth.¹⁶

The experience of the series of crises involving almost all latitudes of the world and the conclusions of the above mentioned studies, led to the conviction, for more than one government and sector of public opinion that financial liberalisation was a force for instability and not for growth.¹⁷ Consequently, developing countries rather than running current account deficits and financing them with inflows of capital –as had been the case over the previous almost two decades of financial globalisation– had to the contrary been trying –not always successfully– to avoid running deficits. It was found rather preferable to run surpluses and to keep capital inflows at bay, particularly those not associated with foreign direct investment. To put it into a nutshell, many countries opted for an “export-led” strategy instead of a “debt-led” one.

14 See Box 2.3. “Why is volatility harmful?” in “Output volatility in emerging market and developing countries” a section of Chap. II “Two current issues facing developing countries” of International Monetary Fund World Economic Outlook, April 2005. The preoccupation with negative effects of instability is rather recent in conventional literature and it runs against conclusions of Lucas: “Models of business cycles”, 1987 welfare costs of fluctuations being minor in his opinion. See also Kose, Prasad and Terrones “Growth and volatility in an era of globalisation”, IMF Staff Papers, Vol. 52, Special Issue, 2005. In their view trade and financial integration could have significant effects on the instability of the developing economies.

15 See his “The capital myth: the difference between trade in widgets and dollars” by Jagdish N. Bhagwati, *Foreign Affairs*, May/June 1998. Bhagwati, paraphrasing the farewell speech of Gral. Eisenhower as President of the United States, concocted the expression the “Wall Street-Treasury Complex” to depict what he thought was the way the IMF was governed.

16 See “Effects of financial globalisation on developing countries: some empirical evidence” by Eswar Prasad, Kenneth Rogoff, Shang-Jin Wei and M. Ayhan Kose, IMF, March 17, 2003. This report was discussed at the Fund in an IMF Economic Forum at which three of the authors were present (Prasad, Rogoff and Wei) plus C. Fred Bergsten –from the Washington Institute of International Economics– Jeffrey Frankel –from the Kennedy School of Government at Harvard University– and Prof. Daniel Tarullo, from the Georgetown University Law Center (presently Member of the Board of the Federal Reserve System); see the transcript in “Is financial globalisation harmful for developing countries?” Washington, D.C., May 27, 2003. If anything the discussants reinforced the report's conclusions. Bergsten made the point that a confusion between domestic financial liberalisation and financial account openness had become too habitual, with the former bringing in unmitigated benefits while the latter not having shown to be particularly positive. Frankel also came in favouring some kind of restrictions on capital movements à la Chile. From the same IMF Research Department see “The elusive gains from international financial integration”, prepared by Gourinchas and Jeanne, IMF Working Paper, WP 04/74, May 2004. In their estimate the gains between total financial autarchy and perfect capital mobility could be of the order of a permanent 1 per cent increase in consumption. For Prof. Aizenman contribution see Aizenman: “Financial liberalisations in Latin America in the 1990s: an assessment”, *Economic Journal*, 2005, pp. 959-983, where a positive relation is established between self-financing and growth and also for his previous paper where the methodology of the self-financing coefficient is developed, see a paper prepared for the World Bank, Aizenman, Pinto and Radziwill “Sources for financing domestic capital- is foreign saving a viable option for developing countries?”, April 2005. For Rajan and his colleagues, see Prasad, Rajan and Subramanian: “Foreign capital and economic growth” in *Brookings Papers on Economic Activity*, Nov.2007. Moreover, Prof. Stiglitz had commented on the Rogoff *et al.* paper in his “Capital market liberalisation, globalisation and the IMF”, *Oxford Review of Economic Policy*, Vol. 20, No. 11 (2004), questioning how come it had been a surprise for the authors to find out that liberalisation of capital inflows was not a necessary neither a sufficient condition for growth.

17 In fact, due to the Asian crisis, the IMF stopped to discuss a change in its Articles of Agreement that would have made compulsory to liberalise capital flows for all member countries, in an equal footing to current account transactions.

2|4 The US deficit and the “exorbitant privilege” as a reserve currency issuer

Resort to private international financial markets to finance current account deficits, therefore, became less attractive. But there was one exception and not precisely that of a developing country, e.g., the United States. In this case, deficits could be financed by issuing what remained, even after the breakdown of the Bretton Woods system, as the single, by far, most important “reserve currency” in the world economy.

In fact, for the world at large, as may be gathered from the following graph, the proportion of the US dollar in foreign exchange reserves lies between 60 and 65 per cent. For advanced countries this proportion even increased during the first phase of the present-day crisis, from the last quarter of 2007 to the first quarter of 2009.

Consequently, for the United States –the crisis unleashed– there was none of the habitual run against the currency as in the case of other countries or even under its own early 1970's troubles. On the contrary over several quarters there was a “run towards” the US dollar, the so-called “flight-to-quality”, in spite of serious difficulties in the financial sector as well as the presence, even if reduced, of the well-known external deficit. The US government and their monetary authorities, therefore, could enjoy the privilege of fighting the crisis with substantial

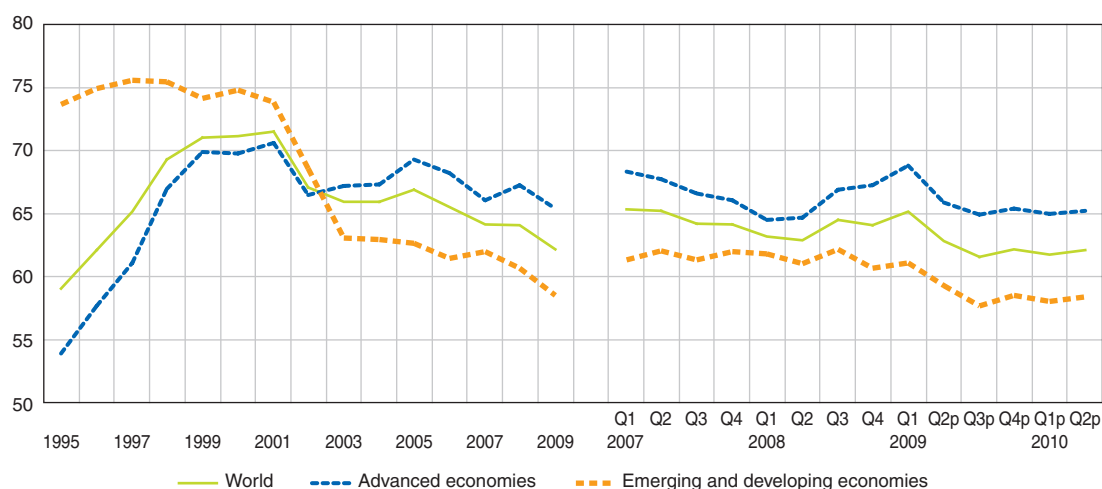
monetary expansion and a significant increase in fiscal deficits, something that the rest of the countries running deficits could never have imagined. Moreover, the latter would never have been allowed by the IMF to take such measures under Fund-supported programmes or access to their “facilities”.

The episode just confirms one more side of the “exorbitant privilege” that has allowed the United States to run year after year –even under crisis conditions– considerable external deficits. Such a condition accounts to a significant degree for the persistence and increasing magnitude of the “global imbalances” problem. As long as the currency of a single country remains being the “dominant” reserve currency, for the world at large, external deficits both become unavoidable and at the same time a potential fulcrum for crises dominated by current account reversals (the famous Triffin paradox), if the “flight-to-quality” process at some point reaches exhaustion.

If one would try to extrapolate some trends, a look at what is happening with the composition of the foreign exchange reserves of the fast growing developing countries, would point towards that potentiality possibly becoming actual. In fact, the proportion of US dollars in their foreign exchange reserves has been following a deep downward trend. Additionally, in their case there was little of the “reverse run” vis-a-vis the USD during the crisis as it was the case with advanced economies.

Chart 7
Proportion of USD in allocated foreign exchange reserves

(%)



p: preliminary data

Source: IMF, COFER, November 2010.

To summarise, financial globalisation, the other side of the coin of deficits in current account, providing an apparently easy way to balance them, had proved to be a force for instability and against growth for developing countries. On the contrary, experience has shown that running surpluses in current account is a force for growth. In the following we will be showing the way in which such a process has asserted itself.

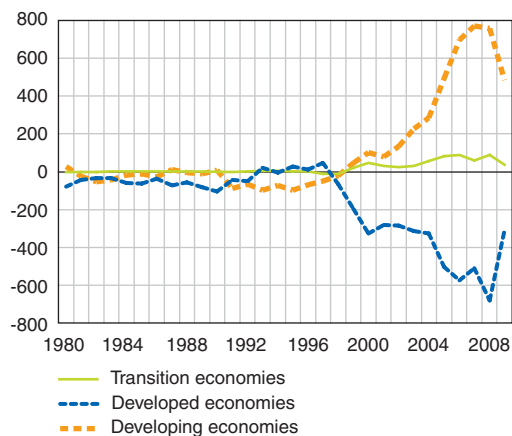
3| DEVELOPING COUNTRIES: SURPLUSES IN CURRENT ACCOUNT AS AN INSTRUMENT OF GROWTH STRATEGY AND THE POLICIES TO SUSTAIN THEM

3|1 The shift in current accounts, the reduction in indebtedness and the accumulation of foreign exchange reserves

In the following graph, the shift in the current accounts of the developing countries comes out very clearly. However, it is less than a generalised circumstance as, for instance, among those countries, there are several major ones as Brazil and India, that keep running a deficit.

Chart 8
Current account balances

(USD billions)

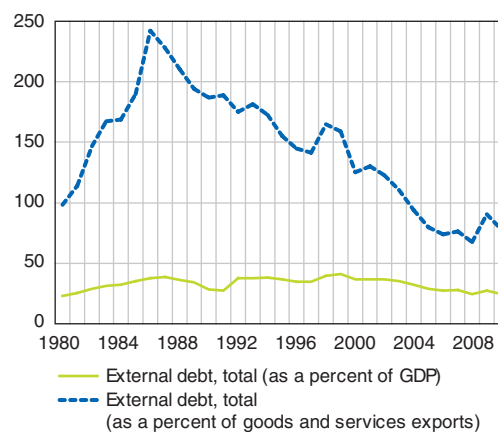


Source: UNCTAD, UNCTADSTAT, *Economic Trends, Balance of payments, current account, net, 1980-2009*.

Surpluses, as may be gathered by the following two graphs, have resulted in a significant decline in external debt levels, which in our country is called a “disindebtedness” strategy. As to external debt levels, for developing countries in the aggregate, the highest points were reached, respectively, in 1998 and 1999 (165% of exports in 1998 and 41% of GDP in 1999). They now –2010– stand at 78 and 25 per cent.

Chart 9
Emerging and developing countries
External debt, total as a proportion of GDP
and of exports of goods and services

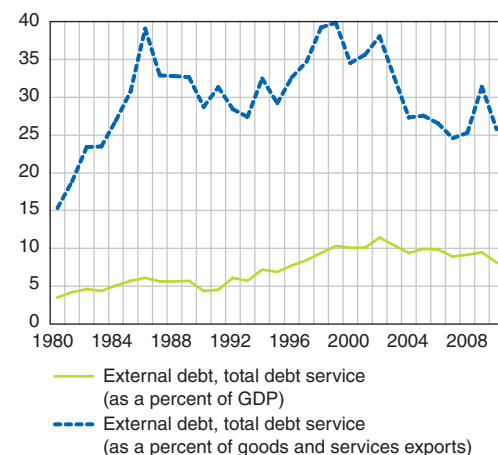
(%)



Source: IMF, WEO Database, by regions, October 2010.

Chart 10
Emerging and developing countries
External debt, total debt service as a proportion of GDP
and of exports of goods and services

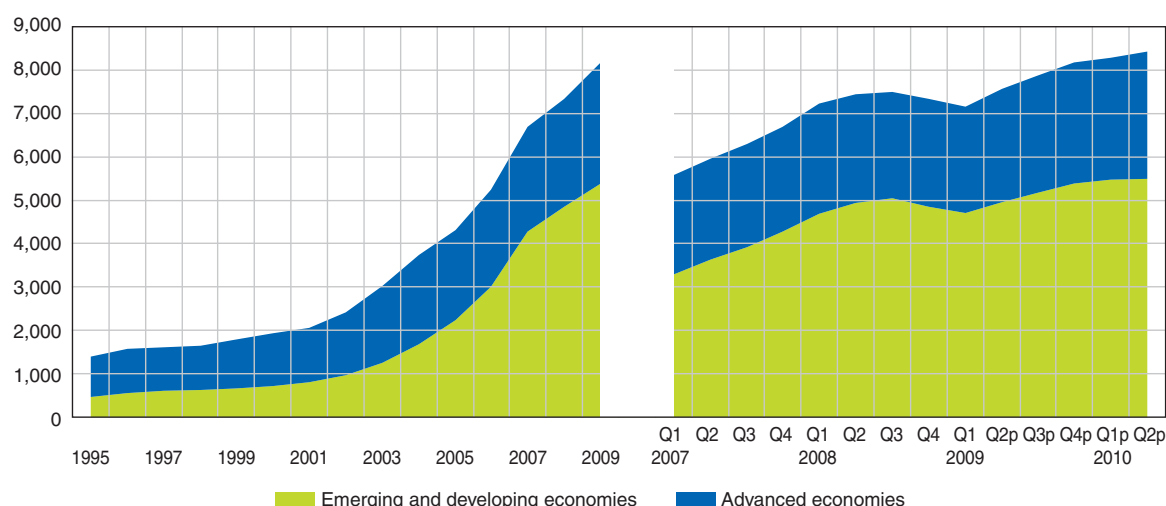
(%)



Source: IMF, WEO Database, by regions, October 2010.

Chart 11
Foreign exchange reserves: distribution between advanced and developing countries

(USD billions)



p: preliminary data

Source: IMF, COFER, November 2010.

As to debt service, the highest points were reached, respectively, in 1999 and 2002 (40% of exports in 1999 and 25% of GDP in 2002) while nowadays those figures stand at 26 and 8 per cent.¹⁸

The shift into surpluses by developing countries, also, has resulted in considerable accumulation of foreign exchange reserves. Between 1995 and 2009 foreign exchange reserves of developing countries expanded from USD 458 billion to USD 5.394 billion and from a third to two thirds of world foreign exchange reserves.

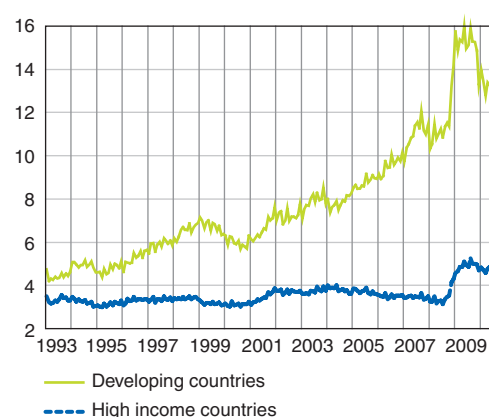
As argued by Rodrik, the foreign exchange reserve accumulation is not due to trade opening as the advanced countries, very much involved in trade liberalisation, have kept holding an equivalent of 2 to 4 months of imports, with some increase in the last two years. While in the case of developing countries, reserves are now equivalent to about 14 months of imports up from the same level as that of the advanced countries 30 years before as may be gathered from the following graph.¹⁹

In the case of developing countries, accumulation of foreign exchange reserves could be a policy target pursued on its own for pure prudential

purposes. In a world of high volatility of capital flows and moreover of foreign exchange receipts arising out of trade balances under the influence of significant shifts in prices and sometimes even in quantities depending on the vagaries of the weather, accumulating foreign exchange reserves could be a reasonable policy of preparation for a “rainy day”.

Chart 12
Foreign exchange reserves months import cover

(in months)



Source: IMF WEO Database, by country groups, October 2010.

¹⁸ Comparisons with a majority of the advanced countries would take us too far away from the main line of argument.

¹⁹ See Rodrik, (2006): “The social cost of foreign exchange reserves”, January, NBERw11952.

Moreover, as most countries have found IMF recipes for adjustment far away from what in their view –and that of a significant section of academic opinion– was adequate to sort out their problems under crises, accumulation of foreign exchange reserves becomes a way to self-insure against unexpected shocks.²⁰

As long as financial flows to developing countries continue to be ridden by instability and that resort to the IMF is to be avoided on grounds of quantitative restrictions and misplaced “conditionality”, accumulation of foreign exchange reserves is a powerful instrument of self-insurance as it was proved under the present-day crisis.

3|2 The exchange rate policy

The export-led strategy endlessly recommended as the one to be followed by developing countries has added an additional element to the accumulation of foreign exchange reserves. Many developing countries having opted for such a strategy of entering into foreign markets with not only primary produce but also with recently acquired capacities to produce ever more sophisticated manufacturing goods, realised –something already well-known 50 years before– that their exchange rates should not become overvalued. Overvaluation could be a consequence of the well-known “Dutch disease” for countries that traditionally had been primary products exporters but additionally the result of being on the receiving end of the “carry-trade” during the “push” phase of capital flows from advanced countries.

In cyclical terms, as already mentioned, once a phase of overvaluation has begun soon the country runs

external deficits and foreign obligations accumulate. The end of the process has always been a crisis either because of a shift in financial markets in advanced countries or by the sheer accumulation of external obligations.

Consequently an active policy to combat overvaluation of the exchange rate has become more widespread, combined, in a few cases, with the introduction of some form of controls against short-term capital inflows.

No doubt, exchange rate policy remains an area of controversy and shifting opinions set against a background of changes in the actual regimes put into practice by the different countries and again in a world context that has experienced significant transformations. On the whole, *de jure*, but more importantly *de facto* most countries have gone over from the fixed exchange rate system under Bretton Woods to some form of “managed floating”, the so-called “middle” regimes.

The problem with exchange rates and most specifically in the case of developing countries, is that they are simultaneously the most important price for financial markets and for foreign trade at the same time (and the domestic price level). The workings of financial markets make for it to be the most unstable price while the consequences of such instability in terms of price signals for the “real” economy are far from positive even if hedging for short-run purposes could be eventually developed.²¹

Moreover, the conclusion was drawn that due to such instability, if capital movements are free, there is no real monetary policy autonomy under flexible exchange rates, a situation having been baptised

20 See Aizenman: “International reserves” *The Palgrave Dictionary*, new edition (2005) and also Aizenman and Lee: “International reserves: precautionary versus mercantilist views, theory and evidence”, mimeo (August 2005). For earlier contributions see Ben-Bassat and Gottlieb: “Optimal international reserves and sovereign risk”, *Journal of International Economics*, 33 (1992). An even earlier attempt at estimating optimal level of reserves was that of Heller: “Optimal international reserves”, *Economic Journal*, 76 (1966).

21 In the words of Cooper, in his “Exchange rate choices” (June 1999): “...movements in exchange rates, while providing a useful shock absorber for real disturbances to the world economy, are also a substantial source of uncertainty for trade and capital formation, the wellsprings of economic progress” (underlined in the original). Cooper, in this same piece, also strongly criticises Harry G. Johnson strenuous advocacy of floating exchange rates a few decades ago: “He (Harry G. Johnson) demonstrates a charming faith in the ability of private markets to get the exchange rate right, and to keep it there” and goes on to criticise his various assertions on which the case for floating rates were based, e.g., that the foreign exchange market was as any other one small relative to the size of the economy, that it was a stable market, that the exchange rate movements would be dominated by inflation differentials and that the market would develop the necessary hedging instruments. Work by Obstfeld, jointly with Rogoff, has shown that the cost of floating could be of the order of 1% of GDP under fairly restrictive conditions for risk aversion; see Obstfeld and Rogoff: “Risk and exchange rates”, NBER Working Paper No. 6694 (August 1998) and also Aghion, Bacchetta, Rancière and Rogoff, developed a model and tested it over an 83 country data set spanning the years 1960-2000 showing that but for countries in a very advanced level of financial development –as measured by the ratio of private credit to GDP– exchange rate volatility reduces growth; see Aghion, Bacchetta, Rancière and Rogoff: “Exchange rate volatility and productivity growth: the role of financial development”, NBER Working Paper No. 12117 (March 2006).

as the “impossible duality” rather than Mundell’s impossible trinity.²²

Making room for an autonomous policy therefore, implies introducing controls on at least short-term capital movements –an issue that will be addressed later– and avoiding floating exchange rates. But then what would be the appropriate exchange rate regime for a developing country intended on enhancing growth but not relying on “foreign savings”, or if at all in a most cautious way?

The exchange rate regime, non-floating so as to deliver a degree of autonomy for monetary policy, should at the same time be such that it promotes exports, most especially non-traditional exports and additionally a small surplus on trade and real services balance to ensure service of a low degree of indebtedness and FDI. An answer, for instance, has been offered by John Williamson, i.e. the crucial element for developing such a “real” external positive balance is that of maintaining a competitive real effective exchange rate (REER) level, in his words a “development strategy approach” to an exchange rate regime.²³

Further contributions to the debate on the right exchange rate policy for developing countries have later been made. Professor Dani Rodrik has quite convincingly argued that an undervalued exchange rate leads to much faster growth by examining a large sample of developing countries over the 1950–2004 period. Professor Rodrik argument revolves around breaking down externalities that do not allow

for faster growth in the traded-goods, especially in the non-traditional sector; overvaluation, instead, dampening growth.²⁴ And in a recent IMF working paper by Andrew Berg and Yanliang Mao, using a different definition of deviation from “equilibrium” exchange rates, on the whole, the same conclusion is reached.²⁵

Of course, one could easily point out that a “fallacy of composition” is involved if all countries in the world aim at exchange rate targets, i.e., there are only $n-1$ degrees of freedom to set the exchange rates of the n countries in the world. The above reasoning boils down to the fact that in a very basic sense there is an interphase between the international trade and financial systems. Developing countries would need the more advanced countries to accept adopting exchange rates so that their “real external surpluses” could be accommodated. This, in turn, means accepting an aggregate import surplus, something that, bearing in mind the either surplus or low negative Net international investment position of the advanced economies, would be far from impossible in balance of payments terms. Otherwise the present-day dynamic role of developing countries could be coming to a halt.

3|3 The introduction of capital controls

After the examination of the effects of financial liberalisation, an obvious conclusion comes to one’s mind, i.e., a first way to gain autonomy –“policy space”– from the instability of world financial markets –and its negative effects on both instability and growth

22 See Cooper, op.cit. “...free movements of capital and floating exchange rates are basically incompatible...of course, free movements of capital are also incompatible with fixed but adjustable exchange rates...they (countries) may reasonably choose to preserve the right to control at least certain kinds of capital movements into and out of their jurisdictions, in the interests of reducing both nominal and real exchange variability” quoting himself in the “Should capital controls be banished?”, op.cit. The “impossible duality” expression is coined in Flassbeck: “The exchange rate: economic policy tool or market price?”, UNCTAD Discussion Papers No. 157, Geneva (November 2001).

For a predecessor advocating the need for exchange controls to gain monetary policy autonomy one could look back to the 1930s and the opinions of the First Secretary General of UNCTAD, Raul Prebisch, at that time General Manager of the newly created Central Bank of Argentina. Prebisch –who always had thought of himself as an orthodox economist– ended up defending the exchange control system that had been instituted in September 1931. In his view, exchange controls were absolutely necessary in order to be able to introduce a “national monetary policy” that would gain some autonomy for the country from world forces beyond her control, echoes, maybe, of the “managed money” advocacy by Keynes. Exchange controls were considered by him as a mechanism only for the financial sphere and not –at least in his writings– as an element of protectionism for the country’s produce. For that, Argentina –he said– must have her own customs policy; otherwise it would be imposed by the great powers. See O’Connell: “The return of vulnerability and Raul Prebisch’s early thinking on the ‘Argentine Business Cycle’”, ECLA Review No. 75 (December 2001).

23 See Williamson: “Exchange rate policy and development”, Initiative for policy dialogue, Barcelona, June 2, 2003. The author, however, assigns the paternity of the idea to Bela Balassa and mentions that Max Corden somewhat derogatorily had labelled this approach as “exchange rate protection”.

24 See Rodrik: “The real exchange rate and economic growth”, Brookings Papers on Economic Activity (2008), 2, pp.365-412. In Prof. Rodrik contribution the undervaluation is relative to a PPP level after adjusting for per capita income to take into account the Balassa-Samuelson effect.

25 See Berg and Mao: “The real exchange rate and growth revisited: the Washington consensus strikes back?”, IMF Working Paper, WP/10/58, March 2010. Berg and Mao use a definition of “Fundamental equilibrium exchange rate”(FEER) bringing in terms of trade, government consumption (as a share of GDP), investment (also as a share of GDP) and openness and, therefore, under-or-overvaluations are referred to that rate.

of developing countries– is to introduce some system of administration of capital flows. Additionally, according to the well-known Mundell trilemma, the adoption of some form of capital controls allows a country to have an exchange rate policy without having to relinquish autonomy over monetary policy.²⁶ Curiously enough, such a device even if not extremely popular in policy circles is within the formal “rules of the game”. As a matter of fact, the articles of agreement of the International Monetary Fund do allow for the introduction of capital controls.²⁷

In a contribution surveying about 30 empirical studies of the effects of capital controls, four reasons are offered for their introduction. First, avoiding exchange rate appreciation that would reduce competitiveness. Second, avoiding an accumulation of “hot money” ready to leave the country at the first perceived sign of difficulties. Third, avoiding too large inflows that might generate asset price bubbles and overconsumption as well as dislocations in the financial system and, fourth, avoiding the loss of monetary autonomy.²⁸

Several types of capital controls have been applied or suggested. Within policy-circles as well as the academic ones little sympathy has been shown for administrative-type of capital controls that in many advanced countries were only dismantled in the last two decades. There is also an overwhelming opinion that capital controls are better applied to inflows rather than to outflows and, in the extreme case when the latter are applied, they should basically be temporary. There is however no unanimity on these matters.²⁹

The better known and most widely accepted form of capital controls was the application of an “uncompensated reserve requirement” (URR) to some or all capital inflows, i.e., to sterilise a significant proportion of the inflow in a non-interest bearing deposit, making it less profitable to play with short-term capital movements. Such an instrument was applied by Chile in the 1990s and by Argentina in this last decade beginning in 2005. Capital inflow surges –and the ensuing accumulation of fragilities could thus be tempered– and “policy space” for fiscal and monetary policy would be earned. Minimum stay requirements could also be imposed or as in Colombia, inflows to invest in real-estate and portfolio investment could be prohibited to reduce volatility of capital flows and asset price bubbles.

Another measure to dampen down capital inflows would be to tax them; and, in fact, such an instrument was alternatively applied in the case of Chile and, again, presently by Brazil.³⁰ Or a tax on capital outflows, enough to make short-term speculation unprofitable could also be introduced.

The conclusion from the already mentioned paper by Magud and Reinhart is that controls on capital inflows have succeeded in making monetary policy more independent, reduce the pressure on exchange rates and alter the composition of capital flows towards the longer-term variety. Their total volume, however, seems to have gone unaffected.

On the other hand, there is a widespread consensus that controls end up being circumvented but,

26 As more than one author –most prominently John Williamson– has underlined the trilemma strictures have been over-dramatised by conveying the wrong idea that only “corner” solutions to it are possible, i.e., that there are no possible combinations of some degree of autonomy over the three elements.

27 Art. VI (Capital Transfers) Section 3 (Controls of Capital Transfers) states “Members may exercise such controls as are necessary to regulate international capital movements...”. The crisis in Asia stopped short a very active attempt to actually reform these provisions and make it compulsory for Fund members to liberalise capital movements in parallel to the very basic obligation not to restrain current account transactions vested in Article VIII (General Obligations of Members), Section 2 (Avoidance of restrictions on current payments). In fact, the same article VI, Section 1 a) of the IMF Articles of Agreement states that “A member may not use the Fund’s general resources to meet a large or sustained outflow of capital...” a prescription that has been somewhat overlooked under the 21st century crises –in Mr. Camdessus words– hitting the financial account of Mexico, first, and various other countries thereafter. It was precisely the modification of this article that the IMF was discussing when the Asian crisis exploded.

28 See Magud and Reinhart: “Capital controls: An evaluation”, NBER Working Paper 11973, January 2006; the authors rather than using the word “avoidance” use the term “fear”, maybe in the tradition of Carmen Reinhart jointly with Guillermo Calvo of the “fear of floating” vision; see Calvo and Reinhart: “Fear of Floating”, *Quarterly Journal of Economics*, Vol. CXVII, Issue 2, May 2002.

29 See, for instance, Epstein, Grabel and Jomo: “Capital management techniques in developing countries”, January 2004. These authors dismiss four habitual criticisms against capital controls on the basis of what has been the experience of Chile, Colombia, Malaysia and Singapore. In their opinion, there is no justification to believe that i) capital controls only work in the “short-run” (not the case of Singapore), ii) that they have to keep being ever more restrictive (not the case of Chile, for instance), iii) that they only work as to inflows but not as to outflows (the case of Malaysia –to which I would add that of Korea that had severe controls on outflows without making them as explicit as in the first case– shows that controls on outflows could be quite effective to gain “policy space” under the crisis of 1997-1998) or iv) that microeconomic costs –most specifically on small firms– could be significant to the point of negating their advantages.

30 A proposal, also, has been floated to introduce a tax on all receipts of foreign exchange and return it to exporters via the VAT rebate system and to those earning income from abroad through the income tax system. This tax would be levied by financial institutions on all and any receipt of foreign exchange on a withholding basis. See Zee: “Retarding short-term capital inflows through a withholding tax”, IMF WP/00/40, March 2000.

as Richard Cooper has argued, the presence of significant margins are witness to some of their effectiveness.³¹ As Stiglitz has put it, a dam might have leakages but it would still avoid massive flooding of the valley below.

4| DEVELOPING COUNTRIES AS THE “LOCOMOTIVE” OF THE WORLD ECONOMY VIS-A-VIS THE ROLE OF SOME OF THE ADVANCED SURPLUS COUNTRIES

With the aim of preserving themselves of the vagaries of the international financial markets or as a consequence of avoiding the overvaluation of their currencies, developing countries in the aggregate –but as mentioned before not all of them– have become countries generating a surplus on current account. But, as it is illustrated in the following graph, besides some of the developing countries and regions having had a surplus on current account, Germany and Japan, also show sizable surpluses. In fact, their surpluses have kept growing in the last years, while

there has been a decline in those of China and of the oil exporting developing countries.³²

The difference, however, between the developing countries and the major advanced countries in surplus is that developing countries are growing fast having become the fundamental dynamic force in the world economy while those other countries in surplus are trailing behind.

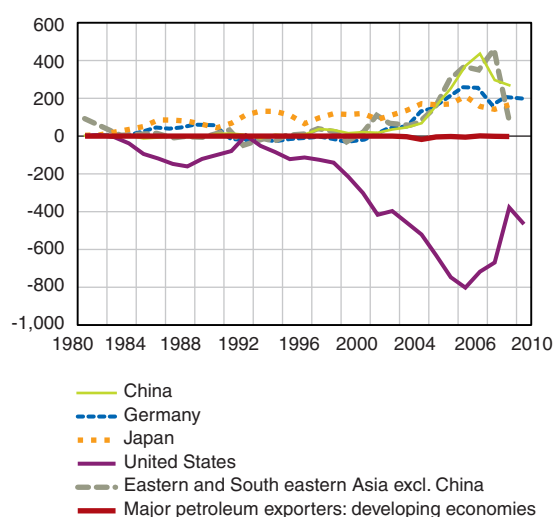
The contrast is clear. Over the period between 1998 and 2009, while developing economies grew by 175 per cent, Germany and Japan, the main advanced surplus countries, only increased their real GDP by, respectively, 10.7 and 7.2 per cent.

Moreover, as shown in the following graph in only a 10-year period developing economies went from generating 20 per cent of the increase in world GDP to generate almost 70 per cent of it. In fact, last year, while world GDP decreased, developing economies continued growing.

Developing countries in surplus, differently from the major advanced countries with a positive current account, are, consequently, playing the role of “locomotive” of the world economy, by following policies to achieve fast rates of growth.

Chart 13
Current account balances

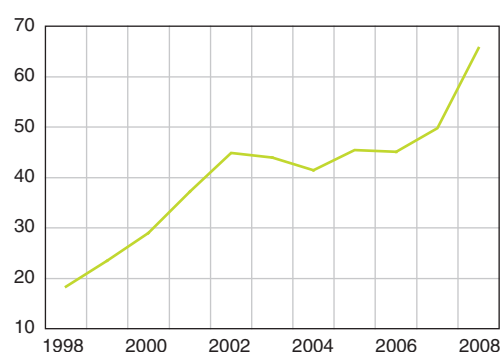
(USD billions)



Sources: IMF, WEO, Database, October 2010 and UNCTAD, UNCTADSTAT, Economic trends, Balance of payments in current account, 1980-2009.

Chart 14
Developing economies
Proportion of world growth in real GDP
(at year 2000 prices and exchange rates)

(%)



Source: UNCTAD, UNCTAD Stat, GDP in constant (2000) prices and exchange rates, November 2010.

³¹ See Cooper: “Should capital controls be banished?” *Brookings Papers on Economic Activity*, 1, Washington, D.C., 1999.

³² For China its surplus in current account that was almost USD 372 billion in 2007 fell to USD 297 billion in 2009 and will additionally drop to an estimated USD 270 billions in 2010. For Germany and Japan, on the other hand, even if their joint surplus also decreased from USD 464.7 billion in 2007 to USD 305 billion in 2009, it is estimated to go up to USD 366.5 billion in 2010. Source: IMF, WEO, Database, by country, October 2010.

On the contrary, those advanced surplus countries growing at a languishing pace are reproducing the well-known deflationary bias characteristic of the international system. Differently from deficit countries, they are able to unfettered continue to design their own policies; unfortunately, as revealed by their growth rates, restrictive policies playing beggar-thy-neighbour role on the rest of the world, the only limit being the capacity

of the other countries to finance their deficits and sustain debt accumulation. Deficit countries –among them quite a few developing countries but also lately European countries– continue, instead, to either live under the limits imposed by their amount of foreign exchange reserves or of (the wrong) conditionality-ridden IMF –or of the newly established EU/eurozone– resources forcing them into a deflationary path.

Redressing or at least moderating global imbalances in the coming years would require action at international and domestic levels. But no solution should be at the expense of growth, full employment and social justice.

In the international sphere, a major issue would be that of regulating cross-border capital flows other than foreign direct investment ones so as to curb their volatility, an issue that has almost not been tackled at all in the last years' discussions about financial regulation.

A second issue, would be to work on the reform of the international monetary system so as to provide a means of payment and a reserve currency other than that of a nation or group of nations, thus eliminating not only an "exorbitant privilege" but also a driving force for explosive global imbalances.

A third issue, would be that of designing a system to clear temporary imbalances between surplus and deficit countries less restrictive than the conditionality-ridden International Monetary Fund, with symmetrical obligations for surplus and deficit countries but due attention to differences in growth rates and stage of development.

Fourth, a cooperative arrangement should be struck among the major advanced and developing countries so that the advanced ones should avoid "beggar-thy-neighbour" policies that impart a deflationary bias to the world economy. On the contrary, room would have to be made for the surpluses generated by the export-led strategies of developing countries that have become the "locomotive" of the world economy. Otherwise an endless recessionary phase might be entered.

As long as little or no progress is made in those directions, developing countries should keep trying to generate growth by avoiding overvaluation of their currencies, protecting themselves from the vagaries of international financial markets by introducing financial account controls and self-insuring themselves by accumulating foreign exchange reserves and fighting social inequalities as well as assuring minimal and increasing living standards for all of their citizens attending to their basic needs.

A South African perspective on global imbalances

GILL MARCUS

Governor

South African Reserve Bank

Financial inflows into South African financial markets have resumed in 2009 and gained momentum in 2010, largely as a result of low interest rates and an oversupply of liquidity in advanced economies. As an emerging-market country with a current-account deficit, South Africa is to some extent reliant on these inflows to fund its own external imbalance. However, financial inflows have exerted significant upward pressure on the exchange rate of the rand, with negative effects on the exporting sectors of the economy. Prices of South African bonds and equities have also increased significantly, raising possible concerns about their sustainability and possible sudden reversals. There are, however, also characteristics of the South African economy and financial system that improves its resilience to shocks and the side-effects of global imbalances.

To date, South Africa has not implemented direct measures to stem capital controls, for various reasons. Its policy reactions to global imbalances comprised mainly countercyclical monetary and fiscal policy, a further accumulation of foreign exchange reserves to moderate the exchange rate appreciation and further relaxations of controls on capital outflows.

Global imbalances have been a characteristic of the world economy for many years, with different aspects thereof receiving varying degrees of attention as the global economy proceeds through its boom and bust cycles. Before the most recent global financial and economic crisis, concerns about global imbalances centred on the causes and effects of the US current account and fiscal deficits – the so-called ‘twin deficits’. While these remain relevant, the focus has now shifted to the risks of a much broader concept of global imbalances, with all countries being affected or threatened in some way and contemplating appropriate policy responses.

This brief note discusses some of the financial stability risks of global imbalances for emerging-markets in general, and for South Africa specifically. It also describes the South African scenario and South Africa’s policy responses to the effects of global imbalances on its economy.¹

1 | FINANCIAL STABILITY RISKS OF GLOBAL IMBALANCES

It is sometimes useful to classify financial stability risks according to their cross-sectional (or structural) dimension and their time (or cyclical) dimension.² These dimensions also apply to the risks associated with global imbalances, and such a classification helps to put risks into context and guide appropriate policy actions.

1|1 Cross-sectional dimension

The cross-sectional dimension of global imbalances relates to divergences in savings, investment and consumption patterns among countries, and groups of countries. Some of these imbalances had been embedded in the structure of the world economy as it developed over centuries, such as the income gaps between developed, underdeveloped and emerging-market countries. These structural divergences have manifested themselves in persistent trade, fiscal and international investment imbalances.

Since the onset of the 21st century, emerging and developing economies as a group became net exporters of goods and services to the rest of the world. The current account balance of emerging markets as a group changed from a deficit of USD 13 billion in 1999 to a surplus of USD 723 billion by 2008. In aggregate, the advanced economies recorded a net current account deficit of USD 495 billion in 2008, compared with a surplus of USD 12 billion in 1999. The current account deficit of the United States alone amounted to over USD 700 billion in 2008. The crisis has subsequently reduced the magnitude of current-account deficits and surpluses as household consumption, business investment and international trade declined. However, external imbalances remain indicative of internal demand imbalances in both the surplus and deficit economies, with the former suffering from insufficient and the latter from excessive domestic demand.³

In general, emerging-market economies have built up significant reserves, in some cases from their current account surpluses and in other cases from financial account inflows. In certain instances, the build-up of reserves resulted from attempts to keep their exchange rates from appreciating. Between the first quarter of 2000 and the end of 2009, emerging-market reserves increased by just more than USD 3 trillion, with half of that amount attributable to China. In 2000, emerging-market reserves amounted to 36 per cent of total global reserves. By 2009, this percentage has increased to 64 per cent.

Emerging-market reserves have been invested predominantly in the reserve currencies of advanced economies. Consequently, as a group they recorded net financial outflows of close to USD 600 billion in 2008 if reserves flows are included, while the advanced economies recorded inflows of USD 289 billion. The United States remained the main recipient of foreign investment flows during the crisis, recording net inflows of just over USD 500 billion in 2008. This circular flow of funds has been a structural feature of the global economy for the past ten years and contributed to growing imbalances in the international investment positions of countries. At the end of 2008, advanced economies’ net liabilities to the rest of the world amounted to

¹ Date of writing : November 2010.

² As explained by Borio (2010): “Implementing a macroprudential framework: Blending boldness and realism”, prepared as a keynote address for the BIS-HKMA research conference on financial stability, Hong Kong, 5-6 July 2010.

³ Statistics quoted in this section have been sourced from the IMF’s regular publications on Balance of Payments Statistics and International Financial Statistics.

USD 943 billion, up from USD 178 billion in 2000.⁴ By contrast, developing and emerging market economies as a group had a net asset position of USD 750 billion, compared with a net liability position of USD 1.15 trillion in 2000.⁵

These growing imbalances have been a topic of intense debate, eliciting concern about their sustainability, speculation about possible events that could impact on these imbalances and the consequences of such events. Nevertheless, even throughout the crisis, the pattern seems to remain in place as emerging-market economies outperformed advanced economies and continued to channel their reserve assets back to safe-haven assets, mainly US Treasury bills. However, tension among key players seems to be escalating and the risks to the financial system and the imposition of protectionist measures, or threats thereof, are increasing. These tendencies pose a real danger to global financial stability, trade and growth.

1|2 Time dimension

The time dimension of global imbalances refers to their cyclical elements, and mostly stem from the collective behaviour of economic agents to changes in economic conditions and policies in various stages of the business cycle. This behaviour tends to be procyclical in nature. It exacerbates the business cycle and becomes an endogenous source of systemic risk as market participants adapt their risk appetite, pricing policies and required rates of return in reaction to changes in the cycle. The crisis and related interventions by authorities to stabilise the financial system introduced a number of cyclical imbalances which, unless they are addressed within a reasonable time, run the risk of becoming structural in nature. Because of the amplitude of the crisis cycle, these imbalances are also much more severe than 'normal' cyclical imbalances. They are also, in many instances, amplifying the structural imbalances that had been in place before the crisis. A few examples of current cyclical imbalances are:

- High amounts of liquidity and historically low interest rates in (mostly) advanced economies.

With abundant liquidity available in advanced economies, and lending rates almost certain to stay low for some time, investors have an incentive to borrow in these markets and invest in higher yielding, riskier markets, thereby potentially building up to a renewed round of asset price bubbles.

- Various advanced countries suffered from rising fiscal deficits before the crisis. However, large fiscal stimulus and support packages by governments have pushed these imbalances to much higher levels. The United States, various European Union members, the United Kingdom and Japan are now under pressure to consolidate their public finances, at a time when the global economic recovery is still fragile.

- While the amount of government debt has exploded in many countries, private debt issuances have dwindled during the crisis. This has resulted in an imbalance of public debt relative to private debt, which will have to be restored as the pricing of private debt normalises and appetite for private debt instruments increases.

- Emerging-market economies have generally emerged from the crisis in better shape than most advanced economies and with much less direct damage to their financial systems. As a result, they represent attractive destinations for international investment flows. However, there is a risk that these flows could become motivated by 'spread trading' rather than the fundamental attractiveness of the investment destination, which could cause distortions in the pricing and risk assessment of financial assets.

- As a result of large foreign financial inflows, combined with dollar weakness, free-floating emerging-market currencies have appreciated substantially against the US dollar in the first ten months of 2010, posing a serious threat to both their export sectors and economic growth. Various countries have retaliated by introducing taxes, capital controls and penalties on foreign inflows, the effectiveness of which still remains to be seen. However, further currency misalignments and volatility represent another cyclical imbalance stemming from the crisis.

⁴ Within this group, there are individual countries with significant net asset positions.

⁵ This change was dominated by China, who recorded a net asset position of USD 1.5 trillion in 2008.

2| THE SOUTH AFRICAN SCENARIO

South Africa has also been affected by the cyclical flows of funds to emerging markets. Financial flows to South Africa have increased significantly during 2010 and, contrary to previous periods of large capital inflows, these flows constitute purchases of South African bonds rather than equities. This supports indications that the interest rate differential, rather than growth expectations, may be the main driver of these flows. In the year to the end of October 2010, net purchases of South African bonds by foreigners totalled ZAR 74 billion (about USD 11 billion), while net purchases of equities totalled ZAR 22 billion (about USD 3 billion). Evidence suggests that a significant portion of these funds originate from foreign pension funds and asset managers in search of yield. These inflows, combined with some foreign direct investment flows, have caused the nominal trade-weighted value of the rand to appreciate by about 7 per cent in the year to end-October and by 31 per cent since the beginning of 2009, putting severe pressure on South Africa's exporting manufacturers and the agricultural sectors.

Financial inflows have also put upward pressure on South African bond and equity prices. Yields on all maturities of South African government bonds are now at or close to record low levels and the All-bond index, a total-return index calculated by the Johannesburg Stock Exchange (JSE Limited), is at a record-high level. The JSE's All-share index is now only about 3 per cent below its peak level reached in May 2008, even though the economy has subsequently been through a recession and is still operating significantly below potential. There is little evidence that increases in bond and equity prices have been fuelled by domestic credit extension as private sector credit extension by the banks is still weak. Financial inflows are regarded as the main reason for the rallies in bond and equity prices and, although asset prices are not yet seen to be at a 'bubble' level, they have the potential to become destabilising should these trends continue for an extended period, in particular in the event of sudden reversals of financial flows and demand for emerging-market securities.

In addition to being subject to the effects of global imbalances, South Africa struggles with a number of internal imbalances, such as imbalances in the

distribution of income, imbalances between production and consumption, between saving and consumption, between productivity growth and wage increases and between the supply and demand of specific categories of skills in the economy. South Africa's unemployment rate in the formal non-agricultural sector stands at just more than 25 per cent, and more than a million jobs have been lost between the fourth quarter of 2008 and the second quarter of 2010. Promoting job-creating economic growth is a policy priority for the government and a condition for sustained financial stability over the long term. The internal imbalances are often in conflict with one another, but nevertheless should be addressed by the various arms of government and the central bank through appropriate policies and strategies.

There are, however, also characteristics of the South African economy and financial system that make the country relatively more resilient to shocks and the side-effects of global imbalances than many of its peers. The capital ratio in the banking system averages over 14 per cent, with tier one capital at around 10 per cent. Throughout the crisis, South Africa's banking system and financial markets continued to function smoothly without any special support required. Economic growth turned positive in the third quarter of 2009 and averaged about 4 per cent in the first half of 2010. Household indebtedness, although still high at 78 per cent of gross domestic product (GDP), seems to have peaked and historically record low interest rates are supporting the deleveraging of balance sheets. The inflation rate decreased to 3.2 per cent in September 2010, close to the lower end of the target band of 3 to 6 per cent. An accommodative monetary policy provides some relief to sectors of the economy that are negatively affected by the strong currency, and facilitates a faster deleveraging of household balance sheets. South Africa's foreign debt ratios are moderate, with total foreign debt amounting to 28 per cent of GDP, and short-term foreign debt is more-than-adequately covered by foreign reserves. Lastly, although the fiscal deficit has increased to 6.7 per cent of GDP during the economic downturn, in line with the government's countercyclical fiscal policy stance, it is still at moderate levels compared to those of most advanced and many emerging-market economies. The fiscal deficit is forecast to decline to 3.2 per cent of GDP by 2013/14 as economic growth accelerates, without the need to introduce austerity measures.

3| POLICY RESPONSES TO THE EFFECTS OF GLOBAL IMBALANCES

The policy options available to emerging-markets to counter the effects of global imbalances on their domestic economies are not uniform. Emerging markets with current-account surpluses have a different set of options available to counter the effects of capital inflows than those with current-account deficits. If a country depends on financial inflows to fund its current account, it can hardly afford to discourage these inflows too aggressively, or to become too selective about the types of inflows that would be preferred. Contrary to most emerging-market countries, South Africa has consistently recorded a deficit on its current account since mid-2003, although this deficit has been reduced from its peak of 8.5 per cent of GDP in the first quarter of 2008 to an estimated 4.2 per cent of GDP in 2010.⁶ Inflows on the financial account are therefore needed to fund the current-account deficit, and have kept South Africa's overall balance of payments position positive over the years.

The likely success of direct controls or taxes on financial inflows is uncertain in the South African context. The rand is freely convertible and has a higher trading liquidity than many other emerging-market currencies. Consequently, foreign investors are able to enter and exit rand positions relatively quickly and with low transaction cost. Because of its relative liquidity, the rand is also more volatile than most emerging-market currencies and is often used by foreign investors to adjust the overall exposure of their portfolios to emerging markets. Past experience has shown that foreign portfolio investment can be reversed very quickly if global investment sentiment and risk appetite changes, resulting in sharp and sudden adjustments to the rand exchange rate. Applying direct controls in such an environment becomes very risky and unintentional consequences can easily follow. South African policymakers have to date preferred to adopt countercyclical, accommodative monetary and fiscal policies in order to reduce the impact of a strong exchange rate on the real economy.

The South African Reserve Bank has also leaned against the appreciation of the rand exchange rate by

moderately increasing its foreign exchange reserves. However, the success of lower interest rates and reserve accumulation in preventing a significant appreciation of the rand has been limited, for a number of reasons. First, although the policy rate of the Bank has been reduced to a record-low level of 6.0 per cent, interest rate differentials remain attractively wide even at that level. Second, lower interest rates have mixed empirical effects on the nominal exchange rate of the rand. Expectations of further possible interest rate cuts and currency appreciation raise the probability of capital gains on bonds, thus making them even more attractive to foreign investors. Lower interest rates also increase the attractiveness of the South African equity market, as growth prospects become more optimistic. Third, the interest rate differentials make it costly to drain the domestic liquidity that is created in the process of absorbing capital inflows into official reserves. Fourth, the amounts of reserves that will have to be accumulated to make a meaningful difference to the exchange rate are very large: the average daily turnover in the South African foreign exchange market is around USD 10 billion, of which spot transactions constitute about a quarter.

The government in its October 2010 Medium-Term Budget Statement announced further liberalisation of controls on capital outflows that are intended to enable international firms to make investments through South Africa to the rest of Africa and to further enhance opportunities for offshore portfolio diversification for resident investors. Among others, proposals have been made to increase the annual limits on the amounts that South African individuals can invest offshore, and the existing exit levy on emigrant outflows has been abolished. These initiatives form part of the government's macroprudential risk-based approach to the management of foreign exposure.

However, there are limits to what monetary, fiscal, regulatory or macroprudential policies can achieve. Economic agents in the public and private sectors also have to adapt their behaviour to a changing environment. South African importers currently benefit from the rand's appreciation. They should exploit this opportunity by importing capital goods and expanding production capacity at much lower costs than budgeted, in preparation for the next upward phase of the economy. Expediting the import

6 National Treasury Medium-Term Budget Statement, October 2010.

of capital goods will at the same time take some of the pressure off the exchange rate.

The competitiveness of the export sector should not be based only on the exchange value of the rand, but should be achieved by improving companies' overall competitiveness in international markets.

In the current global environment, a relatively strong exchange rate may be a feature of the South African scenario for some time. In such an environment, there should also be more emphasis and incentives to improve competitiveness through innovation, higher productivity, lower production costs, greater efficiencies and improved quality.

Global imbalances pose a threat to global financial stability as well as to the financial stability of individual countries. There is a limit to which individual countries can respond to these imbalances and a coordinated multilateral approach is required to unwind them in an orderly manner over time, in the interest of all. However, there is also a responsibility on individual countries to address their own internal, structural imbalances and to try and avoid passing on the consequences thereof onto their neighbours or trading partners.

Global imbalances, volatile capital inflows and proposed further IMF roles

DARMIN NASUTION

Governor

Bank Indonesia

The recent diverging policy choices in the developed world and emerging market countries have been accompanied by a return of private cross-border capital inflows to a number of countries. The increasingly integrated global financial market has spurred capitals to flow more easily across borders in search for higher returns. Emerging market countries and commodity exporters have been the desirable destination of such flows. Major pull factors are noted, including improvement in the macroeconomics stability and management that have led to better growth prospects in EMEs and the opening-up of the capital account in varying degrees. These surges have also been driven by a number of push factors such as near zero policy rates in the major centers and perceived low returns in advanced economies. However, recipient countries have also noted the increased volatility of such capital inflows. While domestic policy mix is crucial, the potentially unprecedented repercussion of volatile capital flows requires multidimensional measures including ones originated from regional and global initiatives. The IMF is well-placed to play increasing roles in conducting surveillance, providing global liquidity through its financing facilities, and not less important, giving appropriate policy advices adopting more customised and open-minded perspectives.

NB: An early version of this paper has been presented at the IMF-MAS conference "The IMF and the International Financial System: The Post-Crisis Agenda," 24 September 2010, Singapore.

The recent diverging policies in developed and emerging countries have been contributing to a return of private cross-border capital inflows to a number of countries. Emerging markets have grown and become the desirable destination of such flows. Global imbalances have a new interpretation, manifested in a new series of pull and push factors. Major pull factors in emerging economies include the improvement in macroeconomic stability that has led to better growth prospects, and the opening-up of financial account in varying degrees. These phenomena have been coupled with a number of push factors from advanced economies such as near zero policy rates and the perceived low returns.

Capital inflows to emerging markets have helped deliver the benefits of increased domestic financial market integration with global market. Notwithstanding the benefits, recent capital inflows are also posing a challenge in the area of management of macroeconomic and prudential policy, because of their negative potential to generate economic overheating, loss of competitiveness, larger sterilisation cost and significant vulnerability to crisis.

1| DYNAMICS OF CAPITAL FLOWS AND FINANCIAL STABILITY

The global crisis in 2008 has disrupted capital flows, but the flows have recently recovered as the crisis is receding. In fact, since early 2010, the wave of capital inflows sweeping back to a number of emerging market economies has brought renewed attention on how macroeconomic policies should respond to them. It is true that capital inflows to emerging markets should help deliver economic benefit in line with the increased financial integration. The free flow of capital across borders should lead to a more efficient resource allocation between savers and investors across the world. In the Indonesian context, currency appreciation stemming from capital inflows also has helped improve inflation expectations in Indonesia.

However, capital inflows are known to be pro-cyclical and they tend to complicate macroeconomic management. The primary challenge is related to their hazardous potential to generate economic overheating, loss of competitiveness, larger sterilisation cost and significant vulnerability to crisis. Problems arise when the inflows are highly

speculative and in excess of the absorptive capacity of the economy. Further challenges emerge when the thin and underdeveloped domestic market is still too fragile to face such huge and uncertain capital traffic of global financial market.

Indeed, capital inflows to emerging Asia have been fairly large and highly volatile. Large speculative inflows in search for yield go typically to financial instruments leading to rapid and destabilising build-up of asset prices. Moreover, since such speculative flows are volatile in nature, they can disrupt the orderly functioning of financial markets and threaten financial stability. The target of such inflows, most in the form of portfolio investment, is susceptible to swings in risk appetite, interest rate differentials and expectations on currency movement.

When investors abruptly, and collectively, exit from domestic financial markets, the corresponding outflows will affect all market segments – securities, foreign exchange, money and credit – with contagion spreading from one market to another. If not contained, such swift and damaging event would threaten overall financial stability and lead to output and employment losses.

2| MANAGING VOLATILITY: THE INDONESIAN EXPERIENCE

The volatile nature of capital flows is inevitable. Therefore, the key issue is how to conduct policies both to anticipate and to manage such volatility – periods of large capital inflows followed by possibly sudden reversal. As conventional wisdom holds, sound macroeconomic and financial policies at national level are the first line of defense. This would enhance credibility and create conducive atmosphere for investment.

Most governments and central banks, including Bank Indonesia, have been taking this traditional view to err on the safe side. Markets are also to be deepened while domestic economic resilience to be strengthened. Specific and temporary measures to limit speculative behaviour and to maintain exchange rate stability are justified. This will enable countries to maintain macroeconomic stability. But, this should not be taken that Indonesia's authority abandons the open and market-based policy approach.

In trying to modulate the volume of net capital inflows Bank Indonesia has engaged in a policy mix to strike the optimal balance between exchange rate flexibility, market intervention, reserve accumulation, liquidity management, and macroprudential regulation.

Exchange rate flexibility

Exchange rate flexibility has served Indonesia well in absorbing external shocks during the 2008-2009 global financial crisis, and should remain a significant part of the policy response to volatile capital flows. Allowing the exchange rate to adjust can mitigate the transmission of global liquidity and capital inflows attracted by appreciation expectations.

Among Asian economies, Indonesia is seen as having the highest tolerance for foreign exchange (FX) appreciation. The Indonesian rupiah (IDR) appreciated by nearly 34 percent from the trough in March 2009 through April 2010, undoing the depreciation during the crisis (2008-2009) before stabilising from April 2010 to October 2010.

Market intervention

Intervention in the foreign exchange market is among key policy decisions from Bank Indonesia as Indonesia has been facing large capital inflows. Massive and rapid capital inflows frequently induce steep exchange rate appreciation in a short period of time, creating uncertainty in business sectors. Under such circumstances, intervention has been pursued to smooth the excessive fluctuation of exchange rate or manage undesirable FX fluctuations.

The sustained and sharp appreciation of IDR may also have significant repercussions for the economy mainly by damaging the competitiveness of export sectors and potentially reducing economic growth. Likewise, if net capital inflows occur in the context of a current account deficit, the real appreciation could exacerbate the external imbalance, heightening vulnerability to a sharp reversal of capital inflows.

Still, despite the effectiveness of conventional response, Bank Indonesia has been facing complexity in its monetary policy management. Sterilisation entails costs as the interest rate Bank Indonesia pays

on its central bank bill (Sertifikat Bank Indonesia – SBI) exceeds the interest rate it earns on its foreign reserve assets. Thus, sterilisation of capital inflows using the central bank instrument brought a serious implication to the central bank balance sheet. This is a daunting task considering that the outstanding position of Bank Indonesia interest bearing certificate issued to absorb excess liquidity has significantly increased.

Reserve accumulation

While intervention has been regarded as fundamentally justified to achieve the optimal trade-off between internal and external balance, the next policy question is whether Bank Indonesia needs to accumulate international reserves. Has the current relatively low level of foreign exchange reserves not been sufficient, including from a precautionary perspective? If so, then rapid capital inflows can be a good opportunity for the central bank to increase international reserves.

Further modest strengthening of reserve buffers may be justified given that Indonesia, together with other emerging economies, has been exposed to the global risk aversion, although the reserve level has thus far been adequate to meet more than 6 months of imports and government debt services payment.

Liquidity management

As part of the strategy to enhance liquidity management as well as to narrow the chance for foreigners to speculate in the central bank bills market, on June 16, 2010, Bank Indonesia has introduced the term deposit instrument without any underlying debt security. This instrument is non-transferable, but can be redeemed prior to maturity early redemption subject to certain requirements.

Macroprudential regulation

As the foreign capital influx to Indonesia is characterised by short term capital, a pure macroeconomic policy response and conventional policy measures such as sterilised intervention may not be adequate. A number of targeted prudential measures to limit a short term and volatile capital inflows are justified and useful to help Indonesia

pursue macroeconomic stability and safeguard the integrity and the stability of financial system.

A selective prudential measure called a Minimum One-Month SBI Holding (effective July 7, 2010) is meant to prevent large and sudden capital inflows and outflows. This policy requires any buyer of SBI to hold a minimum holding period of 1 month (28 days) for both primary and secondary market purchases for all tenors, applicable to both residents and nonresidents, effective July 7, 2010. The measure was well-received by market participants and has effectively encouraged foreigners to switch portfolio to long-dated tenor (typically government bond) as well as to minimise the probability of large and sudden capital inflows or outflows, hence smoothening the IDR/USD exchange rate. The approach of Bank Indonesia to launch such financial regulation helps throw sands in the wheels of the financial markets fueled with the abundant liquidity arising from excess capital flows, and thus far has helped foster financial stability.

Further roles of the International Monetary Fund

The recent global financial crisis may override even a healthy economy with sound policies. This is why the global policy coordination is important for the stability of the whole financial system. At the regional level, we have seen a number of initiatives including Chiang Mai initiative multilateralisation (CMIM), bilateral yen swap arrangement and the Fed swap line for central banks. These initiatives serve both to induce market confidence as well as to dampen the impact of volatile capital flows.

At the higher level, global financial safety net has not provided any framework for crisis prevention and resolution, with international financial institutions (IFIs) and multilateral development banks (MDBs) taking the center stage. The G20 has demanded possibly increased IMF roles in anticipating and addressing crises. The current development has clearly provided some rooms for the IMF to improve its roles, particularly in the following two areas, strengthening surveillance and strengthening the Fund's financing role.

As an important instrument for crisis prevention, the Fund's surveillance needs to adapt to the changing world. In this regard, Bank Indonesia supports the extension scope of the Fund's surveillance to

include areas of international financial stability and the systemic impacts of country-level policies, which are beyond the existing coverage of the Fund's surveillance. This, however, should not cause the Fund to interfere in domestic decision-making process, in order to preserve the much needed country ownership on policies.

One important aspect that needs to be emphasised is to increase the predictability of the Fund's financing. In this case, members can benefit from the Fund by providing information to member countries about their eligibility for facilities during the consultation process of Article IV consultation without publishing it in the report.

Moreover, appropriate policy advice by the IMF to its member countries is very important, namely advice that is not one size fits all but should be more flexible and open minded. The Fund should pursue advisory instead of prescriptive role, including in the areas of capital control, exchange rate policies and reserve accumulation. An advisory role would weigh in country's specific condition in giving advice and guidance on policy direction while simultaneously taking into account the systemic impact regionally or internationally. The end result would be a more proportionate support to the global effort in pursuing a sustainable and balanced growth.

Three areas of policy advice that the Fund is expected to provide are worth elaborating: capital control, macroprudential policies, and financial deepening.

Capital control

For a few decades, under the orthodox view, capital control has been regarded as inherently inefficient and should not be resorted to. This has inhibited the much needed research on the topic. That orthodoxy has begun to change and a more flexible and open-minded approach is gaining ground. In this regard, we welcome the IMF move which has been walking along this trend as a positive development. The April 2010 Global Financial Stability Report of the IMF says: "There are a number of different types of controls that can be imposed with varying degrees of success under different country circumstances. Overall, the message is that one size does not fit all. Since the use of capital controls is advisable only to deal with temporary inflows, in particular those generated

by external factors, such measure can be useful even if their effectiveness diminishes over time.”

It would be important to follow up this revised world view with research and communication strategy. On research area, the IMF and other multilateral bodies and research institutions should conduct more thorough research on the negative externalities arising from large and volatile capital flows, the ways to address the negative externalities, the appropriate timing to use controls, what kind of controls has been best implemented and under what circumstances. From this point of view, controls can be viewed as one component of the new macroprudential policy framework that has been called for in the global financial crisis.

Looking forward, the IMF and the international community should play a more active role and develop with its members a code of good practice for prudential capital controls. Moreover, countries will benefit from such policy advice most if discussed in the context of Article IV surveillance.

Macroprudential policies

In the wake of the recent financial crisis, the term macroprudential has become a true buzzword. A core element of international efforts to strengthen the financial system is to enhance the macroprudential orientation of regulatory and supervisory frameworks. Following the crisis, prudential policies are increasingly seen as featuring two dimensions: a microprudential dimension designed to limit distress

of individual banks, and a macroprudential dimension designed to limit system-wide financial distress.

The IMF with its experience in dealing with macroprudential issues of its member countries should play a role in formulating an adequate macroprudential policy. In this regard, the Fund can assist identifying risk factors that should be incorporated into the macroprudential approach. This would be helpful as analyses have become even more challenging in recent years with the financial system becoming more complex and interwoven across both industries and borders.

Financial deepening

As mentioned above, the current under-developed and thin market in most emerging economies is too fragile to face a huge and uncertain global financial market. In a thin market, short term capital inflows and outflows create a substantial change in the market prices and can easily make the latter deviate from their fundamental value. Therefore, authorities in emerging economies need to focus policies on strengthening resilience and deepening domestic financial markets as a medium-term strategy to improve the resilience of financial systems.

Financial deepening offers better portfolio and risks diversification which ultimately promotes resilience of the financial system against shocks and volatility. In this context, the IMF should take into consideration member countries' circumstances in providing advice for financial deepening.

It is evident that volatility of capital flows is inevitable as the global economy is evolving and globalisation continues to progress. What we can do is to try to deal with it in a way that minimises its magnitude and its impact. While domestic policy mix is crucial, the potentially unprecedented repercussion of volatile capital flows in the end requires measures from all possible dimensions including regional and global initiatives. This is where the IMF is well-placed to play its role in conducting surveillance, providing global liquidity through its financing facilities and not less important, giving appropriate policy advice in a flexible and open-minded way.

Global imbalances and financial stability

CHRISTIAN NOYER

Governor

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Much of the policy debate in coming years will hinge on two questions: have global imbalances contributed to the financial crisis? Is a reduction in global imbalances a prerequisite to ensuring global financial stability? In light of available research and analysis, it is reasonable to argue that common causes likely lay behind both the crisis and global imbalances. They include heterogeneous saving preferences, asymmetric financial development across countries engaged in global financial markets, and the undersupply of liquid and safe assets at the aggregate level. Looking ahead, the international community has to strike the right balance between, on the one hand, countries' legitimate sovereignty over monetary, capital account, and exchange rate policies and, on the other hand, intensified interdependencies, the global system's increased complexity, and diverging economic prospects across countries. Rebalancing world demand will no doubt be a gradual, long-run process. To help foster an orderly unwinding, all countries need to ensure that their policies do not create further distortions in the global economy. Several improvements to the international monetary system could be considered to help reduce incentives for distortive policies.

Two key questions stand out when examining the link between global imbalances and financial stability. The first relates to the link between global imbalances and the financial crisis: have the former contributed to the latter? The second is forward-looking in nature: is the reduction of global imbalances a prerequisite to ensure global financial stability? Much of the policy debate in the coming years will likely hinge on these two questions.

This article starts with a discussion of the links between global imbalances and the crisis. Then it turns to an assessment of the current configuration of imbalances, and the risks associated with them. Based on this, it tries to evaluate what could be the speed and conditions for an orderly rebalancing of demand across countries. It ends by exploring whether reforms of the international monetary system could help.

1| GLOBAL IMBALANCES AND THE FINANCIAL CRISIS

Whether causality exists between global imbalances and the global financial crisis is subject to active research in academia and intense discussions between policy makers.

Some would argue that global imbalances actually caused the crisis. Others would rather put the onus on domestic factors. This *Financial Stability Review* gathers a large spectrum of views on the subject and as such, hopefully, contributes to advancing our understanding of the crisis. I would argue that the financial crisis was the symptom of growing fragilities in the world economy and that it is reasonable to assume that some common causes lay behind both the crisis and the imbalances themselves.

Three patterns in the world financial system have been conducive to persistent global imbalances and also unsustainable financial fragilities.

First, real domestic imbalances have increased over the last decade. A huge increase in productive capacity occurred in the emerging world in the years prior to the crisis. A shift in the primary share of income took place worldwide. For instance, in China, the share of wages in gross domestic product (GDP) has declined

from 55% in 1992 to 48% in 2008; in the United States, the median real wage has been stagnant over the last fifteen years, despite the fact that real GDP has grown annually by above 3% over the same period.

In contrast, consumption trends have been widely divergent among countries. China and the United States are again good examples. In China, the share of consumption has gone down by more than 10% of GDP over the last decade in relative terms. With consumption lagging behind, China and other similar countries experienced high savings that had to be recycled somewhere. They ended up being absorbed by the credit booms that led to the crisis in a few advanced countries. In the United States especially, consumption kept growing, both in absolute terms and as a share of GDP, fuelling demand for imports. Households in the United States could consume more and save less, despite stagnant wages, because they felt richer. And they felt richer because the value of their houses and financial assets was rising at a quick pace and that trend was expected to persist. Broadly speaking, the worldwide equilibrium between demand and supply of goods was based on a sustained asset price bubble in the United States.

Second, financial development across countries and regions has been asymmetric. Whether one looks at capital account regimes, the breadth and depth of domestic financial markets or, more generally, their ability to generate locally a sufficient supply of safe and liquid assets, countries actively participating in the global financial system are in very different situations. Some of these differences reflect fundamental social choices and preferences. They must be respected and indeed accommodated. Others, however, result from deliberate or inadvertent policy-induced distortions, which should be reduced or eliminated. Financial imperfections at the domestic level and frictions in international capital flows interact with each other to create and amplify imbalances. Financial instability is a product of such interaction. Part of that financial instability shows up in exchange rates movements.

Third, the international financial system faced a shortage of safe assets. This shortage in turn provided incentives in the private financial sector to generate apparently safe assets through innovation. According to some observers, this is one fundamental reason why bubbles have emerged in many countries with increasing frequency, either in real estate or

financial markets or both. Only the US economy and its financial system have the ability and skills to produce liquid and safe assets in industrial quantities. US capital markets act naturally as a magnet for world savings, especially official foreign exchange reserves. In addition, financial engineering and technological advances allowed US financial institutions to manufacture complex products which were perceived safe, but proved very fragile.

2 | REBALANCING THE WORLD ECONOMY

Rebalancing world demand will no doubt be a gradual, long-run process. Many features of the pre-crisis environment are still with us and will continue to be so for some time. Correcting them will hinge on far-reaching, progressive changes in domestic economies.

In surplus countries, adjustment will likely take time. It is a long-run process as many factors stand behind the high saving rate of these countries. Importantly, some of them, like demographic transformation or the underdevelopment of domestic financial systems, are structural in nature. In some countries, the development of social safety nets (e.g. public health insurance and pension systems, improved access to the education system, etc.) along with an increase in borrowing opportunities stemming from the development of financial systems might help reducing households' precautionary savings. Improved access to credit and to financial markets might similarly contribute to a decrease in corporate savings as firms would not need to rely as much on retained earnings to finance investment.

As for advanced economies, technical progress and pressures from the emerging world as well as unemployment may work to constrain wage dynamics. Also, a general sense of economic insecurity after the crisis will likely induce increases in savings for a number of years. In most countries, and especially in Europe, there is an urgent need for strong fiscal consolidation. Market discipline will act powerfully to impose strong consolidation of public finance over an extended period of time.

One essential objective in our international dialogue should be to agree on the respective roles of structural versus policy-induced factors that underpin

internal imbalances. This in turn would help us to agree on appropriate changes in our domestic policies. The Framework for Strong, Sustainable, and Balanced Growth is the good place to have this dialogue. It should continue to play a central role.

The shared objective of rebalancing aggregate demand across the world has underpinned the cohesion exhibited by G20 countries during the acute phase of the crisis. It played an essential role in 2008 and 2009 in restoring confidence and setting the path for the recovery. However, this concerted approach to global imbalances may have weakened recently. There is clearly an ongoing debate about two major and interrelated issues: first, the appropriate pace of rebalancing, with advanced countries feeling a greater sense of urgency; and second, on the most efficient strategies, in particular regarding exchange rates.

We have to start from three basic realities. First, countries are free to conduct the monetary policies they deem appropriate. Indeed, when central banks are independent, they are legally obliged to do so. Monetary policies are conducted with domestic objectives in mind, but all central banks seek to achieve price stability. This is true for all countries, whether small or large. The world has enormously benefited from two decades of price stability resulting from monetary regimes based on Central bank independence and a focus on internal price stability.

Second, according to the International Monetary Fund (IMF) Articles, countries are free to choose their capital account and exchange rate regimes with the proviso that they do not engage in currency manipulation. This is a basic pillar of our current system. The proviso has proved very difficult to define, let alone to implement. The IMF has met with some difficulties in trying to set up an efficient and symmetric process of multilateral surveillance.

Third, the world is one of greater interdependence and complexity. International capital flows have made countries truly interconnected. The monetary and financial system has become "multipolar". An increasing number of countries, both developed and emerging, have become active participants in the global capital market. Spillovers between national monetary and economic policies have multiplied. And no country can truly be indifferent to actions taken by others.

In current circumstances, those three basic realities have become much harder to reconcile.

The responsibility for imbalances cannot be ascribed to one specific cause. All countries have legitimate concerns. But, we should also recognise that rebalancing cannot be achieved without some adjustment in relative prices. In market economies, it is important that producers can operate in the right price environment when they make long-term decisions about investing in technology and productive capacity. Countries are free –and should remain free– to choose whatever exchange rate regime and policy suit them best, taking into account their specific national circumstances. Real exchange rate adjustment, however, is an integral part of a global and orderly rebalancing strategy.

Divergences in monetary policies are unavoidable given the uneven paths of recovery across the world. And, for each country, this may be a time where price and financial stability objectives may not coincide. In advanced economies, monetary easing, together with constraints to credit growth, creates a potential for further financial imbalances. In many emerging countries, inflationary pressures would warrant monetary tightening but there is a clear risk that this would trigger destabilising capital inflows.

In these circumstances, there is a major role to play for macroprudential policies. For advanced economies, they should aim at spurring credit growth, while increasing the resilience of the financial sector. Supervisors should also stand ready to act if bubble-like phenomena appear in some markets. For emerging economies, measures aimed at stabilising capital inflows may help and relieve the pressure on domestic financial conditions and prevent further asset bubbles.

Full harmonisation and total convergence in financial development across different countries is neither desirable nor feasible. Still, financial development in emerging economies can go a long way towards expanding the range of safe and liquid financial assets available to domestic and international investors. Capital markets in local currencies have indeed developed significantly over the last decade as fiscal positions in emerging countries have dramatically improved. There seems to be considerable scope for regional financial and monetary arrangements to prosper in the future. The huge pools of savings

currently available can be intermediated locally instead of going through financial systems located in advanced economies. Regional financial markets would have to be supplemented and underpinned by monetary arrangements. Asian countries are working on and implementing progressively such schemes through the Chiang Mai initiative.

Ensuring that different financial systems interact harmoniously must be a priority. Greater convergence in financial regulation approaches between advanced and emerging economies is required. Indeed, significant advances are being made. The most important emerging countries are now full members of the Financial Stability Board and the Basel Committee; as such, they participate in steering and leading the effort to build a more resilient and efficient global financial system. In policy terms, the Basel Committee succeeded in a very short span of time in strengthening considerably the international prudential framework for banks. Implementation of Basel III by all countries in a synchronised fashion would bring the global financial system another step towards a consistent global regulatory framework.

3| ISSUES FOR THE FUTURE

The world economy, the global financial system and the international monetary system do not operate independently from each other. At a general level, there are several options that could help improve the functioning of the system.

It is important that countries which decide to open their capital markets be adequately protected against external financial shocks. Emerging countries have constantly sought to expand their foreign exchange reserves from 4 percent of GDP in 1990 to over 20 percent on average today. Reserves act as a buffer against possible abrupt capital outflows. They also serve to provide liquidity to domestic financial institutions. They are used as a tool for internal –as well as external– financial stability.

The effective supply of liquidity in times of stress and safe assets will remain uncertain in the medium run, maintaining a powerful incentive for countries to build reserves. Still, the need for national reserves could be reduced if credible mechanisms exist to provide for the supply of official liquidity on a multilateral basis.

In the longer run, there are two possible avenues for progress to make the international financial architecture more efficient and stable.

First, we have to find ways of dealing with international capital flow volatility. For a given country, capital controls may temporarily reduce the pressure on its capital account or even permanently limit the volatility of its exchange rate. For the whole international system, however, they may simply shift the pressure to other countries or asset classes and exacerbate, rather than reduce, overall volatility.

There might be ways to eliminate these negative effects. Strengthening financial supervision is one option. Another potential way is for countries to use so-called macroprudential tools. Indeed, calls have been made to develop an emerging markets' perspective on macroprudential policy, suggesting that this new approach to financial regulation may hold a promise for a better handling large capital flows. Several emerging economies have also implemented some form of capital controls. A predictable framework defining the circumstances, conditions and modalities for using temporary capital controls would certainly be helpful. From the G20 perspective, it would be very useful to examine and assess in details the full spectrum of such measures available to manage capital flows and safeguard financial stability.

Second, benefits would be derived from finding ways to disconnect reserve accumulation from exchange rate management and, more generally, from balance of payment situations and monetary policies. At present, reserve accumulation can only occur through a conjunction of a balance of payment surplus and some degree of exchange rate intervention. Precautionary reserve accumulation, however legitimate, unavoidably creates side effects for domestic macro policies as well as spillover effects on other countries. Stabilising the demand

for international reserves would therefore bring huge benefits in terms of world welfare. The need for national reserves could be reduced if credible mechanisms existed to provide for the supply of official liquidity on a multilateral basis. Hence the current search for international financial safety nets which became a priority for the G20, under the Korean presidency. The idea is to improve the set of instruments available to cushion liquidity shortages or sudden stops to capital inflows. This is an important agenda, which should be pursued. Significant progress has been achieved in the recent period with the creation by the IMF of new facilities and a new SDR allocation –the biggest ever– amounting to the equivalent of USD 250 billion. More needs to be done and work should be undertaken to find sources of international liquidity that are a true substitute for reserves without creating undue and excessive moral hazard.

Finally, the world financial system needs to identify an adequate forum to deal with exchange rate developments. Traditionally, this role was played by the G7. Over the past three decades, it has acted to help and foster a form of “cooperative discipline”, based on floating exchange rates, concertation in cases of sustained and fundamental misalignments in major currencies, and occasionally public interventions. We need to think anew about forms of cooperative discipline suited to a world economy where some countries rise and become major players in the system.

Addressing this challenge is especially important as the current configuration does not allow exchange rate movements to contribute to the resolution of global imbalances. Inevitably, fiscal and monetary policy stances will continue to be tuned to each country's and area's cyclical conditions. A key policy question for us is to ensure that exchange rate volatility is addressed through enhanced cooperation on structural policies, together with an adequate communication of the latter to market participants.

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Global imbalances and current account imbalances

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As the global economy gradually recovers from the severe recession, the possible risks of unsustainable global imbalances are receiving renewed attention. In assessing global imbalances, it is important to avoid excessively focusing on current account imbalances per se. Rather, the focus should be on the root causes of the imbalance and whether they may become sources of unsustainable financial imbalances.

The recent financial crisis, as well as Japan's past experience in the 1980s, highlight the importance of information which cannot necessarily be obtained from current account statistics. Unsustainable financial imbalances can be better captured through information such as the build-up of leverage, gross cross-border capital flows, risk pricing in financial markets, and the extent of currency and maturity mismatches in the financial system. Through careful assessment of such elements central banks and other authorities will be able to assess whether current account imbalances are a reflection of the build-up of domestic financial imbalances.

In formulating macroeconomic policy, the traditional emphasis was to ensure domestic stability or to put one's house in order. However, with the deepening of globalisation, the simple sum of each country's policy action may not necessarily achieve an optimal outcome at the global level. It has become ever more important for countries to review the spillover effects of their policies which will also reverberate back to each country through economic and financial interlinkages.

The debate surrounding global imbalances gained increasing attention after the turn of the century as the United States' current account deficit ballooned, while the current account surplus of some emerging market countries, notably China, increased dramatically. Some have argued that global imbalances were one of the key causes of the recent credit bubble in the United States and hence the global financial crisis. Thus, as the world economy recovers from the severe recession, the possible expansion of global imbalances is receiving renewed attention. If global imbalances were to become unsustainable, it could derail the nascent global economic recovery. Against this background, the G20 Leaders have made "external sustainability" a key item on the G20 agenda for 2011.

The global imbalance debate contains a host of issues. How much emphasis should be put on adjusting current account imbalances *per se*? What are the causes of current account imbalances? Does the fact that the largest deficit country provides the key reserve currency delay the adjustment process, as the incentive to reduce deficits is weaker? How much does the fact that some current account surplus countries have fixed or relatively inflexible exchange rate systems influence current account imbalances? The introduction of new reserve assets would likely reduce the demand for US dollars, but would it reduce the precautionary demand for reserves, thereby reducing current account imbalances? These issues are closely linked to the broader discussions on the international monetary system and remind us of the original Bretton Woods debate between White and Keynes almost 70 years ago.

Among the various topics, this paper will focus on the appropriateness of using current account surpluses and deficits as an indicator for assessing the sustainability of global imbalances. In the first section, I will review Japan's own experience, especially during the 1980s when current account surpluses increased significantly and the country struggled to deal with external pressures to reduce current account surpluses, and in the second section look at experiences from the current global crisis. The third section will draw some lessons from the past and present. The fourth section will consider issues which need to be taken into consideration as we work to avoid the next global crisis, and the fifth and final section identifies some challenges for policymakers.

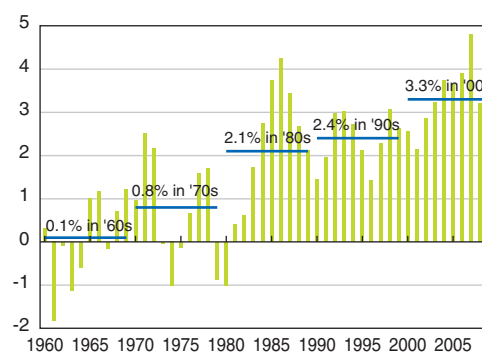
1 | THE JAPANESE EXPERIENCE

Looking back at the developments of Japan's current account balance over the last fifty years, with the rapid improvement in the competitiveness of the manufacturing sector, Japan began to continuously record trade surpluses and as a result current account surpluses starting from the mid-1960s (Chart 1). The only exceptions were the periods 1973-1975 and 1979-1980, when surging oil prices due to the first and second oil crises led to a fall in the trade surplus.

Entering the 1980s, Japan's trade and current account surplus increased sharply and this was accompanied by increased external pressure, both bilaterally and multilaterally, to reduce Japan's surplus. In the first half of the 1980s, the focus was on constraining exports in specific sectors such as the voluntary restraints on automobile exports to the United States, and on "the opening up of Japan's domestic markets" to overseas products and services. With regard to liberalisation of financial markets, Japan's Ministry of Finance and the US Treasury set up the "Yen-Dollar Committee" in November 1983. The Committee released its report in May 1984, which provided a detailed plan to liberalise Japan's financial and capital markets and to internationalise the yen. Meanwhile, the yen which had briefly reached 177 yen to the dollar in the late 1970s, generally moved in the range of 200 to 250 yen to the dollar during the first half of the 1980s, and the view that the yen should strengthen to reduce Japan's trade and current account surplus mounted among

Chart 1
Current account balance of Japan
Ratio to nominal GDP

(%)



Sources: Bank of Japan, "Economic Statistics of Japan"; CEIC.

its major trading partners. In September 1985, the G5 Ministers of Finance and Central Bank Governors announced in the "Plaza Accord"¹ that "there are large imbalances in external positions which pose potential problems" and "agreed that exchange rates should play a role in adjusting external imbalances". As is well acknowledged, based on this agreement the G5 began to intervene jointly in the foreign exchange markets to bring down the value of the dollar. The five countries also made individual commitments as a part of the Plaza Accord, and Japan, among various measures, committed to "further opening up of Japan's domestic market to foreign goods and services" and noted that "efforts to stimulate demand will focus on increasing consumption and investment through measures to enlarge consumer and mortgage credit markets". In the area of monetary policy, Japan agreed to "flexible management of monetary policy with due attention to the yen rate". As a result of this agreement and ensuing intervention, the yen which had been around 240 yen to the dollar before the Plaza Accord appreciated sharply and touched 152 yen to the dollar in September 1986. The ratio-to-GDP of Japan's current account surplus peaked at 4.2% in 1986 and began to decline thereafter.² However, Japan's trade surplus with its major trading partners remained at high levels, and the view gradually took hold that exchange rate adjustments alone cannot significantly reduce trade imbalances. External pressure on Japan to reduce its surplus began to focus more on the expansion of domestic demand. In February 1987, at a meeting in Paris, the G6 Finance Ministers and Central Bank Governors released the "Louvre Accord".³ The Ministers and Governors "agreed that the substantial exchange rate changes since the Plaza Agreement will increasingly contribute to reducing external imbalances and have now brought their currencies within ranges broadly consistent with underlying economic fundamentals" and they also "agreed to cooperate closely to foster stability of exchange rates around current levels". The Ministers and Governors also recognised "that the large trade and current account imbalances of some countries pose serious economic and political risks". Each member

once again made specific commitments and Japan agreed to "follow monetary and fiscal policies which will help to expand domestic demand and thereby contribute to reducing the external surplus". Additionally, the Bank of Japan "announced that it will reduce its discount rate by one half percent" to 2.5%.

Although the Japanese economy grew rapidly at an annual pace of 4.7% between 1986 and 1988, and asset prices showed double digit increases, the very low policy rate of 2.5% was maintained for over two years until May 1989, as inflation rates remained stable at low levels.⁴ This period of a very low policy rate was much longer than in Germany which maintained its policy rate at 2.5% for less than a year.⁵ In spite of repeated intervention by the major countries following the Louvre Accord, the yen continued to strengthen against the dollar reaching 121 yen to the dollar in November 1988, raising concerns about a slowdown in the domestic economy, mainly in the export-related sectors. In the meantime, bilateral pressure from the United States continued. The US Congress passed an omnibus trade bill⁶ in 1988 and the following year Japan was identified by the US government as one of the countries conducting unfair trade practices.⁷ In 1989, the Structural Impediments Initiative began between the US and Japanese governments. A joint report was finalised in June 1990 and the Japanese government committed to instituting a public investment program totaling as much as JPY 430 trillion (roughly 100% of nominal GDP) over a ten year period.⁸ Japan's current account surplus dropped to 1.4% of GDP in 1990, but as the bubble burst and economic growth slowed, the ratio of current account surplus to GDP rose once again and averaged 2.4% during the 1990s.

More recently Japan's current surplus has averaged 3.3% of GDP since 2000. However, its composition has changed significantly. In the past, Japan's current account surplus was generally a reflection of its trade surplus (Chart 2). But during this decade, the share of the trade surplus has declined and in

1 "Announcement of the Ministers of Finance and Central Bank Governors of France, Germany, Japan, the United Kingdom and the United States" (September 22, 1985).

2 Due in part to the initial J-curve effect, there was a time lag before the surplus began to actually decrease.

3 "Statement of the G6 Finance Ministers and Central Bank Governors" (February 22, 1987).

4 The average year-on-year change in CPI between 1986 and 1988 was 0.5%.

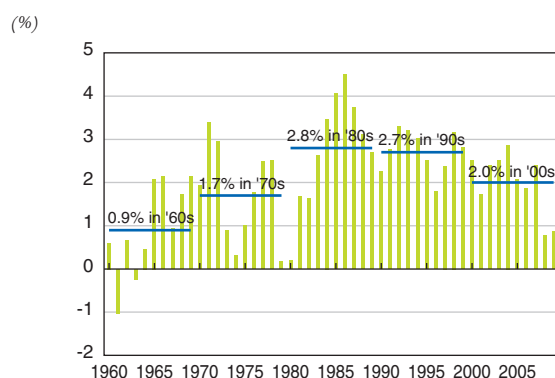
5 The Bundesbank reduced its discount rate from 3.0% to 2.5% in December 1987 and raised it again to 3.0% in July 1988. By the time the Bank of Japan raised its discount rate to 3.0% in May 1989, the policy rate in Germany was 4.5%.

6 "Omnibus Foreign Trade and Competitiveness Act of 1988".

7 Brazil and India were also designated.

8 According to the report (Japan Structural Impediments Initiatives Joint Report), public investment during the previous decade (Fiscal 1981 to 1990) was estimated at JPY 263 trillion.

Chart 2
Trade balance of Japan
Ratio to nominal GDP



Source: CEIC.

recent years three-quarters of the current account surplus is taken up by the income account surplus. The large income account surplus is to a large extent predetermined by Japan's accumulation of external assets over the years through portfolio and direct investments.

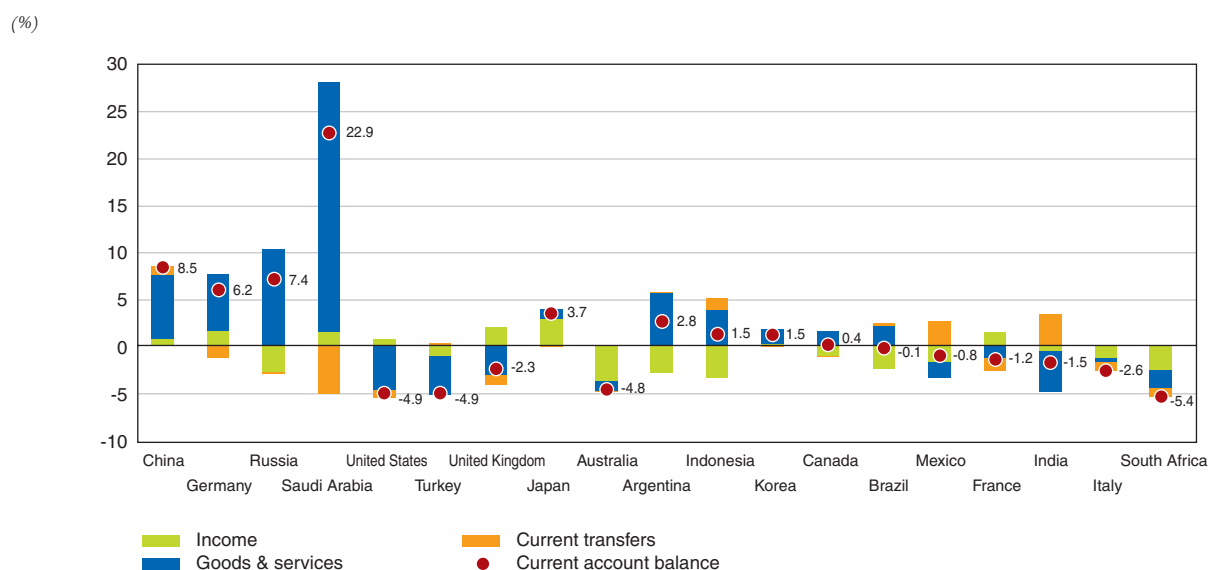
What does the Japanese experience tell us?

First, how effective were exchange rate adjustments and other macroeconomic policies in reducing

current account imbalances? They surely helped in bringing about a reduction in the trade surplus as part of cyclical dynamics, and thus a decrease of the current account surplus. However, aside from cyclical components, underlying current account trends were little changed. The attempt to make further adjustments through macroeconomic policies, especially through prolonged accommodative fiscal and monetary policy was unsuccessful. It rather had the detrimental side-effect of being one of the factors that fueled the expansion of the bubble and hence led afterwards to the serious predicament.

Incidentally, depending on the structure of the current account balance, surpluses and deficits can be to a large extent predetermined. In Japan's case, as mentioned above, the large income account surplus has driven the current account surplus in recent years. When we look across the G20 countries, this is not an isolated case. Australia's current account deficit can to a large extent be explained by its income account deficit. The trade balance does have a large share of the current account in many countries, but other components such as the income account often have non-negligible and sometimes significant impact on the overall picture of the current account balance (Chart 3). This is a reflection of the structure of their economies and needs to be well understood when assessing the evolution of the current account.

Chart 3
Current account balances of G20 members
Ratios to nominal GDP – 2005-2009 average



Note: All figures are simple averages. Data for 2009 are estimates.
Sources: IMF, "World Economic Outlook"; CEIC.

Chart 4
Major economic indicators of Japan (1980-1992)
Exchange rate and official discount rate

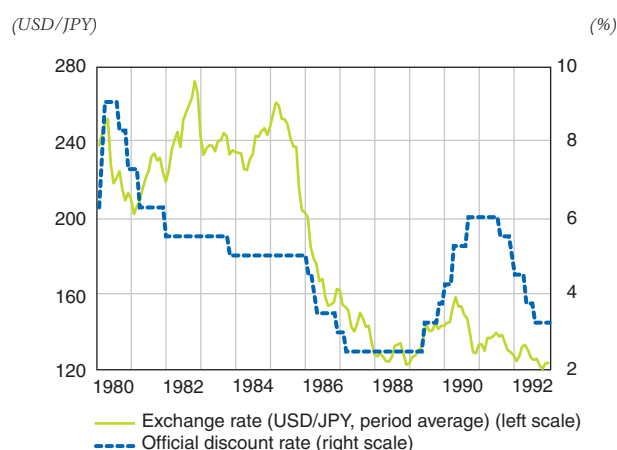
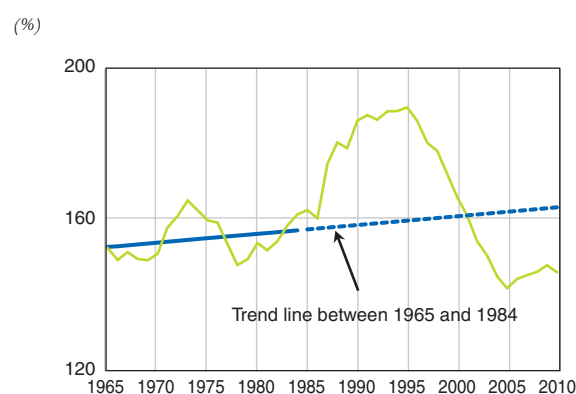
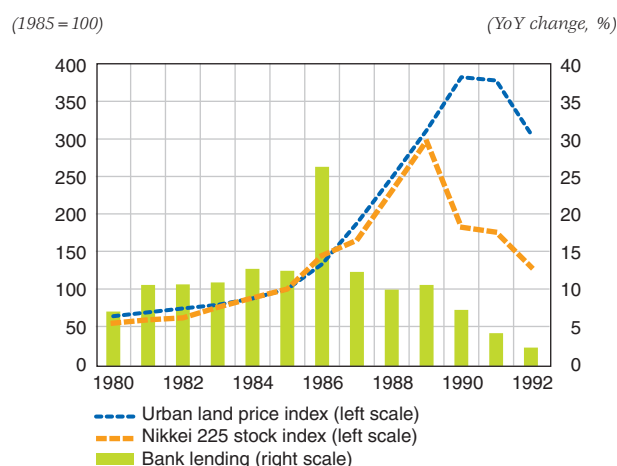


Chart 5
Japan's corporate sector debt
Ratio to nominal GDP

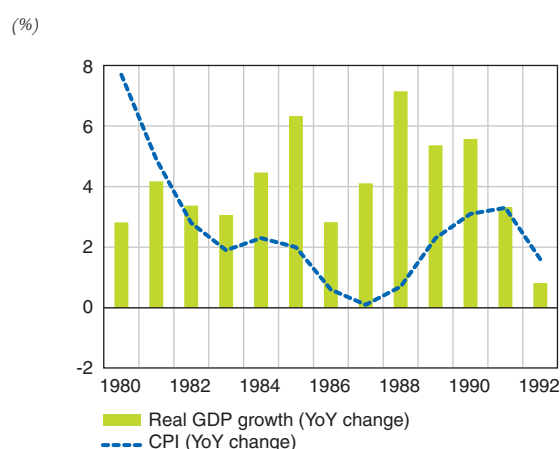


Sources: Bank of Japan, "Flow of Funds"; Cabinet Office, "National Accounts".

Asset prices and bank lending



Real GDP and CPI



Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index"; CEIC; Bank of Japan, "Economic Statistics Annual".

Second, was the current account surplus indicative of "imbalances"? The current account surplus may have been indicative of "imbalances", but does not provide sufficiently granular information to make an effective assessment. The emergence of unsustainable imbalances seems to be better and more clearly captured through other indicators such as large jumps in asset prices and the rapid expansion in corporate sector debt (Charts 4 and 5). Japan's continuously large current account surplus itself did not provide clear hints with regard to the bubbles that turned out to be the root cause of serious damage to economic stability.

Third, how does exchange rate policy influence the overall economy? An excessive focus on preventing the appreciation of the currency and on easing the negative effects of exchange rate appreciation fostered expectations that a low interest rate environment would continue. This became one of the factors that led to the emergence of the bubble, thereby impairing the stability of the economy. The accommodative monetary policy following the Louvre Accord, reflected the external pressure to reduce the current account surplus as well as domestic concerns about the negative impact of the appreciation of the yen on the Japanese economy.

2| THE RECENT GLOBAL FINANCIAL CRISIS

In the run up to the recent global financial crisis in the mid-2000s, concerns were raised that a disorderly adjustment would occur through a sharp fall in the value of the dollar and a jump in long-term

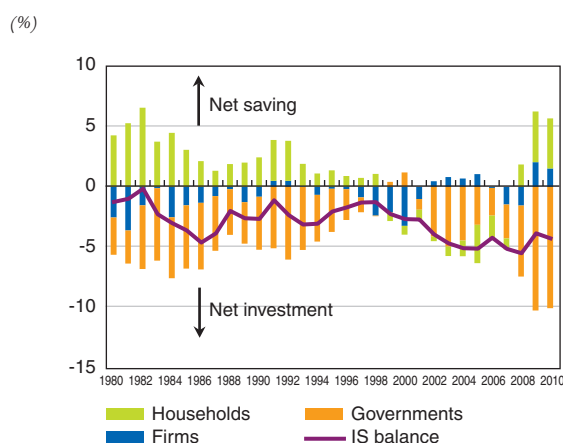
US interest rates. Such a view focused on the widening US current account deficit and the large increase in foreign exchange reserves in emerging market countries, and the possibility that such countries may at some point become reluctant to continue financing the US deficit. However, as we all know, what came to pass was quite different. At the outset of the financial crisis, as market participants became extremely risk averse, a global flight-to-quality occurred. US long-term rates fell substantially as demand for US Treasuries increased, and the dollar strengthened against most other currencies.

This experience, similar to the Japanese experience, also highlights the need to look beyond current account balances and identify what constitutes underlying imbalances. Then the question becomes “How can we identify the imbalances or distortions which could lead to unsustainable global imbalances? What type of information do we need to focus our attention on which is not sufficiently captured in current account data?”. Taking into account the additional experiences from the current financial crisis, I would like to point out two areas where attention should be focused.

2|1 Build-up of excess leverage

First, the build-up of excess leverage in the economy. When we look at long-term trends in ratio-to-GDP of the savings and investment balance which is equivalent to the current account balance (Chart 6), one can notice that the net negative savings in the United States widens in the 2000s. These changes in themselves do not tell us whether such changes are sustainable or not. However, when we additionally examine the developments in household debt, we can see large deviations from longer-term trends (Chart 7). Such developments are similar to the Japanese situation in the 1980s, only the sector where excess leverage materialised is different. In Japan, the build-up was in the corporate sector (Chart 5). Certainly, large deviations from longer-term trends in themselves are not definitive, but are a strong indication that unsustainable financial imbalances are likely to be accumulating. What is important is to have both an economy-wide assessment and assessment at a somewhat more disaggregated level, for example at the sector level. This would enable policymakers to obtain a better sense of where imbalances may be accumulating.

Chart 6
Investment-savings balance of the United States
Ratio to nominal GDP

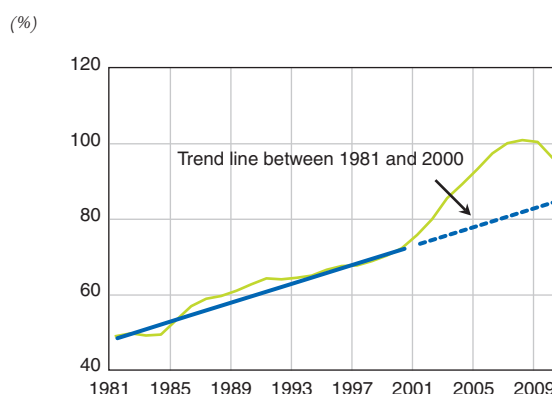


Note: IS balance + statistical discrepancy = current account balance.

Source: Bureau of Economic Analysis, “National Income and Product Account”.

It is also important to understand the mechanism of how credit, which supports the build-up of leverage, is provided. Before the current crisis, special investment vehicles (SIVs) set up by US and European banks frequently purchased various structured products originated by the sponsoring bank. Once the subprime loan market collapsed, the credit and liquidity risks of the SIVs ended up with the sponsoring institutions, as reputational risks forced them to extend support. A similar situation had evolved in Japan during its bubble period in the late 1980s. Non-bank financial companies were used aggressively to expand residential and commercial

Chart 7
United States’ household sector debt
Ratio to nominal GDP



Source: Federal Reserve, “Flow of Funds Accounts”.

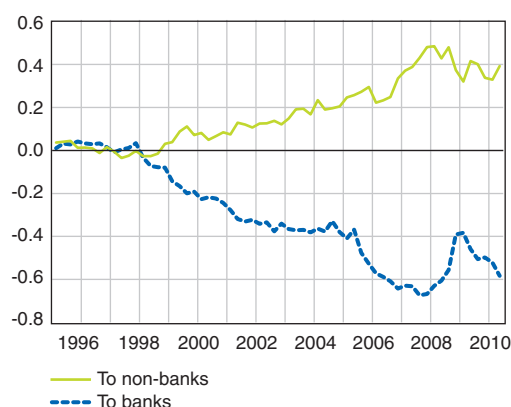
real estate lending often to circumvent regulatory limits, especially after regulators introduced overall limits on bank lending growth to these sectors. Although such non-bank companies were structured so that they were not consolidated on to banks' balance sheets, most of the losses ended up with the parent banks. Both the recent US and Japanese experience highlight the need to look beyond the banking system. The shadow banking system played a key role in both countries.

2|2 Gross capital flows and risk profile of financial institutions

Second, gross capital flows. The net capital flows corresponding to current account balances do not provide us with sufficient information to locate possible sources of unsustainable imbalances. It will need to be supplemented with other sources of data. A case in point would be recent developments in the euro area. The current account of the euro area has been generally balanced during the past decade. But BIS banking statistics show that euro area banks actively intermediated US dollar funds from the international banking system to the non-banking sector in the United States (Chart 8). Although the netted amount was small, the accumulation of risks such as maturity mismatches, currency mismatches and credit risks, which increased on a gross basis was substantial.

Chart 8
Euro area banks' cross-border US dollar claims

(USD trillions)



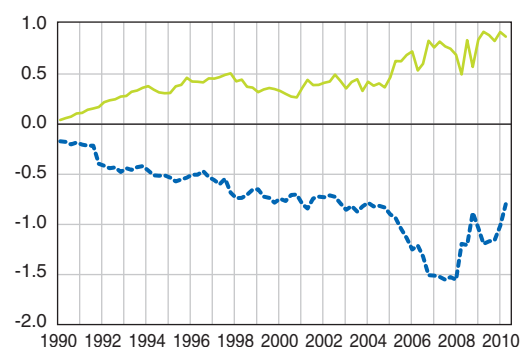
Note: Latest data are as of April-June, 2010.

Source: BIS, "International Locational Banking Statistics".

Chart 9
BIS reporting banks' cross-border claims by currency

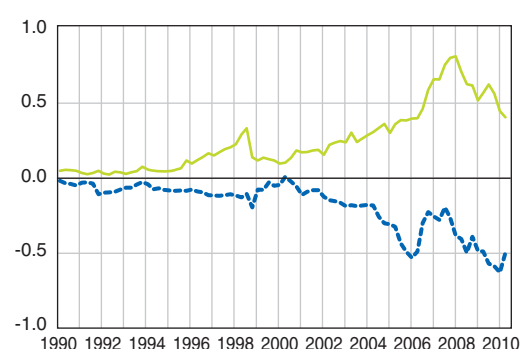
US dollar

(USD trillions)



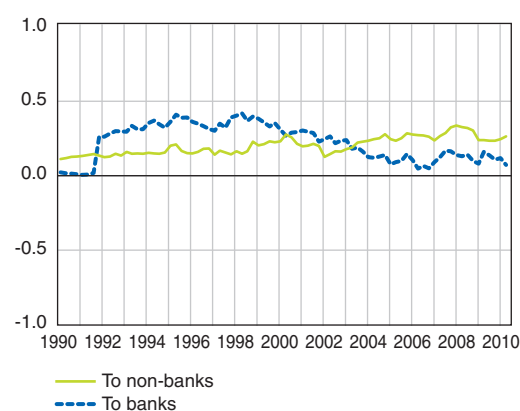
Euro

(USD trillions)



Yen

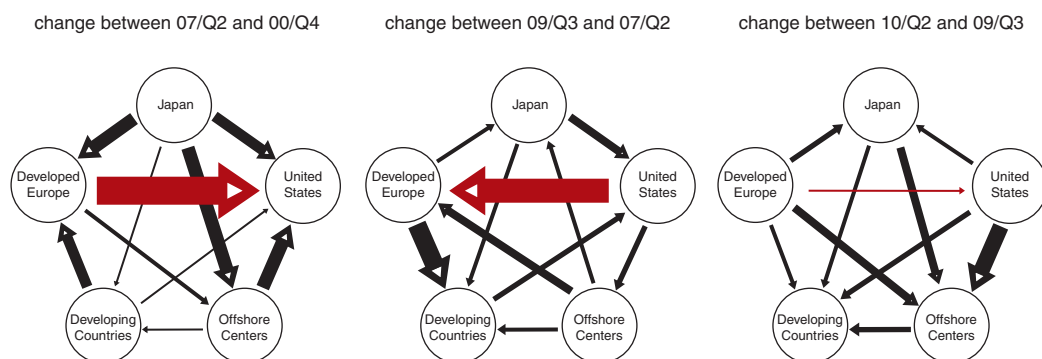
(USD trillions)



Note: Latest data are as of April-June, 2010.

Source: BIS, "International Locational Banking Statistics".

Chart 10
Cross-border flows through the international banking system



Note: Each arrow shows net changes in claims among banks, pointing from creditor to debtor between two regions. The thickness of each arrow indicates the size of the flow.

Source: BIS, "International Locational Banking Statistics".

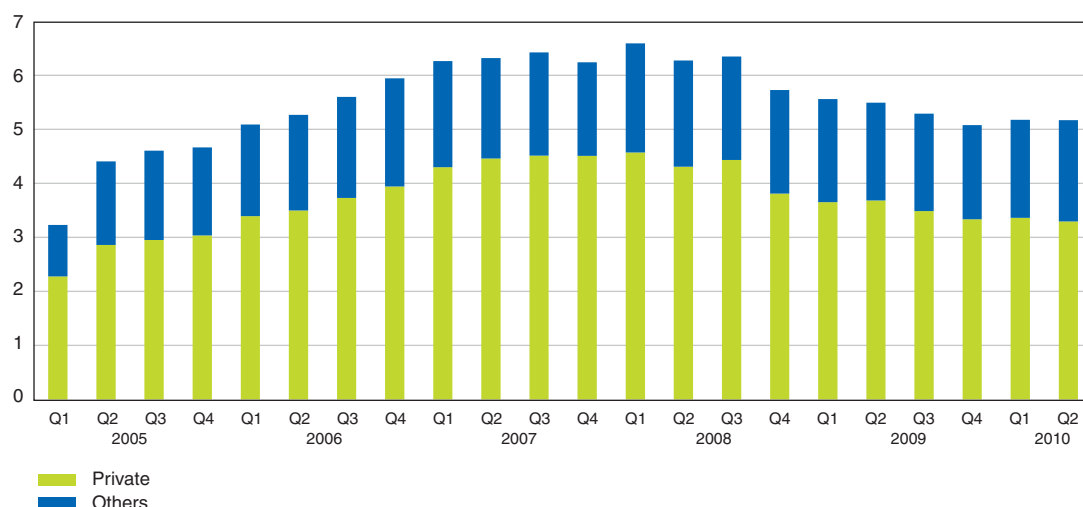
Globally, banks, especially European banks, had been borrowing short-term dollar funds in the interbank market and investing in long-term assets. The dollar funding risk in the international banking system had been rapidly increasing in the mid-2000s, becoming substantially larger than the funding risk for other major currencies (Chart 9). As the crisis unfolded, counterparty credit concerns increased in global financial markets and banks began to hoard dollar liquidity. The US dollar interbank funding market froze up and many market participants struggled to

obtain dollars. Serious tension continued in the financial markets until central banks including the Bank of Japan began to provide US dollars through bi-lateral swap lines arranged with the US Federal Reserve.

BIS banking statistics and other sources of information help us fill the gaps in the current account data. There was a large inflow of funds from banks in advanced European countries before the crisis, which were rapidly withdrawn after the summer of 2007 (Chart 10). BIS reporting banks' overall cross-border

Chart 11
BIS reporting banks' total foreign claims on the United States by sector

(USD trillions)



Note: Ultimate risk basis. Latest data are as of April-June, 2010.

Source: BIS, "Consolidated Banking Statistics".

exposures to the United States have fallen more than 20% since reaching its peak in first quarter of 2008, and especially exposures to the private sector, which include investments in structured products, have fallen nearly 30% (Chart 11).

By obtaining micro-level information on financial institutions, central banks and other supervisory and regulatory authorities can assess the true risk profile of individual institutions. It also provides the basis for grasping the distribution of risks at various levels of aggregation, including at the overall macro-level. It will be important to develop a macro-level understanding of where risks are concentrated in the financial system as well as the possible interlinkages among market participants.

3 | ASSESSING GLOBAL IMBALANCES

Current account balances provide us with helpful information on the state of the economy. At the same time, the current crisis as well as other past experience show the potential risks of simply using current account balances as an indicator of unsustainable global imbalances. Although not an exhaustive list, I would like to highlight three points as lessons from current and past experiences.

First, surpluses and deficits emerge as a result of the voluntary choices of economic entities and thus should not be automatically deemed as problematic. Trends in current account surpluses and deficits are the reflection of longer-term trends in savings-investment activities which are strongly influenced by economic developments and demographics. Current account surpluses and deficits will only lead to problems when they become unsustainable, and thus a careful overall assessment is required.

Second, distinguishing between the structural and cyclical components of the current account balance is often a difficult task. Trying to adjust the structural component through macroeconomic policy and exchange rate policy entails the risk of causing the development of financial imbalances which may destabilise the economy. A narrow policy focus on current accounts *per se* can be counter-productive.

Third, central banks and other authorities need to assess the possible emergence of unsustainable

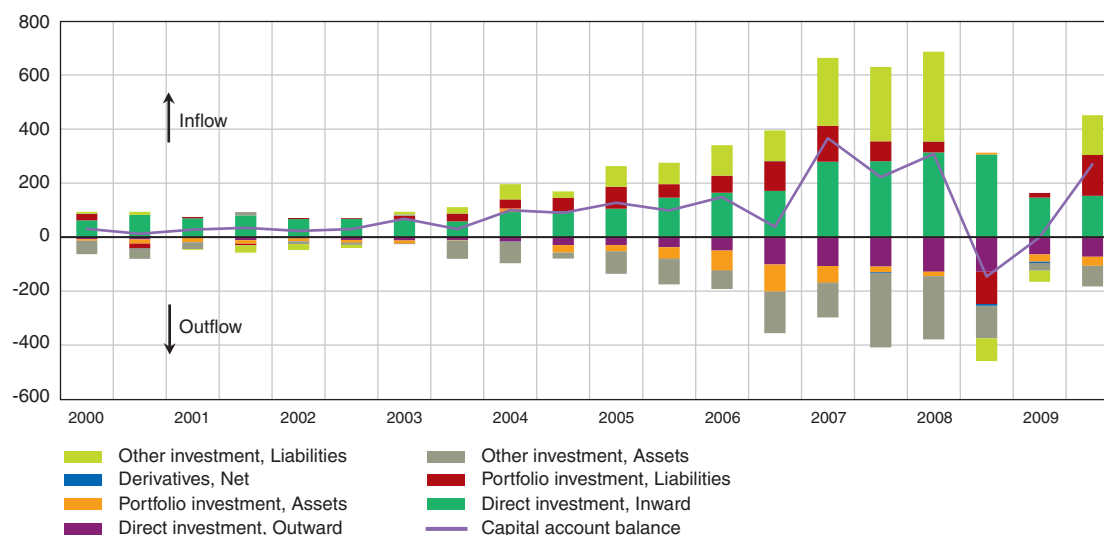
imbalances using a wide range of indicators such as asset prices, leverage, gross capital flows and information on risk pricing and risk profiles of financial institutions. Current account data only provide us with a partial picture. In the past, when the cross-border flow of goods and services dominated interrelationship among economies, assessing current account and trade balances would give us a relatively good picture of emerging external imbalances. But the size of global capital flows has dramatically increased and the speed with which capital moves to and from one country to another has accelerated as well. The growing use of derivatives adds another layer of complexity. The approach for assessing global imbalances needs to change accordingly.

4 | PREPARING FOR NEW TYPES OF CRISES

Mankind has continuously searched for “monetary anchors” or “monetary benchmarks”. This endeavor has been a repetition of initial success followed by failure or outdatedness as a result of rapid changes in the economic and financial system. In the realm of monetary policy, money supply targeting was often used in the 1970s in many advanced economies. However, with rapid financial innovation, its relationship with inflation developments became unstable and was eventually abandoned. Inflation targeting emerged as a new monetary policy framework in the 1990s, but the challenges in its effective implementation have surfaced as bubbles developed in the run-up to the current financial crisis, especially in identifying imbalances when they appear in forms other than inflation of goods and services. With regard to the international monetary system, we have moved in the past from the gold standard to managed floating exchange rate systems. Currently, the major currencies are free floating, but many countries still have fixed or managed floating regimes. Current account imbalances can be one of many possible indicators. But there is no single indicator which can identify emerging imbalances, let alone unsustainable global imbalances. A sufficiently flexible policy framework which can adapt to rapidly changing economic and financial conditions is required. The process through which crises unfold is unique for each crisis. We must learn from past experience, but strategies for the last war do not

Chart 12
Financial account of emerging countries

(USD billions)



Note: Total of the following 30 countries (China, Indonesia, Malaysia, Thailand, Philippines, Viet Nam, Bangladesh, India, Pakistan, Sri Lanka, Kazakhstan, Hungary, Bulgaria, Romania, Poland, Ukraine, Russia, Turkey, Iceland, Argentina, Mexico, Brazil, Paraguay, Chile, Peru, Colombia, Uruguay, Venezuela, South Africa, and Saudi Arabia). Until 2005, data for Saudi Arabia are not included. Charts are semi-annual basis.

Source: CEIC.

assure success in future battles. Keeping an open mind is important.

As policymakers work to develop a framework for identifying and dealing with unsustainable global imbalances in a rapidly evolving economic and financial environment, they need to be cognizant of three key elements: two longer-term trends and one element unique to the current environment.

First, though needless to say, we are experiencing a further acceleration in economic and financial globalisation. In addition, due to technological advances, the interlinkages between financial markets and among market participants are becoming increasingly complex. Shocks in one part of the world will swiftly spillover to other parts and often through unexpected channels. The effects of the risk-taking channel of monetary policy can be larger and more widespread than in the past. Search-for-yield behaviour by global investors is one such example.

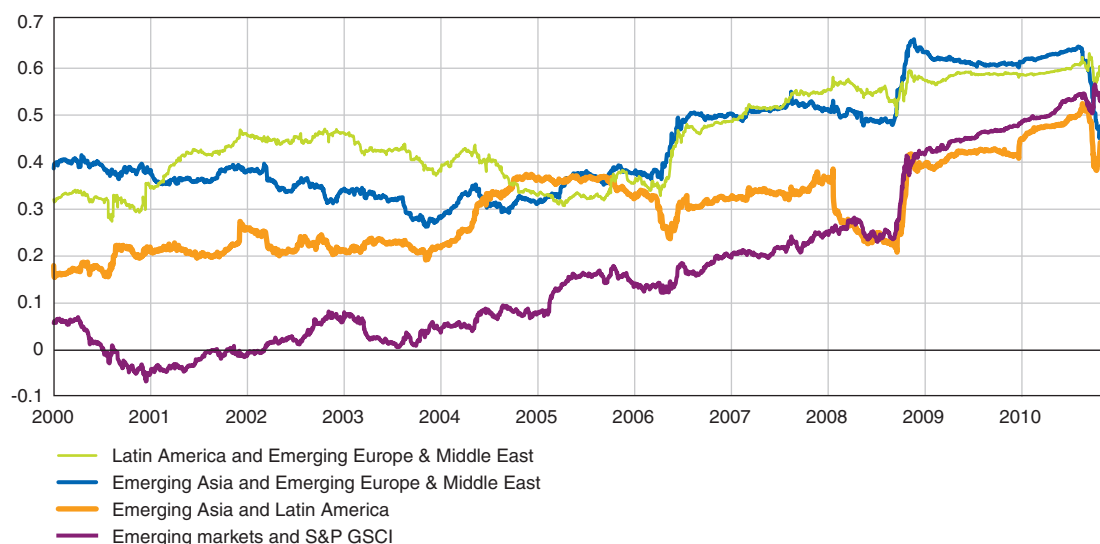
Second, the share of emerging market countries in the world economy is increasing. Their share in the world economy which was 20% in 1990 and 2000 has increased to 31% in 2009 on a current price basis, and they are expected to account for seven-tenths of

global economic growth in 2010. Emerging economies have become the drivers of global growth, and consequently their responsibilities as members of the global community have increased. For example, it needs to be recognised that the implications of inflexible exchange rates in major emerging economies on the global economy have become larger. The perspective of an orderly structural adjustment process for domestic industries may warrant a gradual shift from fixed exchange rates to a more flexible exchange rate system and a controlled appreciation of the home currency. But, at the same time, policymakers in emerging economies need to recognise that such a policy both hampers the flexible implementation of domestic macroeconomic policies including monetary policy, and exports the cost of the adjustment to other countries. If other countries follow and take similar measures to delay the appreciation of their currencies, the impact on economies which allow flexible exchange rate movements could be magnified.

Third, we are now in the unique situation where some advanced economies are recovering from the aftermath of the bursting of the bubble, and as a result, the world is facing an uneven pace of recovery. On the one hand, emerging economies

Chart 13
Correlations among emerging market equity and commodity indexes

(coefficient of correlation)



Note: Correlations are derived from the MSCI (Morgan Stanley Capital International) index of each region and S&P GSCI (Goldman Sachs Commodity Index). Each point shows the level of correlations of daily returns from the last 500 trading days. Latest date are as of November 30, 2010.

Source: Bloomberg.

are continuing their robust growth. On the other hand, due in part to the balance-sheet adjustment process following the bursting of the bubble in some countries, recovery in advanced economies is slow. Central banks in advanced economies have introduced unconventional measures to implement extremely accommodative monetary policy. As advanced economies face the zero lower bound in interest rates and a weak transmission mechanism constrained by balance-sheet adjustment needs, monetary easing through the traditional interest rate or credit channel is not working to the extent normally expected. Instead, in an integrated global financial system and with the divergent pace of economic growth, capital is rapidly flowing into high growth emerging economies which do not face such constraints (Chart 12). The risk-taking channel is working more effectively at the global level.

Since the emerging economies are not hampered by the aftereffects of the bursting of the bubble, the stimulative effects of such capital inflows could be unexpectedly large. With short-term interest rates at very low levels in advanced economies, carry trade activity has picked up and correlation among emerging economy equity markets as well as between emerging equity markets and commodity markets

is rising (Chart 13). If such capital flows lead to the development of bubbles and abrupt reversals in the future, the negative repercussions would not only be harmful for emerging economies, but also for the global economy.

5 | CHALLENGES FOR POLICYMAKERS

In order to prevent the emergence of unsustainable global imbalances, policymakers need to dig down beyond changes in the current account balance to capture underlying imbalances. A key sea change that we are witnessing is that through rapid globalisation the identification of harmful imbalances and implementing rebalancing measures can no longer be a purely domestic process.

In formulating macroeconomic policy, the traditional emphasis was to ensure domestic stability or to put one's house in order. However, with the deepening of globalisation, the simple sum of each country's policy action may not necessarily achieve an optimal outcome at the global level. Policymakers in both advanced and emerging economies need to rethink the meaning of domestic stability. The direct impact

of policy measures on the domestic economy does not provide a comprehensive view. It has become ever more important to review the spillover effects of their policies across borders which will also reverberate back to each country through economic and financial interlinkages.

When considering possible financial imbalances stemming from large capital inflows or inflexible exchange rate regimes, there are no easy solutions which would satisfy each and every country's needs both from an economic and political standpoint. But since we are all in the same boat, if we all

start rowing in different directions, the risks of a fallacy of composition would increase. There are no mechanical or automatic mechanisms which can guide our economic policies. The complexity of how the current crisis unfolded across financial markets and economies as well as the new difficulties that continue to emerge as the global economy moves through the gradual recovery phase, are reconfirming this point. For policymakers, humbly learning from each other's experiences and deliberate and constructive dialogue, though perhaps not fancy solutions, are essential, as our boat continues through uncharted waters.

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Global imbalances through the prism of savings and investment

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The so-called 'global imbalances', their source and remedy have been a frequent topic of debate through the years leading up to the global financial crisis and more recently. This article contends that the debate should focus less on the role of the exchange rate in influencing trade flows, and more on savings and investment imbalances. In particular, the reasons behind the 'uphill' flow of capital deserve greater consideration. A long-term solution to the global imbalances will require not only some exchange rate adjustments, but also changes to saving and investment patterns in both surplus and deficit countries. This is achievable, but it will not be an overnight process.

1| WHAT ARE THE 'IMBALANCES'?

The term 'global imbalances' is generally interpreted as referring to large current account positions, with opposite signs, across countries. The current account position can be viewed in several ways: as the difference between a country's income and its absorption; as the difference between the goods, services and income it sends abroad and those it acquires from abroad; or as the difference between its saving and its investment (that is, its net absorption of financial capital). These concepts all measure the same thing. In the years leading up to the recent financial crisis, a number of key countries were running large current account positions –some positive and some negative.

Large current account positions –or, put another way, large cross border flows of capital– are not historically unusual. What has generated concern has been the size and persistence of these current account positions over the past decade or so and the fact that they involve some of the world's largest economies. Over this period, the emerging Asian economies along with Japan, Germany and the oil exporting countries have tended to run large current account surpluses while the United States and a number of other advanced economies, particularly English-speaking ones, have run persistent current account deficits.

2| ARE THEY REALLY 'IMBALANCES'?

The term 'imbalance' implies that the situation described is either undesirable or unstable. However, there is nothing intrinsically wrong with either cross-border flows of goods and services or of capital and there is nothing inherently virtuous about having a current account position of zero –or 'in balance'. Indeed, a benefit of globalisation is that savers can seek the highest return, allowing for risk, on their savings available in the global market. The corollary of this is that capital is able to flow to where it will be most productively employed, leading to higher global growth than otherwise.

What is unusual about these capital flows is that they do not seem to have flowed in the direction of greater potential returns. As some have put it, the capital has flowed 'uphill' from the emerging or developing economies to the advanced economies. In particular, East Asian economies experienced

significant capital outflows while the United States and a number of other English-speaking advanced economies experienced very large capital inflows. This article focuses on developments in saving and investment in the emerging economies of East Asia –not because these were the only economies with large current account positions, but because these positions were both large and of the opposite sign to that predicted by economic theory.

3| WHY DID THE IMBALANCES OCCUR?

Much of the debate concerning the reasons for the existence of global imbalances focuses on exchange rates. The argument runs that a key group of current account surplus countries have reached that position by following a mercantilist strategy of maintaining an undervalued exchange rate in order to promote exports. Proponents of this view argue that the impressive growth in the foreign exchange reserves of East Asian central banks is indicative of efforts to prevent appreciation of their currency.

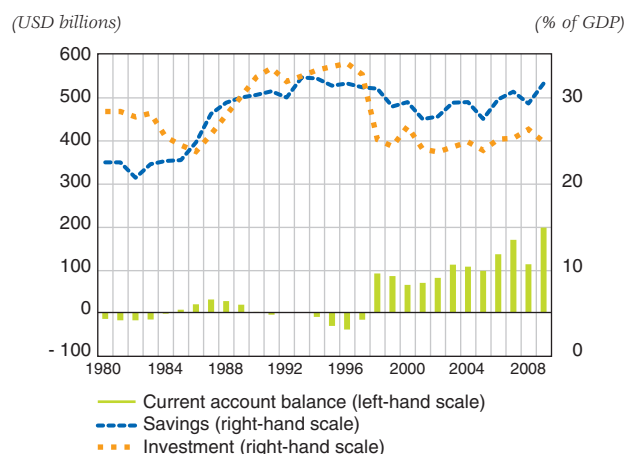
Exchange rates and intervention unquestionably played a role in the build-up of these imbalances to the extent that the current account imbalances would have been neither so large nor so persistent if exchange rates had been allowed to respond freely to the supply and demand forces implied by the current account.

But focussing on the role of exchange rates in influencing countries' export competitiveness ignores another aspect of this story. It is also important to consider the role of saving and investment behaviour.

Developing countries tend to have high saving rates due to a number of factors, including minimal social safety nets and underdeveloped financial markets providing limited opportunities to invest household savings. From a growth perspective, developing countries would ideally employ these savings and any extra funds available from overseas to boost investment (or indeed consumption, where this is particularly low). This was the case in eastern European countries in the years leading up to the financial crisis, where a rise in investment was funded largely by capital inflows.

The economies of East Asia have historically had high rates of saving. In the years leading up to the Asian financial crisis, the high share of saving was matched or

Chart 1
Asia ^{a)} – Savings and Investment



a) Developing and newly industrialised Asian economies excluding China and India.

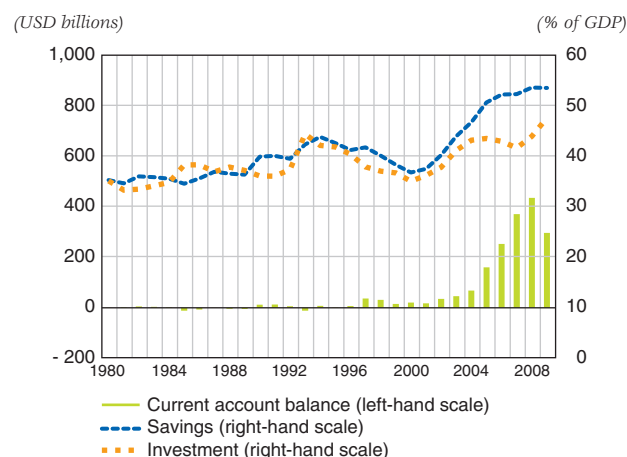
Sources: IMF, RBA, World Bank.

even exceeded by strong investment (Chart 1). During and immediately after the crisis, however, investment dropped substantially as a share of GDP in a number of East Asian countries and has remained well below total saving in the years since. In retrospect, it seems that earlier levels of investment were not sustainable, or that some of the investment was of the wrong kind.

The fall in investment (in both absolute terms and as a share of GDP) in most East Asian economies –largely a result of the crisis– combined with little change in saving ratios was reflected in persistent current account surpluses from 1998 onwards. Policies played a role too because many countries decided –and were advised– to build higher levels of reserves as a form of self-insurance against volatility in capital flows. But more understanding is needed of why investment rates have remained so low.

In China, the story is somewhat different. Having not been badly affected by the Asian crisis, Chinese investment exhibited a steep upward trajectory over the period 2000 to 2005 (Chart 2). Thereafter it fell back slightly as a share of GDP as signs of overheating in domestic property markets encouraged authorities to introduce measures to curtail dwelling investment, amongst other things, but has since surged even higher. This rise in investment has, however, been surpassed by the increase in its saving ratio, which reached a peak of over 50 per cent of GDP in 2008. This sharp rise in saving is explained by higher saving rates across all sectors of the economy: a number of structural reforms encouraged increased saving by households; strong

Chart 2
China – Savings and Investment



Sources: IMF, RBA, World Bank.

profits in the state-owned enterprises (which were not required to pass dividends on to the government) led to higher corporate saving; and government saving also increased. The notable divergence in Chinese saving and investment ratios in the period from 2005 onwards opened up a significant current account surplus. In the three years since 2004, the current account surplus tripled as a percentage of GDP.

In the period from the end of the 1990s, for differing reasons, therefore, East Asian saving ratios exceeded investment ratios. The 'excess' saving was in the order of 5 per cent of GDP for much of East Asia, though it increased to around 10 per cent of GDP in China in the year before the global financial crisis. This substantial increase in domestic saving over investment in East Asia, supplemented by sizeable excess saving in Japan, Germany and various oil exporting countries led to an ex ante excess of global saving over investment.

The substantial accumulation of foreign exchange reserves by East Asian economies in the five years or so leading up to the financial crisis exerted downward pressure on the yield of 'safe' assets, particularly in the United States. The very easy monetary policy stance of the major advanced countries that characterised some parts of the past decade was also of course a factor in lowering interest rates. Excess savings from surplus countries flowed to markets where demand for it was most sensitive to interest rate changes –that is, the United States and some other mainly English-speaking countries.

Unfortunately, much of this capital was not well used. The prolonged period of low interest rates drove investors in search of higher returns while the apparent stability of the low interest rate environment worked to convince investors that these higher-return investments were in fact less risky than they were. This tendency grew to the point where investors were purchasing complex products without understanding the associated risks –or indeed the composition of those same products. The seemingly endless supply of cheap capital also encouraged investors to take on greater leverage in the hope of enhancing their returns.

Compounding these difficulties, there was poor regulation and supervision of financial institutions in a number of countries. The growth of perverse incentives relating to financial products went unchecked: credit was extended to households that could not afford to pay it back and investors were sold products that had been created by parties with vested interests. Moreover, financial institutions in a number of countries grew so large that the cost to the home government of bailing them out placed severe pressure on public finances.

Ultimately, this ended badly. The explicit costs relating to the financial crisis are obvious, but when we consider the opportunity cost of this use of capital, the cost is even greater. Much of the capital appears to have ended up fuelling asset bubbles in some of the advanced economies, while it could have been used to boost productivity and thus standards of living in developing or emerging economies.

4| WHERE TO FROM HERE?

To some extent, these ‘imbalances’ have been reduced over the past few years. Households in the United States have recently been saving a greater portion of their income, spending less on goods and services for immediate consumption (including imports). The increase in public spending has, however, outstripped the increased saving of households and led to an ongoing fall in aggregate saving. In Asia, and especially in China, private consumption has held up strongly despite the weakness in key export markets, providing evidence that these economies may be becoming a little less export-dependent and a little more self-reliant in sustaining growth. There has also been some currency appreciation in these countries since the crisis,

although in a few cases Asian currencies remain below their pre-crisis levels. These developments have worked to reduce the current account positions of China and the United States in particular from their elevated levels (in absolute terms) of the immediate pre-crisis years.

This reduction in imbalances has, however, occurred in an environment where many countries in the advanced world have fallen a long way below full employment. Some of the effects mentioned above are potentially transitory in nature and may reverse once there is evidence of sustained growth. For example, although households in the United States appear to have saved more during this crisis, the important question is whether, once growth picks up, households will become less cautious and resume their previous spending behaviour. The task then is to try to have a more balanced allocation of saving around the world at a position of full employment.

A long-term solution will require a higher degree of international co-operation than was observed in the past. It will require more flexibility in exchange rates for key emerging market countries such as China. It may require lower saving from disposable income in some Asian countries, possibly through higher wages. But it would be desirable for it to involve higher investment rates in some cases. Finally, it will also require higher rates of saving out of current income than a few years ago in key advanced economies, including by households in some cases and by governments in most cases.

So it is likely that a full resolution of the imbalances will take quite some time. Deep-seated attitudes to the desirable rate of saving, degree of exchange rate flexibility and extent of financial account openness are likely to be slow to change. A sustained fall in saving ratios in East Asia will depend to some degree on further increases in living standards and the extension of social safety nets. Moving towards more exchange rate flexibility and financial account openness will require the continued development of domestic financial systems to allow for the appropriate management of risk and the channelling of capital to productive rather than ‘speculative’ ends. A sustained increase in American household saving that endures into the next boom period will require a distinct change in attitudes to consumption; an increase in public saving in the United States will also be needed. These changes are not impossible to achieve –but it will not be an overnight process.

Global imbalances: the perspective of the Reserve Bank of India

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The pre as well as post crisis discourse on global imbalances has largely focused on the zero-sum current account equation involving United States on the one side and the rest of the world (ROW) on the other. Most of the analysis has been from the perspective of the countries which are perceived to be integral part of the above equation. However, the implications of the imbalances went much beyond these few countries and had profound influence on the financial stability and monetary management in many countries. The huge cross border capital flows during the pre crisis period, arising from the liquidity glut in advanced economies and abetted by the expansion of the financial sector balance sheets, posed significant challenges for domestic policy makers. It is this peripheral perspective that this paper attempts to bring forth.

India is indeed a peripheral country as far as global imbalances are concerned as it did not contribute to either the origination or propagation of the imbalances. Its growth process is not dependent in any significant measure either on external demand or capital flows. It does not pursue a policy of achieving a particular level of current account deficit or surplus to support its growth strategy. Its exchange rate is essentially market determined and it does not pursue an explicit policy of reserve accumulation.

However, India did face the impact of global imbalances as a receptacle of global funds flow which were essentially volatile in nature. The paper articulates the policy imperatives that arose in this context and the design of policy framework that helped in addressing the challenges. The response was, and continues to be driven by a non-doctrinaire, pragmatic approach with the sole objective of maintaining broader macroeconomic and financial stability.

The paper concludes with a discussion on the potential risks to global financial stability on account of persisting global imbalances and the feasibility of post crisis efforts being pursued globally at various multinational fora to address these.

Persistent and growing global imbalances were generally seen as a threat to global economic and financial stability even before the subprime related pressures surfaced in 2007 and the debate on options to avoid a hard landing had already acquired centre stage in most international discussions. After the crisis, following sharp contraction in global trade and the loss of output and employment in advanced economies, the magnitude of the imbalances has moderated. The underlying factors that contributed to and sustained the imbalances, however, persist and going forward, the policy challenges from persistent imbalances are expected to accentuate. The post-crisis asymmetry in the pace of growth and stance of monetary policy between the advanced economies and the emerging market economies (EMEs), which may extend beyond 2011, will significantly influence global trade and capital flows. These have triggered concerns relating to protectionism, currency interventions and use of capital controls as potential risks to the global economy.

The pre as well as post-crisis discourse on global imbalances has largely focused on the zero-sum current account equation involving United States on the one side and the rest of the world (ROW) on the other. Most of the analysis has been from the perspective of the “core” group of countries which are perceived to be an integral part of the above equation. However, the implications of the imbalances were felt beyond these few countries, often having profound influence on the financial stability and monetary management of many countries, including India. Since most of the arguments and counterarguments on different dimensions of the problem of global imbalances are public knowledge, this paper will focus on two broad aspects. The first is the risks to financial stability in every country from persistent global imbalances. Since no single country can resolve global imbalances by solo action, globally coordinated systems would have to bear the responsibility for both containing the imbalances in a non-disruptive manner and also for providing safety nets to individual countries facing the adverse impact of the imbalances on their financial systems. The second aspect is the challenges that India would have to face while dealing with the ramifications of persistent imbalances even though India is peripheral to both the problem and its solution.

India's experience shows that a country can achieve and sustain high growth without adopting policies that contribute to global imbalances. A part of the global imbalances, driven by comparative cost advantages is, of course, a natural outcome of globalisation. But a large part of the imbalances is actually the result of national policies, which may be optimal for the country concerned, but sub-optimal for the global economy. I will conclude, therefore, by emphasising that a multilateral coordinated approach is the only option to deal with this global problem, and if the imbalances are allowed to continue as in the past, a main source of financial instability will remain unaddressed.

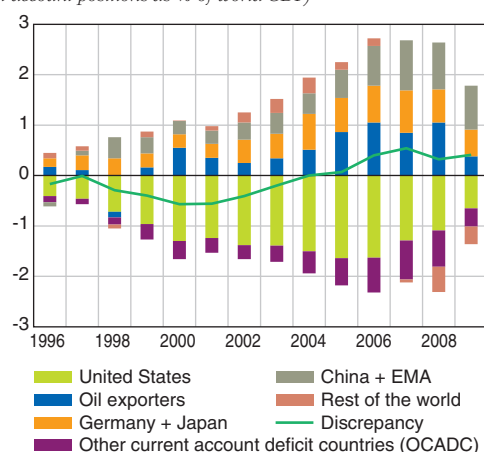
1 | WHY GLOBAL IMBALANCES MUST BE SEEN AS A MAJOR CONTRIBUTOR TO THE GLOBAL FINANCIAL CRISIS?

Even though several alternative causative factors have been highlighted in the academic and policy debates while trying to unravel the genesis of the global crisis, I would specifically highlight the role of global imbalances, since crisis prevention mechanisms are generally being strengthened based on lessons from the crisis, but very little progress has been made in terms of effective policy coordination at the international level to contain the imbalances in future.

What is Global Imbalance? It is the large dispersion in the pattern of current account positions of countries, with some having large persistent deficits and others running persistent surpluses (Chart 1). This aggregate overview masks the true nature of the imbalance. In the years preceding the crisis, deficit and surplus countries had built up mutual and growing interdependence. In the deficit countries, particularly the United States, as domestic savings declined, they depended increasingly on capital flows for financing investment and consumption. The mono-reserve currency status of the dollar and its safe-haven appeal provided the United States with unhindered access to capital from the ROW. On the other hand, countries with current account surpluses also had domestic savings, and had to look for external avenues for investment of the surplus. They became dependent

Chart 1
Global imbalances

(current account positions as % of world GDP)



OCADC: Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Turkey and United Kingdom.

EMA: Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan Province of China and Thailand.

Source: IMF

on deficit countries such as the United States both for generating the surpluses in the first place and for their investment. This mutual dependence bind served the interest of the national economies, at any rate in the short-term, but engendered imbalances at the global level which started threatening global monetary and financial stability.

2| HOW WERE THE IMBALANCES RESPONSIBLE FOR THE GLOBAL FINANCIAL CRISIS?

Four specific factors explain this point. The first factor is the emergence of a global “saving glut”, which exerted sustained downward pressures on global interest rates. Even when the United States raised its short-term rates, long-term rates did not change, giving rise to the famous “Greenspan Conundrum”. With real interest rates remaining permanently depressed, there was a general “search for yield” in alternative financial instruments, which provided the impetus to the growth of innovative financial products in the United States, which later proved destructive. Second, several EMEs and oil exporting countries accumulated large foreign exchange reserves, which

was largely a consequence of the growing imbalances, but also emanated partly from the preference of countries for stronger self-insurance following the experience of the Asian crisis of the mid-90s. Given the conservative investment norms for official reserves, reserves increasingly crowded-out private demand for high quality low-risk financial assets, besides also abetting the under-pricing of risk in the United States because of the market presumption that its large current account deficit (CAD) will be financed on a sustainable basis by rising foreign reserves of the rest of the world. As a result, risk appetite for financial products, whose risks were hard to understand, increased.

Third, persistent global imbalances, aided by the saving glut and the mono-reserve currency status of the dollar, fuelled the asset price bubble. The bubble, as it was building up, distorted incentives as reflected in the declining household saving and rising consumption in the United States, encouraged by the “wealth effect” of the asset prices and declining cost of debt. It would have been hardly feasible to sustain the levels of consumption and neglect savings without the global imbalances.

The fourth and final factor on the causation chain from global imbalances to the crisis is the absence of an effective alternative to the US dollar as the reserve currency; the United States running a current account deficit on a sustained basis became a necessary condition for the world to meet its demand for international liquidity. The confidence in the dollar led to deferment of the necessary macroeconomic adjustments in the United States and possibly also led to dilution of regulation and supervision standards that allowed its financial system to grow freely by masking vulnerabilities.

One of the effects of the persistent imbalances in the pre-crisis period was a significant expansion in the financial sector balance sheets in developed economies. The increasing financialisation of economies resulted in a self-fulfilling boom in financial products and instruments, some of which were clearly far riskier than they were perceived to be. From the financial stability perspective, it was this dominance of the financial sector which was critical in shaping the regulatory philosophy in the pre-crisis period and in the rapid transmission of the crisis across the global financial system.

3| SHOULD IMBALANCES BE SEEN AS A RISK TO FINANCIAL STABILITY IN THE FUTURE?

In the absence of effective multilateral efforts to redress the imbalances, the risks to global monetary and financial stability will persist. Current assessment suggests that the recent moderation in the magnitude of the imbalance is at best temporary, since the underlying drivers of imbalances will regain steam over time. Two new dimensions would impact the imbalances in the near-term. First, the OECD projects that output gaps in advanced economies will remain negative up to 2015. Given the robust recovery and strong growth outlook of EMEs, the monetary policy asymmetry between advanced economies and EMEs will likely not only continue but may even widen. While the growth imbalance will alter the current account positions of countries, the differentials in interest rates and earnings prospects may trigger surges in capital flows to EMEs, exerting upward pressure on their exchange rates and asset prices. Second, as projected by the IMF in its October 2010 WEO, due to lack of corresponding increase in absorptive capacity in EMEs, most of these inflows may end up adding to their foreign exchange reserves and then flow back to the safe haven dollar. We will then return to the pre-crisis pattern of capital flowing uphill. Save for the unlikely event of a sudden loss of faith in the US dollar, a hard landing or disruptive unwinding of the imbalances may not happen. But exchange rate and asset price uncertainties will persist.

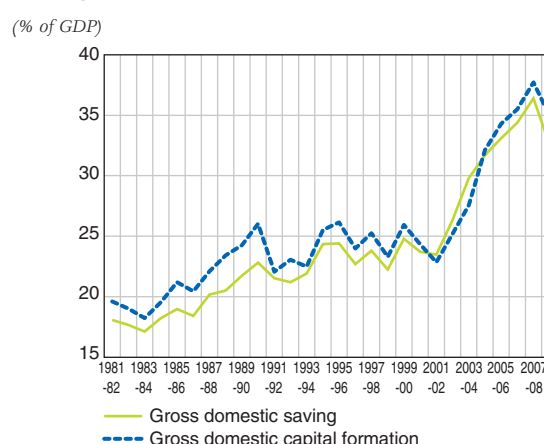
The dynamics of public debt in major economies may, however, interfere with the process of redressing the imbalances. Pre-crisis, huge capital flows into developed economies and a general tendency for under-pricing of risks all around resulted in a benign perception of high public debt levels. Post crisis, however, fiscal health of sovereigns has become one of the key risks in global portfolio allocations. How the unwinding of large fiscal support is going to play out will be a critical determinant of the unwinding of imbalances. This risk is bound to impact the exchange rate readjustments as well.

4| GLOBAL IMBALANCES AND INDIA

India is a peripheral country as far as global imbalances are concerned as it did not contribute to either the generation of the imbalances or their propagation. Its growth process is not dependent in any significant measure either on external demand or capital flows; it does not pursue a policy of achieving a particular level of current account deficit or surplus to support its growth strategy; its exchange rate is essentially market determined and it does not pursue an explicit policy of reserve accumulation. This paper explains these points in greater detail to emphasize the point that India did not contribute to global imbalances, but it cannot escape its ramifications, and hence has a stake in the resolution of global imbalances on a sustainable basis.

- India's high domestic saving rate has coexisted with sustainable current account deficit, a key trend that differentiates India from other major countries that contributed to the global imbalances. In India, even though the saving rate has improved significantly in the last decade, the investment rate continued to exceed the saving rate, implying full absorption of domestic saving at home (Chart 2).¹ Excluding a short period of current account surpluses, India has generally witnessed current account deficits within a range of 3 per cent of GDP (Chart 3). Thus, domestic saving has been supplemented at the margin by

Chart 2
Saving and investment

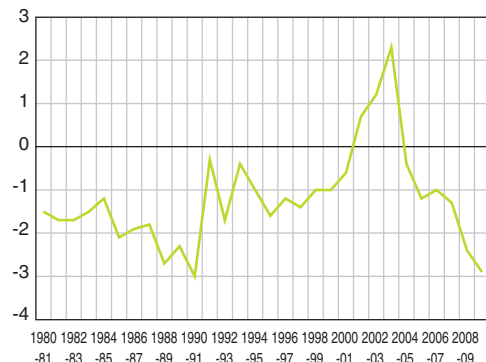


Source: Reserve Bank of India.

¹ As the financial year in India begins in April each yearly data (in Charts 2, 3 and 6) is overlapping two calendar years and Q1 (in Chart 7) represents April to June period

Chart 3
Current account deficit

(% of GDP)



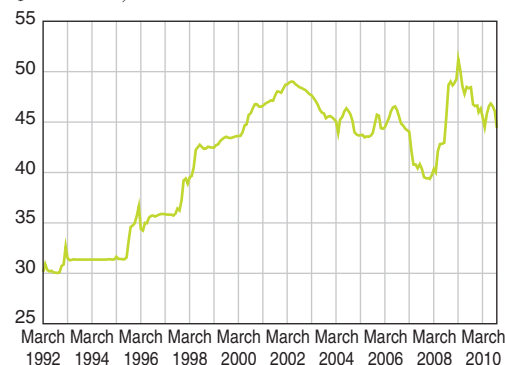
Source: Reserve Bank of India.

foreign capital to the extent of the financing needs of CAD. All in all, the investment and growth process of India has not been excessively dependent on either external demand or external capital.

- India has had a market driven flexible exchange rate regime since 1993. The exchange rate policy has not been guided by any specific goal relating to exports or the current account position in the balance of payments (Chart 4). The thrust of the exchange rate policy has been to contain undue volatility, particularly that arising from volatile capital flows, but such intervention is not conditioned by any targeted exchange rate. The two way movement of the exchange rate, and the absence of a policy on using exchange rate as an instrument to attain any goals relating to external balance position or domestic inflation vindicates India's position that its policies

Chart 4
Rupee/US dollar exchange rate

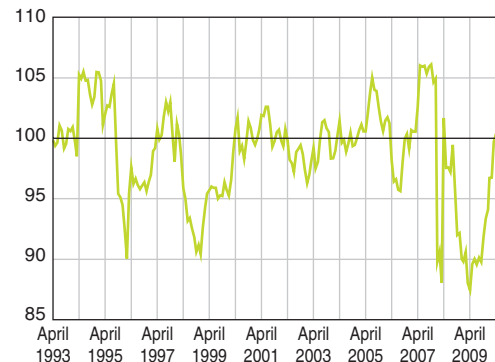
(Rupees per US dollar)



Source: Reserve Bank of India.

Chart 5
36 currency trade-based real effective exchange rate

(base: 1993-1994 = 100)



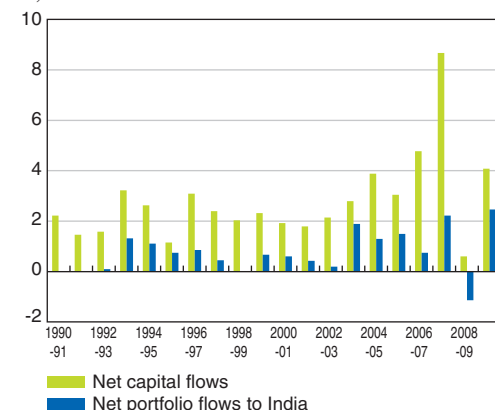
Source: Reserve Bank of India.

do not contribute to global imbalances. The absence of a sustained major undervaluation of the rupee is also evident from the behaviour of the real effective exchange rate (REER), which has exhibited a mean reverting pattern and generally remained around the base level in the medium-run (Chart 5).

- India has often experienced surges in capital flows (particularly during 2003-2008), a part of which financed the current account, and the balance led to build up of reserves. The pattern of capital flows to India, thus, is consistent with the expected downhill flow pattern from advanced economies to emerging and developing economies, unlike the uphill pattern that was evident for some of the other countries that contributed to the global imbalances. As could be seen from Chart 6, annual net capital flows to

Chart 6
Net capital flows and net portfolio flows

(% to GDP)



Source: Reserve Bank of India.

India have often exceeded the financing needs in the current account, and net inflows were as high as 10 per cent of GDP in 2007-2008, when the current account deficit was only 1.3 per cent of GDP. As a result, the remaining part of the inflows returned to the ROW through deployment of India's foreign exchange reserves in the international markets.

- India does not have a self-insurance policy, even though forex market interventions of the Reserve Bank and significant increase in forex reserves built up over the last one decade have often been highlighted by analysts as obvious examples of a strategy on self insurance. One needs to understand why these two indicators are not the only possible characterisation of a self-insurance policy.

The variations in India's foreign exchange reserves are an offshoot of its exchange rate policy, which is to intervene in the market only to smooth exchange rate volatility and prevent disruptions to macroeconomic stability. The "volatility centric approach" to exchange rate also stems from the source of volatility, which is capital flows. As could be seen from Chart 7, India's foreign exchange reserves had increased alongside increase in the stock of overall external liabilities as well as portfolio liabilities, and the latter have occasionally been highly volatile. To manage the episodic pattern of surges, reversals and sudden stops in such flows, given their sudden and damaging implications for the exchange rate and domestic liquidity conditions, intervention purchases/sales

have been resorted to, which gets reflected in the country's foreign exchange reserves.

Past experience suggests that even while India's reserves got built up over the years owing to capital flows in excess of the financing needs in the current account, the same reserves at times had to be used to contain volatility in the event of capital reversals. Importantly, given India's persistent trade and current account deficits, its foreign exchange reserves comprise borrowed funds, which is qualitatively different from accumulating reserves through trade and current account surpluses. Foreign reserves have certainly helped India to face the adverse external sector shocks better, but they do not reflect the result of any specific policy adopted by India that could have contributed to global imbalances.

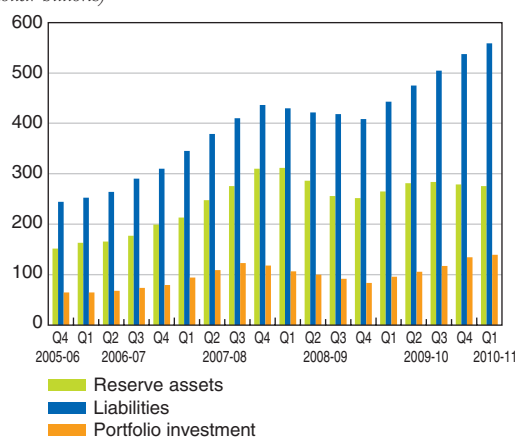
5| HOW HAS INDIA MANAGED THE FALLOUT OF GLOBAL IMBALANCES?

For India, given its gradual opening to globalisation involving both trade and financial flows, managing the implications of global imbalances has been a constant policy challenge. The dimension of the challenge magnified significantly when these imbalances emerged as a major contributing factor to the global crisis. In the period leading to the crisis, India had to actively manage surges in capital flows triggered by excess global liquidity.

It is now well recognised that large capital flows in short bursts, beyond the absorptive capacity of an economy, impose significant costs. From the macroeconomic perspective, exchange rate overshooting becomes a real possibility, causing lasting damage to the real sector competitiveness and hence the current account balance. Such inflows can also militate against the monetary policy objectives during a domestic tightening phase and can impact the autonomy of monetary authorities to set domestic interest rates. There are also implications for financial stability in the form of induced risks of asset price bubbles, excessive foreign currency exposures and crowding out of domestic financial institutions on the lending side thereby increasing their risk appetite in search of returns, resulting in misallocation of capital. All these impose significant adjustment costs and complicate monetary and exchange rate management.

Chart 7
Reserve assets relative to total external liabilities and portfolio investment liabilities

(US dollar billions)



Source: Reserve Bank of India.

The policy approach in India to the issue of capital flows has evolved from addressing the singular variable of exchange rate to the broader objective of maintaining financial and macroeconomic stability. The salient elements of this framework are as under:

- an explicitly stated active capital account management framework, based on the policy stance of encouraging non-debt creating and long-term capital inflows and discouraging debt flows;
- avoiding the 'original sin' of excessive foreign currency borrowings by domestic entities, particularly the sovereign;
- prudential regulations to prevent excessive dollarisation of balance sheets of financial sector intermediaries, particularly banks; and
- significant liberalisation of permissible avenues for outward investments for domestic entities.

The above framework has till now obviated the need for sudden capital control measures, which could be perceived to have a longer term adverse impact. In any case, the objective of any capital control measures cannot be to protect a particular level of exchange rate or to control the aggregate flows but only to reduce the volatility impact of excessive short term flows.

6| MULTILATERAL POLICY RESPONSE TO GLOBAL IMBALANCES

The IMF's multilateral consultation process on global imbalances, which was endorsed by the International Monetary and Financial Committee (IMFC) in 2006, suggests that global imbalances were clearly seen as a source of vulnerability even before the global crisis. Also what individual countries should do to contain the risks was more or less known. The actions that are being contemplated now by the G20 are not very different. Rebalancing will require deficit economies to save more and consume less while maintaining open markets and enhancing export competitiveness. They need to depend more on external demand for growth and their currencies have to undergo a real depreciation. The surplus economies will need to adopt the opposite stance, i.e., save less and spend more, and shift from external to domestic demand. They may also need to let their currencies appreciate.

Thus, movement in currency is generally believed to be part of the solution.

Managing currency tensions will require a shared understanding on keeping exchange rates aligned to economic fundamentals and an agreement that currency interventions should be resorted to not as an instrument of trade policy but only to manage disruptions to macroeconomic stability. In their Toronto Summit in July 2010, the G20 leaders agreed on a "Framework for strong, sustainable and balanced growth". At the heart of this Framework are strategies to be put in place by advanced and emerging economies to restore external balances and repair their financial sectors where need be. For reasons that are quite obvious, these national strategies have to be coordinated in content and in implementation. Any framework like this can be successful only in an atmosphere of trust and reciprocity. From the perspective of EMEs, the critical issue would be to have recourse to viable policy options to address the potentially disruptive impact of spurts in capital inflows as well as outflows. This would be particularly relevant for countries having a relatively more open capital account. In this regard, *ex ante* measures of managing capital flows would be as important as the *ex post* measures of dealing with the implications.

Increasingly, *ex ante* management of capital flows using price-based measures has come to be recognised as a legitimate tool of macroeconomic management with even agencies such as the IMF taking a more flexible view in this regard. The objective of such measures is to alter the structure of price incentives that market participants confront thereby inducing them to modify their behaviour. However, evidence from different countries on the effectiveness of the above measures is inconclusive. The limited studies that are available suggest that capital controls have a stronger effect on the composition of inflows than on their aggregate volume and do not materially impact the level of the real exchange rate. The main criticism against the above measures has been that, in practice, it may be difficult to implement them effectively. However, the bottom line is that there is a cost involved in any form of evasion which is precisely the limited objective of the measures –to throw sand in the wheels of capital flows.

Exchange rate appreciation is generally touted as the preferred *ex post* policy option in dealing with

inflows. The only caveat accepted post-crisis is that intervention may be justified only if there is major veering away of the currency from its fundamental value. The aftermath of the crisis has triggered a debate on the costs of building up reserves as a self-insurance, and the risks of continuing with a mono-reserve currency –the US dollar. While multilateral/regional/bilateral arrangements to enhance alternatives to foreign exchange reserves will be supported by most countries, the self insurance motive and national policies on forex

reserves may need to continue. In evaluating the level of reserves and the quantum of self insurance of a country, however, it is important to distinguish between countries whose reserves are a consequence of current account surpluses and countries with current account deficit like India whose reserves are a result of capital inflows in excess of their economy's absorptive capacity. On the reserve currency debate, we need to explore all options for protecting ourselves from the vulnerabilities that we confront as a consequence of a single reserve currency.

The crisis has taught us that no country can be an island and that economic and financial disruptions anywhere can cause ripples, if not waves, everywhere. The crisis also taught us that given the deepening integration of countries into the global economic and financial system, uncoordinated responses will lead to worse outcomes for everyone. The global problems we are facing today are complex and not amenable to easy solutions. Many of them require significant and often painful adjustments at the national level, and in a world divided by nation-states, there is no natural constituency for the global economy. At the same time, the global crisis has shown that the global economy as an entity is more important than ever.

Since global imbalances clearly contributed to the financial crisis, they will remain a potential risk to global monetary and financial stability in the future, unless globally coordinated country-specific national policy measures are implemented to limit at least the policy induced part of the imbalances. At the same time, the global governance systems need to be able to provide the requisite comfort to member jurisdictions that their interests will not get compromised in times of crisis, something which was found lacking during the crisis.

Going forward, a critical counterfactual that needs to be answered is whether more effective regulation and supervision of the financial sector, both at the global as well as national levels, could have mitigated some of the adverse fallout of the global imbalances. After all, the financial sector emerged as the ultimate receptacle for the negative externalities arising out of the imbalances. Therefore at least part of the adverse fallout of imbalances could have been addressed through the propagation channel i.e. the financial sector. It is in this context that macroprudential national policy frameworks are significant.

Intellectual challenges to financial stability analysis in the era of macroprudential oversight

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This article discusses the main intellectual challenges related to the conceptual foundations, analytical models and regulatory assessment tools in the field of financial stability analysis. The focus is on ways to detect and contain systemic risk. The article also tries to point in directions that could be helpful in resolving these intellectual challenges. The article starts with a discussion of the nature and origins of financial stability and systemic risk. It then goes through four areas in which lessons from the present crisis have illustrated major analytical challenges in enhancing the understanding of financial stability and systemic risk.

The article concludes that 1) the understanding of the fundamental working of financial systems and the risks they generate needs to be deepened, in particular in relation to financial innovation and the role of nonbank financial intermediaries, 2) better insights need to be developed about when and how financial systems migrate from stability to instability, 3) models need to be developed that capture the interactions between widespread financial instability and the performance of the economy at large (including the related amplification effects and nonlinearities), and 4) such models need to be further extended to be able to assess the effectiveness and efficiency of macroprudential regulatory policies in containing systemic risks.

Meeting this agenda will require reorienting significant resources in academia, central banks and supervisory authorities in these directions. It will also require enriching the way of thinking in economics and finance. New approaches should be considered that do not necessarily rely only on the notions of equilibrium, universal rationality and efficiency, but go beyond those concepts. Approaches that have been used successfully in other fields, such as the natural sciences, may be a helpful source of inspiration.

This article discusses the main intellectual challenges related to the conceptual foundations, analytical models and regulatory assessment tools in the field of financial stability analysis. The focus is on ways to detect and contain systemic risk. The article also tries to point in directions that could be helpful in resolving these intellectual challenges. The new supervisory bodies that have just been created in Europe –such as notably the European Systemic Risk Board (ESRB) in the European System of Financial Supervision (ESFS)– would benefit significantly from intellectual progress in those directions.

The article starts with a discussion of the nature and origins of financial stability and systemic risk, in particular how systemic risk can be defined and which factors can make financial instability widespread and dangerous. It then goes through four areas in which lessons from the present crisis have illustrated major analytical challenges in enhancing our understanding of financial stability and systemic risk. The first area concerns challenges at the very fundamental level of the functioning of financial systems, in particular how they change over time through innovation. The second area relates to challenges with respect to our understanding of the transition from tranquil times to crisis times.

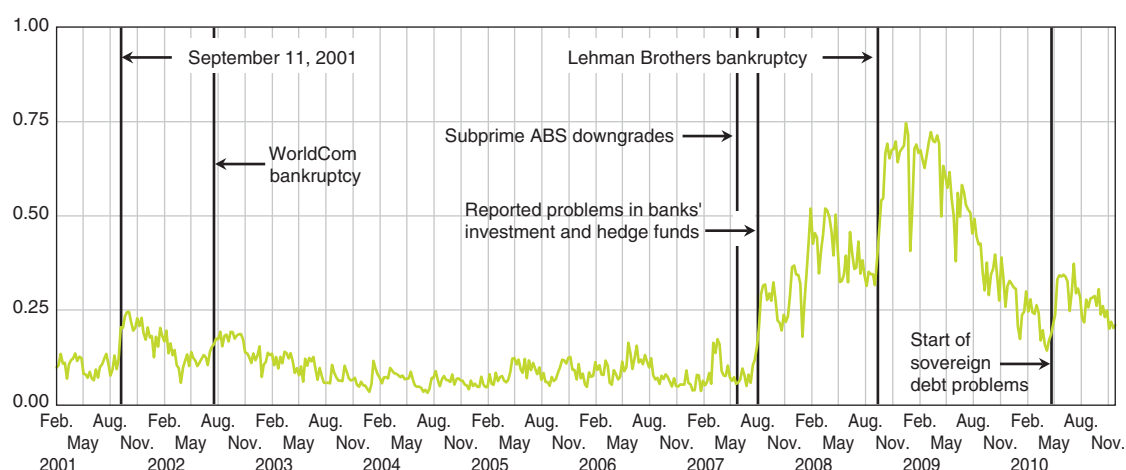
Third, it is extremely challenging to develop better tools assessing the macroeconomic implications of financial instabilities. Fourth and last, we have very limited analytical tools and models (and experiences) to assess how regulatory policy can be used to contain risks *at the level of the financial system as a whole* and the overall economy. The article ends with some concluding remarks.

1 | FINANCIAL CRISES, STABILITY AND SYSTEMIC RISK

1|1 The meaning of systemic risk and experiences with systemic crises

The crisis that we have experienced over the last three years is an overwhelming case of the materialisation of systemic risk. Systemic financial risk can be defined as the risk that financial instability becomes so widespread that it impairs the functioning of a financial system to the point where economic growth and welfare suffer materially.¹ Chart 1 displays one indicator –a Composite Indicator of Systemic Stress (CISS)– that ECB staff developed to capture in real time how much systemic instability is present at a given point

Chart 1
Systemic instability in the European Union



Note: The chart shows the Composite Indicator of Systemic Stress (CISS; see Hollo et al., 2010) between 2001 and 2010. The CISS is constructed from several measures of instability for each of five components; money markets, bond markets, equity markets, foreign exchange markets and financial intermediaries. The five components are aggregated and weighted considering the correlation among each other (systemic dimension) and their correlation with industrial production (real economy dimension). The indicator is normalised between 0 (no systemic stress) and 1 (maximum systemic stress). It is calculated in real time using weekly data.

¹ ECB (2009).

in time.² The chart clearly shows how systemic stress emerged in the European Union in August 2007, how the situation degenerated to a full-blown systemic crisis in September 2008 with, in particular, the bankruptcy of Lehman Brothers (when the indicator shoots up towards its maximum value of 1) and how the process of relaxation was countered in May 2010, in particular due to the Greek debt crisis.

There were many financial crises in history and a share of them reached systemic dimensions. Examples include in particular the world's Great Depression in the 1930s and, at national levels, the Nordic and Japanese banking crises during the 1990s.

Every crisis possesses its own characteristics, and having learnt the lessons from the last crisis does not provide protection against future, necessarily different, crises. Moreover, in a dynamic economic system, progress and growth can only be achieved in accepting risks, which could indeed include a "tail risk" of crises.

The experience of the last three years suggests that policy authorities in all advanced economies need to improve considerably their capacity to detect and contain systemic risks. Financial supervision was too much focused on the microprudential dimension of individual risks at the level of single intermediaries and markets, rather than looking how risks could add up and compound each other. In order to become better in this regard, authorities need to consider more the deep underlying sources of systemic instability and, in particular, how risks can reach the systemic dimension.

1|2 How financial instability can become systemic

Research suggests that there are, in particular, three broad ways through which financial instability can reach systemic dimensions.³

The first is contagion. The failure of one financial agent (or crash of one market) can lead to failures of other financial agents (or crashes of other markets),

even when the latter have not invested in (or are exposed to) the same risks and are not subject to the same original shock as the former.⁴

Second, widespread financial imbalances can build up over time and then unwind abruptly. Hyman Minsky described how in good times consumption and investment increase, generating income, which fuels the financing of more consumption and investment but also the neglect of increasing risks. Even small events can then lead to a re-pricing of risk and an endogenous unravelling of the credit boom, which adversely affects many agents and markets at the same time.⁵

Third, severe negative aggregate shocks can adversely affect intermediaries and markets simultaneously. Historical research has shown that many banking crises were related to severe economic downturns.⁶ Note that the three mechanisms can happen independently, but that most of the time they are mutually reinforcing.

There are a number of inherent features of financial systems that make them particularly prone to these forms of systemic risk.

The first is externalities. They particularly relate to the complex and dynamic network of exposures among major intermediaries. What in tranquil times is an efficient mechanism to share risk, can, in times of stress, become a dangerous channel for transmitting instability. Two contracting parties do not have an incentive to take account of the effects of their risk-taking on third parties. As a consequence, the risk at the level of the system may be higher than the sum of perceived individual risks.

The second feature is asymmetric information. Financial systems allocate funds from agents who have them but possess no specific knowledge about promising investment opportunities, to agents who have knowledge about the opportunities but not the funds to engage in them. This creates an agency problem between the two parties, which may be handled more or less well through the underlying financial contracts. If contracts are incomplete and negative news arrive

2 Hollo, Kremer and Lo Duca (2010). *The indicator combines instability of different financial markets and intermediaries, including their links to economic activity. Many previous systemic risk indicators focused on the banking system using market data* (Avesani, 2005; Hartmann, Straetmans and de Vries, 2006; Segoviano and Goodhart, 2009).

3 De Bandt, Hartmann and Peydro (2009) and Trichet (2009).

4 Allen and Gale (2000), Freixas, Parigi and Rochet (2000) and Chen (1999).

5 Minsky (1977) and Kindleberger (1978).

6 Gorton (1988) and Demirgüç-Kunt and Detragiache (1998).

on some of the investment projects, but information asymmetries do not allow lenders to judge whether this also affects other investment projects, funding may evaporate for all projects alike –a phenomenon often referred to as adverse selection.⁷

The special propensity of financial systems to systemic risk is not simply the result of these two imperfections. Externalities and information problems are also present in other economic sectors. But there are some other features of financial systems, which render their implications much more severe and widespread. First, illiquid assets, maturity mismatches between assets and liabilities and leverage amplify the force with which problems of one financial intermediary are pushed through the complex network of exposures. Second, sizable amounts of debt relative to capital and short-term funding have more dramatic effects in situations of stress. These features in conjunction with the above imperfections lead to powerful feedback and amplification mechanisms, which may cause sudden regime changes, driving the system from a state of relative tranquillity to a state of turmoil (see, for example, the soaring values of the CISS in August 2007 and September 2008 in Chart 1). In the aggregate, one observes the abrupt nonlinear adjustments that are so characteristic of financial instability.

A well-developed analytical apparatus for supporting policies in this area would have to fully capture all these elements. The following sections try to address some of the intellectual challenges in providing such an apparatus, using the experiences of the present and previous crises.

2| ADVANCING THE ANALYTICAL APPARATUS FOR FINANCIAL STABILITY AND SYSTEMIC RISK POLICIES

2|1 The basic functioning of financial systems and the risks they imply

The first set of intellectual challenges in advancing the analytical apparatus for financial stability and

systemic risk policies relates to the deep functioning of financial systems. The crisis has shown that financial systems are much less understood than what was thought. While some important parts and implications of the “DNA” of financial systems are known –their main components, their main functions, indicators of their efficiency or which basic risks can emerge–, there are difficulties in grasping the essence of some major mutations (“financial innovations”) and in predicting how the overall body reacts to specific stresses; two elements that, on occasion, may be strongly related.

The crisis has taught authorities (and market participants) that the early identification of the build-up of vulnerabilities and widespread imbalances has to become better. The analytical apparatus supporting financial stability policy needs to provide authorities with the means to understand the efficiency and risks of both new financial instruments and new business models of financial intermediaries.

A second crisis lesson in this area is that not only models about the systemic risks in banking are needed but also about how nonbank financial intermediaries can contribute to the transmission of instability at the system level. Brunnermeier and Nagel (2004) found that, whilst hedge funds are technically among the most sophisticated investors, between 1998 and 2000 they were heavily invested in technology stocks rather than acting as a price correcting force towards fundamental values. More generally, the explosion of the industry of highly leveraged financial institutions over the last 20 years –from around 100 billion US dollars capital under management in 1990 up to 3 trillion US dollars in 2007– is not yet fully understood in its financial stability implications.⁸ Also to be noted, the credit derivative activities of some insurance companies did play a significant role in the crisis. The activities of so-called shadow banks, which were not subject to the supervisory regime of banks, played themselves a decisive role in the run up to the subprime crisis, which has been the trigger of the global financial crisis.

A third lesson suggests that the image of atomistic and highly efficient financial markets needs to be revised. As also a growing body of financial research suggests,

⁷ Stiglitz and Weiss (1981).

⁸ Thurner, Farmer and Geanakoplos (2010) illustrate with an agent-based model (see below) how leveraged purchases of under-valued assets by funds can amplify asset price fluctuations.

asset valuations, corporate financing activities and intermediation processes are subject to a range of important imperfections to which greater attention is warranted. The two examples of externalities and asymmetric information have already been mentioned. Another example is oligopolistic structures in major wholesale financial markets. Many derivatives markets are dominated by a small number of highly sophisticated and complex financial intermediaries. Their strategic behaviour is likely to have very different effects on those markets than the benchmark of perfect and atomistic markets might suggest. How this strategic, and maybe sometimes also predatory behaviour can –on occasion– have destabilising effects needs to be understood much better.

A more radical line of work responds to analytical challenges of the crisis at a more fundamental theoretical level. It starts from the presumption that certain inherent features of the standard economic paradigms, in particular in macroeconomics (see also sub-section 4|3 below), prevent them from capturing crucial features of exceptional situations like the ones experienced in the last few years. Notably, analytical models based on a strong tendency to converge towards equilibrium, a high level of market efficiency and representative rational agents have great difficulties in generating the amplification effects, nonlinearities and crashes characteristic for systemic instability (see Section 1 and Chart 1).⁹ So-called agent-based models do not rely on strong equilibrium attractors and incorporate heterogeneous agents whose direct interactions have significant influence on overall economic outcomes.¹⁰ They are based on bottom-up simulations of individual behaviour rather than top-down maximisations. They have been applied successfully to a wide range of problems in different sciences, including physics, biology, computer science, traffic systems and mass panics, in particular to problems where amplification, intermittent changes and nonlinearities play a significant role. It will be interesting to see to which extent the nascent applications to systemic risk can contribute to meet some of the challenges discussed below. Seen from the perspective of public authorities experiencing a crisis, which have to take swift and non-standard decisions in an environment of generalised nonlinearities, significant advances in this new analytical field are of the essence.

2|2 The transition from tranquil times to crises

The second set of intellectual challenges for financial stability analysis relates to the period in which the system moves from stability to instability. One distinguishing feature of this crisis relative to previous crises is speed. While the unfolding of the sovereign debt crises in the 1980's occurred over the course of years, the Asian financial crisis developed, at its peak, over months rather than years. The major intensification of the present crisis, starting in mid-September 2008 (see Chart 1), spread around the globe in the course of half-days.

In physics such phenomena are described as phase transitions. When some factors exceed a critical level, a system behaves qualitatively differently from a situation when the factors stay below this level. Building on some fundamental physics research on “crackling noise” and “self-organised criticality”,¹¹ Bouchaud (2009) describes how the random field Ising model –originally developed to analyse how spins order within a disordered magnet– can be applied to the persistence and breakdowns of financial bubbles. Investors take their decisions based on slowly moving fundamental variables, such as interest rates, inflation, earnings forecasts etc. At the same time, however, they are influenced by the majority opinion of other investors. For that latter fact, the aggregate opinion can be subject to large discontinuous changes, even though dramatic changes do not necessarily happen in the fundamentals. Moreover, the physics analogy illustrates hysteresis in optimism. Much as supersaturated vapour refuses to turn into a liquid, optimism is self-consistently maintained (until a critical threshold is reached and an “avalanche” of opinion changes is launched). This analogy from physics illustrates how imbalances that have built up endogenously over an extended period of time can suddenly unravel (see sub-section 1|2).

Another lesson in this area concerns the role of confidence. Ultimately financial transactions rely on promises about future payments. If agents begin to doubt such promises, trust may vanish triggering sharp drops in asset valuations. Arguably, this is even more the case in a highly complex and interconnected system, such as the one that decades of financial

⁹ See Farmer and Geanakoplos (2008) for a balanced discussion of the pros and cons of equilibrium economics.

¹⁰ See, for example, Farmer and Foley (2009) or LeBaron (2006).

¹¹ Sethna, Dahmen and Myers (2001) and Bak, Tang and Wiesenfeld (1988), respectively.

deepening and sophistication have rendered. But the non-fundamental factors that also determine whether financial agents have confidence in the payment promises embedded in such a complex system are hard to characterise in quantitative models. More generally in practice, it is challenging to assess how and when confidence abruptly evaporates at a very large scale, as it did for example in September 2008 after the demise of Lehman Brothers (see Chart 1).

One direction is the analysis of asymmetric and imperfect information. For example, recent research has illustrated which factors generate adverse selection phenomena, so that markets dry up and instability propagates through contagion.¹² Another direction is a greater incorporation of psychological factors in economic analyses, as actually the field of behavioural finance is starting to do. Whereas the former approach still relies on the assumption of fully rational agents, the latter approach starts from empirical evidence that contradicts this assumption. Akerlof and Shiller (2009) discuss a variety of psychological factors that played a role in the present crisis, and much more work would appear beneficial.¹³

The combination of complexity, interconnectedness, payment promises in debt contracts, limits of information and basic human behaviour – “animal spirits” – can lead to the violent feedback and amplification mechanisms that are so typical for the transition from stability to instability. For all these reasons, enhanced and deep market intelligence should continue to play a very substantial role.

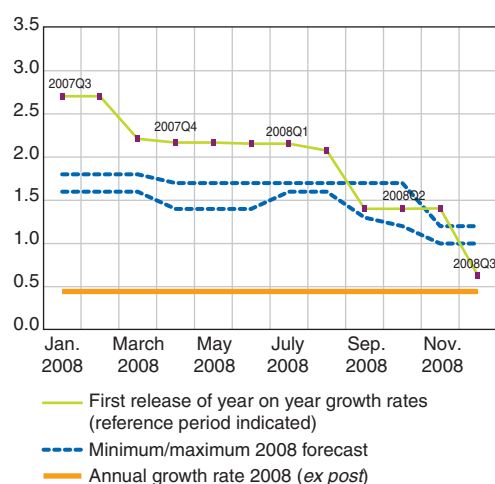
2|3 Financial crises and the macroeconomy

The third area of intellectual challenges in financial stability analysis relates to why authorities care so much about financial stability, namely to which extent financial instability affects the overall economy, notably growth and consumer welfare, and why the transmission to the real economy may sometimes be so severe. Chart 2 shows the range of GDP growth forecasts for the euro area across major forecasting institutions (dashed blue line) and the realised GDP growth rates (solid orange line).

Chart 2
Real time euro area GDP growth forecast errors and coincident growth releases

(%)

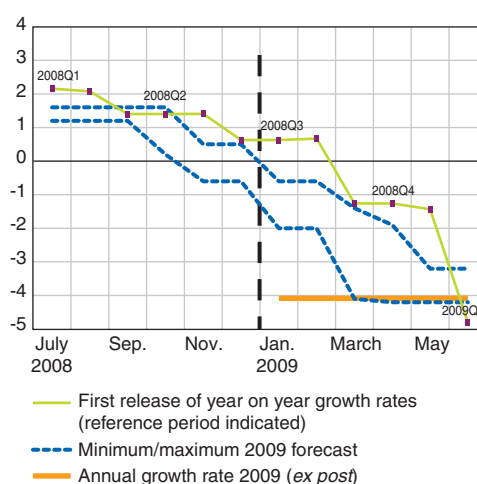
a) For 2008



Note: Panel a) compares the range of euro area GDP forecasts released during 2008 for the full year 2008 (corridor of dashed blue lines) with the ultimately measured 2008 GDP (solid orange line). The difference between the two is the forecast error.

Both panels also report year-on-year euro area GDP growth releases by Eurostat for the period ending at the quarter indicated (solid green line). The horizontal axes refer to the month of the respective release, except for the ultimate 2008 and 2009 GDP growth rates. The range of GDP forecasts is derived from the maximum and minimum point forecasts considering releases by the European Commission, IMF, OECD, Economist Consensus Forecast, Eurobarometer and Survey of Professional Forecasters. All growth rates are in per cent.

b) For 2009



Note: Panel b) compares the range of euro area GDP forecasts released between July 2008 and June 2009 for the full year 2009 (corridor of dashed blue lines) with the ultimately measured 2009 GDP (solid orange line). The difference between the two is the forecast error.

¹² See, for example, Heider, Hoerova and Holthausen (2009) or Morris and Shin (2010).

¹³ See also Barberis (2009) or Shleifer (2010).

as policy makers saw them during the “critical” years of 2008 and 2009, respectively. By comparing the corridor of dashed lines and the solid orange line in panel a) of Chart 2 one can see that all forecasting institutions consistently over-estimated the growth rate for 2008, even until very late the same year. Moving on to panel b) of Chart 2, it can be seen that the strongly negative growth rate of – 4% in 2009 – the “free fall” in economic activity – was dramatically missed until the end of 2008. In this sense, left alone with unreliable forecasts policy-makers had to act on informal information, real-time data releases and their own wisdom and judgements on how the situation was evolving.

There can be many reasons for these sizable forecasting errors. One may simply be that it is particularly difficult to look into the future in extraordinary circumstances. It would, however, be too simple to just stop here. Another reason for the errors may be that standard macroeconomic models, as they tend to be used as input in projections, do not have well developed financial sectors and are mostly linear in nature. Therefore, it is not all that surprising that they were not able to predict the drastic effects of the financial meltdown on growth figures. So, a tremendous intellectual challenge is to develop aggregate models that (i) give the central role to financial systems that they actually play in the economy by channelling funds from firms, households and governments with surpluses to the agents that need them to finance real investment and smoothen consumption and (ii) incorporate states of widespread instability in these financial systems that feature the characteristics discussed before (bank defaults and other nonlinearities, feedback and amplification effects etc.). Although a new literature of macroeconomic models with “financial frictions” is emerging, we are presently still very far from a new generation of macroeconomic models that would fully meet the challenge described.¹⁴ As this fundamental research field advances, such models could also enrich the toolkit for macroeconomic forecasts.

A related challenge can be identified in the very important field of macro-stress testing. A traditional stress test starts from an extreme but plausible macroeconomic scenario and considers its one-off effect on banks. Looking ahead, stress-testing frameworks could consider the two-way relationship

between the financial system and the economy at large. For example, severely weakened banks have less room for lending with negative effects on consumption and investments. Again, cumulative effects and amplifications can take place in practice, which would not be captured by the traditional approaches. Therefore, the type of aggregate models described before could also enrich stress-testing toolkits.

2|4 The regulation of systemic risk

The fourth and last set of intellectual challenges addressed in this article deals with regulatory policy. How can we assess in advance whether regulatory measures have the desired stabilising effects at the level of the financial system as a whole? This is a surprisingly new question. Most financial regulations in the past have been assessed at the microprudential level, namely for their effect on individual intermediaries or markets. Absent aggregate models with realistic characterisations of widespread financial instability, how can we design new macroprudential regulatory policy instruments and calibrate instruments known from the microprudential arena for the desirable effects on systemic stability and welfare?

Some results from the theory of complex systems might be read in a way that those systems cannot be steered with precision. As a consequence, the efficient solution could be to ensure that agents in the system have sizable buffers in order to survive even extreme shocks rather than to try and remove or limit the risks directly. Determining how high those buffers should be is a demanding question. The view embedded into the new Basel III capital and liquidity framework is that such buffers need to be higher than was previously the case.¹⁵

Although the new standards foresee a multitude of micro-based regulatory measures, they also entail macroprudential elements. These regulatory measures have been developed in response to the major flaws identified during the crisis, namely the insufficient quantity and quality of the capital base of financial institutions, the underestimation of liquidity risk as well as the build-up of excessive leverage

¹⁴ See ECB (2010) for a survey of the literature and a more detailed description of the challenges ahead and sub-section 2|1 for the agent-based modelling approach as an alternative to standard macroeconomics.

¹⁵ This framework was recently endorsed by the Governors and Heads of Supervision (Basel Committee on Banking Supervision, 2010 b, c and d).

in the financial system (one of the imbalances referred to in sub-section 1|2). In addition to meeting stricter regulatory requirements with regard to the quantity and quality of regulatory capital as well as liquidity cushions, banks will need to build up additional capital buffers in good times that could be drawn down in stress periods. A capital conservation buffer will serve as a “backstop” against excessive distributions in the form of dividends and compensation payments in good times. Excessive distributions may have contributed to destabilising the financial sector as a whole in the recent past. The capital conservation buffer will be complemented with a counter-cyclical element that explicitly considers the macrofinancial environment (e.g. excess aggregate credit growth) in which financial intermediaries operate. This capital buffer regime is expected to contribute to mitigating the inherent pro-cyclicality in the financial sector (potentially constituting building-up and unravelling of widespread imbalances).

Beyond pro-cyclicality reflecting the build-up and unravelling of widespread imbalances as one form of systemic risk, regulators are increasingly concerned about the interconnectedness among systemically important financial institutions (SIFIs) and the sizable externalities that these financial intermediaries can exert on other intermediaries and the system as a whole (see Section 1). Economists have suggested recently that these intermediaries should hold higher capital or pay a tax or levy, respectively, in proportion to the risk of such externalities.¹⁶ They argued that if the amount of capital or the size of the tax/levy was determined by leverage, maturity mismatch and asset growth, then it would discourage intermediaries to become the source of such externalities. In practice, however, the sources and variants of such externalities are multiple and diverse. Recent policy debates show how complex and challenging it is to introduce such capital or liquidity surcharges in the present regulatory setup, not the least because of the difficulty to precisely and comprehensively measure all the externalities (systemic impact).

Regulatory initiatives at the international level revolve around the following cornerstones: (i) reducing the probability of the failure of SIFIs; (ii) reducing

the impact of their failure; (iii) enhancing their supervision and (iv) strengthening core financial infrastructures.¹⁷ A broad consensus has arisen about the need for SIFIs to have higher loss absorbency –commensurate to their systemic importance– compared to non-systemic firms. Key work is under way on the identification of SIFIs and the assessment of the magnitude of additional loss absorbency, to be achieved via a combination of equity surcharges as well as other innovative instruments, such as contingent capital and bail-in-able debt. In parallel, major efforts are ongoing to improve the resolvability of SIFIs.¹⁸ Prominent examples in this area are the establishment of effective resolution regimes, the development of recovery and resolution plans (“living wills”) and the creation of dedicated resolution funds.

To address the issue of linkages and contagion, there is also a general drive towards directing trades to Central Clearing Counterparties (CCPs) whenever possible. This way counterparty risk can be managed more efficiently and policies on haircuts can be more effective. The growth of CCPs into highly systemic institutions, however, calls for their tight supervision.

Finally, the recognition that the quality, quantity and timeliness of information are crucial for a sound and stable financial system is driving efforts to improve data collection,¹⁹ develop stress tests into a truly macroprudential tool that fits into a policy framework aimed at advancing the system's resilience, and work on the harmonisation of accounting standards that reflect as closely as possible the economic value of contracts.

Another reminder of the present crisis is the danger of excessive debt and leverage. For example, we know that the debt financing of a wide range of economic agents (from households to large and complex intermediaries) without enough income, equity or collateral was a major cause of the instability. Since one locus of this problem was the heavy flow of credit into mortgage markets in a number of important countries, one should not neglect tools such as loan-to-value ratios and debt-to-income limits. Some Asian emerging countries have some interesting

¹⁶ Brunnermeier et al. (2009) and Perotti and Suarez (2009). Market friendly measures have also been suggested to help ease funding pressures on banks during a systemic liquidity crisis, but they need more work before becoming operational (Nicoletti-Altamari and Salleo, 2010).

¹⁷ Financial Stability Board (2010).

¹⁸ Basel Committee on Banking Supervision (2010 a) and European Commission (2010).

¹⁹ See, for example, the mandate of Office for Financial Research set up by the United States.

experiences with the use of such demand-side oriented macroprudential policy instruments.²⁰ We should reflect on whether the positive experiences of those countries with tightening limits would justify generalising them as fully countercyclical instruments (also relaxing them in downturns). And whether these experiences in emerging economies of relatively moderate size would be fully valid for sizable industrial countries with highly developed financial systems.

From an institutional perspective, Europe has pushed ahead with the creation of the ESRB, a body responsible for the macroprudential oversight of the financial system within the European Union. The ESRB will monitor systemic risk and, when necessary, issue warnings and policy recommendations both about the current situation and the medium-long term, starting with the toolbox described above and working on new instruments suited to industry developments. The strength of this new institution comes from its membership, which comprises all

the EU central banks and financial supervision authorities plus the Commission and a representative of the Council's structures. This should ensure that micro- and macroprudential concerns are tackled in a harmonised way and that its recommendations carry due weight. The ESRB starts at a time that calls both for crisis management and for prevention. It was the right time to put in place such a building block of a truly stable and efficient financial system.

The issue of adequate policy responses to emerging systemic risks becomes even more challenging in the international arena. Lately, global imbalances have been reconfirmed and could further widen in the future.²¹ While a detailed discussion of this specific issue is more the topic of other papers in this volume and goes beyond the scope of this article, we need to think more about how to make the international monetary system more resilient to such imbalances and policy structures more flexible in addressing them more effectively than the case in the past.

Identifying and mitigating systemic risk is the key challenge for policy makers in the era of macroprudential oversight, which has just started. This requires analytical frameworks and tools to understand and counter it. Authorities need to deepen their understanding of the fundamental working of financial systems and the risks they generate. They need to develop a better assessment of when and how systems migrate from stability to instability. They need to develop models that truly capture the interactions between widespread financial instability, aggregate consumption, investment and growth. And, they need to further extend the latter to be able to assess the effectiveness and efficiency of regulatory policies in containing systemic risks.

Meeting this tall agenda will be challenging in the years ahead. It will require reorienting significant resources in academia, central banks and supervisory authorities in these directions. It will also require enriching the way of thinking in economics and finance. New approaches should be considered that do not necessarily rely only on the notions of equilibrium, universal rationality and efficiency, but go beyond those concepts. Approaches that have been used successfully in other fields, such as the natural sciences, may be a helpful source of inspiration.

The ESCB has launched a large research effort in order to extend the analytical apparatus available in our central banks. We call it the MaRs, for Macroprudential Research network. Many researchers from all EU central banks are contributing to it, following three work areas: 1) macrofinancial models linking financial stability and the performance of the economy; 2) early warning systems and systemic risk indicators; and 3) assessing contagion risks. MaRs will report on its main results in 2012 and until then intensify exchanges with academics and researchers outside central banks.

²⁰ See Committee on the Global Financial System (2010) for an overview of the actual use of these and other macroprudential policy instruments in the past.

²¹ See Boissay (2010) for a recent paper on the origins of such imbalances and their role for financial stability.

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Securing stability and growth in a post-crisis world

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Having experienced the worst financial and economic crisis of the past decades, the international community embarked on an ambitious reform agenda to secure strong, sustainable and balanced growth in a post-crisis world. The most prominent issues on this agenda are the reform of financial regulation and the problem of macroeconomic imbalances. With regard to regulatory reform, a major step has already been taken by drawing up the Basel III framework. Nevertheless, there are still unresolved issues, such as the detailed treatment of systemically important financial institutions and an adequate approach to the shadow banking system.

Global macroeconomic imbalances have to be addressed because they not only reflect underlying barriers to sustainable growth but, in themselves, pose a threat to stability. On a regional level, the euro area, while recording a balanced account vis-a-vis the rest of the world, is marked by divergencies between member states, which place a strain on the monetary union. In both cases, a sensible policy approach has to focus on structural reforms to address the underlying causes instead of just the symptoms. Therefore, direct interventions, such as the attempt to steer current accounts or exchange rates within specific target zones, are not advisable.

When the US housing market was showing increasing signs of stress in the summer of 2007, few observers could have imagined what the ultimate fallout would be. Three and a half years later, we can look back on the worst financial and economic crisis of the past few decades. Not only did the crisis cause enormous costs in terms of growth, employment and government budgets, it also challenged our economic models as well as the institutions and policies which are based on them. Furthermore, the crisis also revealed that the high growth rates of the global economy in the years prior to the crisis had been, at least to some extent, exaggerated and unsustainable. Therefore, policymakers throughout the world have made the commitment to prevent major crises like the one we have just witnessed from happening again and to secure stability and growth in a post-crisis world.

This goal is of paramount importance. But it is also ambitious and must not be allowed to overburden economic policy with expectations that are hard to fulfil: that is true not only because of the far-reaching and complex measures that have to be implemented as lessons to be learned from the crisis, but also given the often rather indirect impact of economic policy on macroeconomic outcomes in market-based economies and the role played by policy measures in the emergence of the crisis.

While economic growth is usually treated as a macroeconomic phenomenon, it can ultimately be traced back to microeconomic activities. It is this level which determines whether the resources that fuel the engine of growth are allocated in a way that maximises output and welfare. In this process, the financial system plays an important role as it allocates investment capital, which is one of the main drivers of economic growth. Nevertheless, the crisis highlighted that the financial system can also be a major source of instability. Consequently, we have to reform the financial system so that it can once again become an efficient and stable prerequisite for economic growth. The ways and means to achieve this objective are discussed in chapter 1.

A well-functioning financial system is a necessary, but not sufficient precondition for sustainable growth. Consequently, the attempt to secure stability and growth has to focus on other aspects as well. Macroeconomic imbalances at the global level are a prominent issue in this connection. That is not to

say that current account imbalances were one of the causes of the financial crisis. The deficient financial system played a far greater role in this respect. Even so, the imbalances not only reflect underlying barriers to sustainable growth but, in themselves, add an element of instability to the system. Thus, the problem of global imbalances and their causes has to be addressed so that the global economy can return to a more balanced and sustainable pattern of growth. This issue is discussed in the first part of chapter 2.

Although the euro area as a whole has a roughly balanced current account vis-a-vis the rest of the world, significant divergencies within the monetary union do exist. Just like the imbalances at the global level, they reflect underlying distortions in individual member states. Given close integration within the euro area, the resulting developments can eventually have a serious effect on all member states, as was made all too clear by the sovereign debt crisis. Therefore, the problem of macroeconomic imbalances within the euro area has to be addressed in Europe's own interest as well. This issue will be discussed in the latter part of chapter 2.

1 | THE REFORM OF THE GLOBAL FINANCIAL SYSTEM

As stated above, a well-functioning financial system is an important prerequisite for economic growth. At the same time, the crisis has shown that shortcomings within the financial system can also be a major source of instability. Consequently, any attempt to secure stability and growth in a post-crisis world must begin with a reform of the global financial system. In this context, it is essential that the reforms are not just guided by the lessons of the current crisis, since the next one might emerge from a completely different angle. Acknowledging both this and the need for a global approach, the G20 has drawn up a comprehensive plan to reform financial regulation. The general objective is to make the financial system as a whole more resilient to potential shocks.

The natural starting point for such a reform was the existing global rulebook known as Basel II. After implementing some ad hoc adjustments in July 2009, the Basel Committee on Banking Supervision (BCBS) proposed far-reaching reforms in December 2009.

In effect, these reforms were so sweeping that Basel II was to become Basel III. By requiring banks to hold more capital of better quality and to build up adequate liquidity buffers, the new rules will make individual banks more stable and will constitute a first line of defence against systemic crises. Now that the rules have been endorsed at the G20 Summit in Seoul, they should be transposed into national law and applied without falling behind the agreed timetable.

However, failure of individual institutions can never be entirely ruled out. Thus, a second line of defence is needed to prevent the failure of individual banks from triggering a systemic crisis. Systemically important institutions (SIFIs) are a special issue in this context, that is banks which are so big or so interconnected that their failure might provoke a chain reaction which could eventually lead to a systemic crisis. Thus, SIFIs have an incentive to engage in risk-prone behaviour and gamble on being bailed out whenever they get into trouble. Consequently, regulation has to be designed to counter such moral hazard behaviour. An initial step could be to introduce a capital surcharge as well as more intensive supervision for SIFIs in order to enhance their stability. However, since failure still cannot be ruled out entirely, minimising moral hazard ultimately requires a system that allows for an orderly restructuring of SIFIs. Only then will it be possible to credibly bail-in investors and thus impose the necessary market discipline on SIFIs. With regard to international regulation, only globally active institutions should be addressed by an international SIFI regime. A pragmatic approach would be to start with a limited number of institutions which are indisputably of global systemic relevance. In the meantime, it would be necessary to develop a methodology for identifying SIFIs by applying the criteria of size, interconnectedness and substitutability, supplemented by judgement.

Nevertheless, the crisis demonstrated that systemic risks not only emanate from SIFIs but also emerge from outside the regular banking system. Prior to the crisis, bank managers had moved risky activities out of the regular banking system in order to circumvent regulation. As a result, a shadow banking system emerged where institutions such as special-purpose vehicles operated outside the realm of financial regulation. As these institutions replicated the general functions of banks, such as

maturity transformation, huge risks built up in an uncontrolled way. Regulatory reform must not allow this process to resume, especially given that tighter reins for the regular banking system might squeeze even more activities out of it and into the shadow banking system. Therefore, it is important to increase transparency requirements for the shadow banking system and, where necessary, extend supervision and regulation beyond the regular banking sector. The guiding principle behind this should be that similar activities have to be regulated in a similar way, no matter who pursues them.

With regard to these loose ends of regulatory reform, it is important that momentum is not lost once the Basel III framework is in place. Further effort and international cooperation are required for the eventual creation of a financial system that is stable and efficient enough to serve the real economy and thus secure a sound foundation for sustainable growth. Nonetheless, a well functioning financial system is only one necessary condition for strong, sustainable and balanced economic growth. The global attempt to secure growth and stability has to focus on other aspects, too. At the moment, global imbalances are the most prominent among these.

2| MACROECONOMIC IMBALANCES AS A PROBLEM FOR STABILITY AND GROWTH

2|1 The global level

Over the past several decades, the economies of the world have become increasingly integrated. With the removal of barriers to the worldwide flow of ideas, services, goods and capital, a global economy emerged. This has brought about a large increase in welfare and still harbours a huge potential for further economic growth and prosperity. During the past years, growth in the world economy has become increasingly unbalanced, however. Whereas the current account of the euro area has been more or less balanced in the past, some economies, most notably the United States, have been posting large and persistent current account deficits. Others, such as China and the oil-exporting countries, have been reporting equally persistent current account surpluses. In 2006, the US current account deficit

peaked at 6% of gross domestic product (GDP). The Chinese surplus reached 10.6% of GDP in 2007. In the wake of the financial crisis, these imbalances have narrowed to a certain extent. In 2009, the US current account deficit was down to 2.7% of GDP; the Chinese surplus had decreased to 6% of GDP. However, this reduction in current account imbalances has been due in part to cyclical factors, such as a steep decline in oil prices. Current account positions may therefore be expected to diverge again. The International Monetary Fund (IMF) estimates that the US deficit will reach 3.3% of GDP in 2015; for the same year, the Chinese surplus is estimated to reach 7.8% of GDP.¹

In principle, a current account surplus or deficit is not a problem in itself. Technically, it reflects the difference between –public or private– domestic saving and investment. Countries that save more than they invest domestically run current account surpluses. Countries that invest more than they save have to borrow abroad and record current account deficits. And, as for individuals, there is no reason why an economy as a whole should not be a net saver or borrower, even for an extended period of time. For countries with an ageing population it is a matter of rationality to save more than to invest domestically, since the number of investment projects with good prospects is declining, whereas households want to maintain their level of consumption in old age. Similarly, countries that export an exhaustible resource would be well advised to invest some of the proceeds abroad so that future generations can benefit from the resources as well. Therefore, these countries have temporary current account surpluses and build up net foreign assets. At the same time, countries that are catching up on economic development usually invest more than they save, as they have ample investment opportunities but are usually short of capital. As a consequence, they have to borrow abroad and run temporary current account deficits. By allowing economies to separate domestic absorption from output, current account imbalances are welfare-enhancing since consumption is smoothed over time and capital flows to those economies that offer the highest return.

However, current account imbalances are less benign when they are caused by distortions. In that case, they merely reflect underlying barriers to sustainable growth while adding an element of instability to

the global economy. The imbalances we observe today began to develop in the mid-1990s. Until the turn of the century, they were driven mainly by differences in perceived profitability. Investment in the United States increased due to the hi-tech boom and an expected increase in productivity. At the same time, investment in some Asian countries declined as a result of the Asian crisis and the recession in Japan. The outcome of this was that current account divergencies between these countries and the United States increased. From 2001, the picture changed, which indicates that unsustainable developments were exercising a growing influence.

The widening US current account deficit, for example, was increasingly a reflection of a general decline in saving. Despite an ageing population and foreseeable increases in health and age-related expenditures, public saving deteriorated. Moreover, US household savings declined due to increased borrowing against rising house values. In the years prior to the financial crisis, a general boom in asset prices became another key factor leading to low saving rates. The counterpart to the US current account deficits were surpluses in emerging markets, most notably China and some oil-exporting countries. For the latter group of countries, the surpluses can partly be explained by an increase in oil prices. Nevertheless, current account surpluses were also caused by the fact that some countries pursued exchange rate policies to artificially support their export sectors. The resulting revenues were, to a large extent, channelled back into the United States, leading to an accumulation of large foreign exchange reserves by the surplus countries. While this strategy might not appear to be irrational from the surplus country's point of view, it is partly responsible for making the global economy more vulnerable to adverse shocks.

Altogether, the persistent large current account positions have too often not been the result of efficient decisions to save or invest. Instead, they reflect underlying barriers to growth and make the global economy vulnerable to shocks. In this sense, the term “imbalances” is justified, and it is necessary to address them. However, when designing relevant measures, it is imperative not to underestimate the complexity of the problem. A country's current account position is driven by a very diverse set of underlying factors from within and outside its

1 See IMF (2010), *World Economic Outlook*, October 2010, pp. 195-197.

borders. Consequently, any sensible approach to reducing current account imbalances should not aim at steering them directly. Instead, the objective should be to create circumstances in which current account positions are determined by efficient and unbiased market decisions. In this context, it is important to recognise that the statistical symmetry of current account deficits and surpluses does not necessarily reflect a symmetry in the reasons for imbalances. Hence, the question of which countries have to act in correcting the global imbalances can be answered only by identifying the ultimate causes of these imbalances.

In general, emerging economies with current account surpluses as well as oil-exporting countries should remove any structural distortions that limit the expansion of domestic demand. In countries with an undervalued currency, for example, more flexible exchange rates would strengthen purchasing power and thus help to redirect growth from exports to domestic demand. This, however, is not a panacea and should be supplemented by structural reforms. In China, for example, such reforms might include measures to improve social security, which would reduce precautionary household saving, strengthen domestic demand and ultimately lead to a more balanced current account. Economies with current account deficits, on the other hand, should adopt measures to support private saving, reduce public deficits and stabilise their debt ratios. Moreover, measures to strengthen export sectors, while maintaining open markets, would also help to reduce current account deficits. To the extent that growth before the crisis persistently exceeded potential output growth, sizeable declines in domestic absorption are inevitable – the income levels and growth rates prevailing before the crisis are no longer the appropriate benchmark. In the end, there is no single remedy for the problem of global imbalances. Hence, it is important to address the underlying causes and allow market forces to rebalance the global economy.

The need to address the problem of global imbalances was recognised early on. An agreement on measures to reduce global imbalances was struck as long ago as 2006 by the International Monetary and Financial Committee of the IMF. This concerned, in particular, the United States as the main deficit country as well as the main surplus countries in Asia and among the oil-exporting nations. While the United States pledged

to increase domestic private saving and to consolidate the federal budget, the Asian emerging economies committed themselves to strengthening domestic demand and to allowing for greater flexibility of exchange rates. Progress in implementing the agreed measures proved to be rather slow, however.

Another attempt to address the problem of imbalances on a political level was undertaken by the G20. The “Framework for strong, sustainable and balanced growth” was launched in September 2009. This framework includes a pledge to “promote more balanced current accounts”. As a general objective, this certainly points in the right direction. However, it is essential to address the problem of imbalances on a structural level. As has been argued above, current accounts reflect a very complex set of determinants. Thus, any attempt to steer them directly within more or less arbitrary limits would overburden the relevant authorities. Similar objections apply to attempts to stabilise major exchange rates around given target values. Such efforts at macroeconomic fine-tuning raise public expectations that economic policy cannot live up to; rather, they risk creating new frictions that require further interventions.

With this caveat in mind, the framework could indeed usefully support the process of restoring more balanced global growth. In contrast to the multilateral consultations that were held in 2006, the G20 commitments are backed by all the major stakeholders and are driven at the highest level by the G20 leaders. Moreover, a Mutual Assessment Process forms part of the framework. This process could provide an opportunity for exerting peer pressure among members to undertake the required structural reforms. In the end, however, it is up to the national authorities to implement the necessary measures to allow for a market-based reduction of imbalances.

2|2 The European level

Divergencies within the euro area have existed since the beginning of monetary union. It was, however, the financial crisis that brought them to the top of the agenda. Countries such as Germany or the Netherlands have been posting persistent current account surpluses, while countries such as Greece, Portugal, Spain or Ireland have posted persistent current account deficits. Again, such phenomena are not a problem *per se*. Rather, it depends on what the capital flows are used for.

In the euro area, these capital flows were increased by the introduction of the euro. There were two reasons for this. First, exchange rate risk was eliminated, making cross-border investments less risky. Second, the risks of sovereign default were perceived to be converging towards a relatively low level. This in itself might have set the wrong incentives for investors, but the main problem was that the deficit countries did not always invest the inflowing capital efficiently. In Ireland and Spain, capital went mainly into booming but, ultimately, unsustainably dynamic real estate markets. In Greece, it funded high government deficits, and in Portugal it supported private consumption. This allocation boosted domestic demand and, owing to inflexible labour markets, wages rose faster than productivity. This, in turn, reduced the price competitiveness of the deficit countries – imports increased, exports dwindled and the current account deficit widened further. In a monetary union, an important corollary of the common monetary policy is national economic policymakers' increased responsibility for coping with idiosyncratic shocks. Failure to acknowledge this fundamental relationship was at the root of the divergencies we observed.

Although these imbalances are domestic in origin, the associated problems have not been confined to the national level. Given spillover effects in the closely integrated euro-area financial markets, the imbalances have also become a problem for other member states and for the monetary union as a whole, culminating in the debt crisis that began in 2010. As a result, it became obvious that the existing imbalances within the euro area had to be dealt with if major harm to the monetary union were to be avoided.

As the deeper causes of the imbalances are domestic factors within the deficit countries, it is mainly incumbent on them to take action. A number of structural reforms are necessary to enhance the competitiveness of domestic companies by increasing productivity and keeping costs in check. At the same time, the deficit countries have to increase labour market flexibility and consolidate government budgets. In this context, a much-debated question is whether surplus countries should adjust, too. On a rather general level of abstraction, they certainly have to. Once import demand from deficit countries declines, surplus countries will have

to reallocate some resources towards satisfying domestic demand.

Even though structural reforms in surplus countries can facilitate this process, such reforms are beneficial in themselves, quite apart from the question of macroeconomic divergencies within the euro area: Germany, for example, would always benefit from more flexible labour markets, which reduce low-skilled unemployment, and from deregulated services and product markets. Germany is also a case in point with regard to the benefits of comprehensive and, sometimes, painful structural reforms. The dividend from this was a robust labour market during the recent downturn, which meant comparatively robust private consumption, while the significantly improved state of public finances had a major stabilising role in Germany as well as in the euro area as a whole. The unemployment rate has now gone back down below its pre-crisis level, economic growth is increasingly being driven by domestic demand, and the government is benefiting from high market confidence in the soundness of public finances through low refinancing costs.

This has led to calls to use the supposedly larger available room for manoeuvre to actively boost domestic demand. However, this would do little to ease the adjustment burdens of deficit countries: since trade flows are highly diversified, an increase in the imports of surplus countries would improve the current account in deficit countries only by a small margin. Given the current trade structure, a 10% increase in German imports would improve the current account balance in Spain, Portugal and Greece by a mere 0.25 percentage point. In Ireland, the current account would improve by 1 percentage point.² Furthermore, the options for actively boosting demand are themselves very limited. Raising wages to support domestic demand and lower competitiveness is hardly possible as wages are not a political control variable. Moreover, simulation studies show that the effects would be confined almost entirely to the home economy in the form of changes in employment. Also, the options for using fiscal policy to stimulate domestic demand and imports should not be overstated: public finances in surplus countries are also strained, and ambitious consolidation efforts are required there as well. Consequently, it is inevitable that most of the burden of adjustment will fall on the deficit countries.

² See Bundesbank (2010): "On the problems of macroeconomic imbalances in the euro area". In: Bundesbank Monthly Report, July 2010, pp. 17-38.

In addition, calls for expansionary macroeconomic policies in surplus economies are hard to reconcile with the goal of balanced and sustainable growth. Given the limited spillover to deficit countries, additional stimulus measures in surplus economies

already undergoing a brisk recovery would be highly procyclical, thereby increasing heterogeneity within the euro area and forcing monetary policymakers to take a more restrictive stance in order to ensure price stability.

The financial and economic crisis has shown that a global effort is required to prevent future crises of a similar magnitude. This has been acknowledged by governments around the world, and the G20 has emerged as the main forum for discussing relevant measures on a global level. The undisputed objective is to secure stability and growth in a post-crisis world, and, accordingly, the G20 has developed an encompassing agenda for reform. Two of the main issues in this context have been discussed in this article –the reform of financial regulation and the problem of macroeconomic imbalances.

However, in the face of this ambitious work programme, it is important to have a clear understanding of what economic policy can and cannot achieve. It is certainly necessary to strengthen institutions, such as the regulatory framework for financial markets. It is also necessary to remove structural barriers to strong, sustainable and balanced economic growth, such as rigidities on product and labour markets, managed exchange rates which are out of line with fundamentals, and unsustainable public finances. However, economic policy and policymakers cannot directly make growth strong, sustainable and balanced, and they should not strive to do so. One reason for this is that the financial crisis was not caused solely by market participants' behaviour; economic policy also has to take its share of the blame. A more fundamental reason is that the market economies are far too complex to be micromanaged by governments. Therefore, "more government and less market" cannot be the solution. Rather, it should be "better government for better market outcomes". In terms of policymaking, the only way to achieve this is by creating a strong institutional framework in which market forces can act to efficiently rebalance the global economy and generate sustainable growth.

Revisiting the Tinbergen Rule: use the macroprudential tools to maintain financial stability

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Capital flows to emerging market economies, which have intensified recently due to better growth prospects, interest rate differentials, and better risk perceptions, have the potential to destabilise financial systems in these countries which are typically neither diversified nor deep enough to absorb such flows. While tools to manage large capital flows are well known, the appropriate policy mix depends on country-specific circumstances. Fiscal policy, monetary policy, exchange rate policy, foreign exchange market intervention, macroprudential tools, and capital controls could be used to cope with the volatility of capital flows, but each of them entails some tradeoff. The challenge faced by central banks is to establish a framework that combines both price and financial stability as primary objectives and identify policy instruments to target both, even at times they seem to conflict with each other. In today's challenging financial environment, public authorities in Turkey have underscored four basic principles upon which the fiscal, monetary and regulatory policies would be built to maintain financial stability. These are (1) use of more equity, less leverage; (2) extending the duration of borrowing; (3) strengthening the foreign exchange position and use of local currency in borrowing; and (4) better management of foreign currency risk. This approach aims to use current global financial environment as an opportunity to strengthen the country's financial position and to support deepening of its financial system without jeopardising its health and stability.

More than two years after the collapse of Lehman Brothers, the dust over international financial system seems somewhat abated. Unprecedented measures taken by central banks and fiscal authorities have put financial markets back on a relatively steady course by late 2009. As economic activity has started to gain pace, risk perceptions gradually improved, notwithstanding heightened sovereignty risk in the Euro area, concerns over housing and labor markets in the United States, uncertainty regarding the health of financial institutions in advanced economies, huge influx of capital flows and associated risks in emerging market economies, and last but not least, questions surrounding the pace of demand rotation in the global economy. A long list of lessons on financial stability has emerged, though how to put them in practice is subject to an intense debate. The cooperation at a global scale is the key to solve current problems and addressing the future ones, but to maintain the spirit of cooperation among nations is getting more challenging as the memory of the crisis starts to fade away.

In the first part of this article, the challenges faced by the emerging market economies in the aftermath of the crisis are addressed. Next, the role of central banks to maintain financial stability is revisited. Finally, in the third part, the experience of the Turkish economy and the response of the monetary policy to recent challenges are discussed.

1| OUTLOOK FOR EMERGING MARKET ECONOMIES

Capital flows to emerging market economies have intensified recently thanks to better growth prospects, interest rate differentials, and relative stability of financial institutions in these countries that proved their strength and flexibility to extreme shocks. Highly accommodative monetary policies in several advanced economies have played a major role in further accelerating this trend as well. As a result, emerging market economies today are facing a growing risk of asset bubbles, excessive borrowing and inflationary pressures –all of which are threatening their financial stability. The problems facing countries with current account deficits are much more challenging than those with surpluses, since they have to deal with both financial stability

problems arising from the strength of capital flows and the risk of sudden stops.

As liquidity in the global financial system increases thanks to the rapid expansion of high powered money in major currency countries, central banks of small open economies face the risk of losing control over monetary conditions in their countries. The favorable environment for hedging maturity and interest rate risks, together with flatter yield curves are weakening the influence of central banks over the long end of the curve. Policy rate hikes to contain inflationary pressures and restrain credit expansion are likely to lead to further widening in interest rate differentials, thereby fueling even more capital inflows, more borrowing, higher asset prices and inflation. Moreover, credits extended by domestic banking system or foreign financial system in foreign currency would not be affected directly from the policy rate.

For the last two years, G20 countries have highlighted the importance of macroprudential regulations to address systemic risks in the financial sector and displayed unprecedented unity and cooperation to lay the foundations of a new financial system less prone to generating boom-bust cycles. Recently, as the volatility of capital flows has become a major source of concern in emerging market economies, the G20 has also recognised it as another systemic risk that has to be addressed collectively. Many emerging countries have already started implementing a wide range of measures to contain the credit growth and asset price bubbles, including policy rate hikes, enacting various macroprudential measures (such as increasing reserve requirement ratios, raising loan-to-value ratios, sector specific surgical tightening) and putting various restrictions on capital inflows. The adequacy of such measures has yet to be seen, but the swift and proactive response of policy makers is a positive step forward, since the most recent events have clearly demonstrated that it is likely to cost less to undertake preventive measures prior to a crisis than to clean up in its aftermath.

Capital flows that exceed the absorption capacity of emerging economies have the potential to destabilise financial systems in these countries. However, the adoption of capital controls in response to such risks would only derail the much needed adjustment process, shifting the burden of demand rotation disproportionately on the shoulders of emerging countries that are open to capital flows

and thereby sowing the seeds of the next crisis. Addressing imbalances in the global economy to achieve strong, sustainable and balanced growth would require an adjustment in real exchange rates, either through nominal exchange rates or relative prices or both. Some policy makers favor the former channel, since it is likely to lead to a faster adjustment. As currencies of emerging surplus countries appreciate compared to those of advanced deficit countries, domestic demand would shift away from goods and services offered by the emerging markets in favor of the advanced economies. Critics of that view highlight the potential instability that may arise from disorderly movements (in terms of both speed and magnitude) in currencies and propose a demand rotation through a gradual change in relative prices. In that approach, inflation rates in emerging surplus countries would stay above those of advanced deficit countries in the short to medium term, thanks to rising purchasing power of households through higher wages, easier access to financial markets and better protection through social safety nets. Whereas nominal appreciation of currency would encourage solely redistribution of global demand (and possibly production capacity) without expanding its magnitude, boosting purchasing power in emerging economies would both lift the overall level of global demand and facilitate its rotation.

In principle, flows of capital from advanced economies to emerging ones and the appreciation of the currencies of the latter over time are a mutually beneficial secular trend, supported by strong fundamentals, better growth prospects, and high productivity differentials. Rather than fighting against this trend through overly restrictive capital controls or excessive reserve accumulation, there is strong legitimacy in using macroprudential policies to mitigate the adverse effects of volatility in capital flows, especially those with a speculative nature, over financial stability. Of course, economic conditions and institutions differ across countries. An effective macroprudential tool in one country might not work in another country. Therefore, policy-makers need to take into account country-specific factors in designing their own framework and it is imperative for the academic world and international organisations to focus on this issue and develop a set of concrete policy tools that national authorities, at their own discretion, can use to identify, assess and manage systemic risks.

2 | FINANCIAL STABILITY AND CENTRAL BANKS

The critical importance of financial stability from a central bank's perspective is not new. Smooth functioning of the financial system and payment mechanism has been a concern of central banks since their foundation. In fact, that is the reason why they are called “the bank of banks” or “the lender of last resort” for financial institutions. However, over time as the financial system goes more complicated and expanded exponentially, its supervision and regulation has been partially transferred to other institutions. The challenge faced by central banks is to establish a framework that combines both price and financial stability as primary objectives and identify the policy instruments to target both, even at times when they seem to conflict with each other.

Central banks have typically calibrated short-term interest rates as their primary policy instrument to determine their monetary stance. Since policy rates are too blunt instruments that affect the entire economy, using them to achieve both of these targets may lead to unintended consequences. As the build up to the recent crisis has shown, the optimum interest rate level that achieves price stability at full employment may differ from the one that is optimal for the stability of financial markets. The “Tinbergen Rule” suggests that this one instrument could be employed to achieve only one target, which in our case is conventionally recognised as price stability. There is clearly a need for a second set of policy tools. This second instrument, in my opinion, may be in the form of macroprudential tools that directly address financial activities.

Should all authority and responsibility related to financial stability be centralised and vested in central banks? On the one hand, the benefit of vesting the decision making power and responsibility under one institution, which happens to be the central bank, is clear: no coordination problem, more effective communication under one voice, and swift response to emergencies.

There are also downsides to such approach. The distinction between “goal independence” and “instrument independence” lies at the foundation of what we call central bank independence today. If central banks assume all regulatory and supervisory

activities regarding the financial system and becomes the only authorities responsible for its oversight, the instruments needed to achieve that goal may reach a point where the principles of democracy necessitate a much closer coordination and cooperation with the government, blurring central banks' independence. Expanding the role of central banks in the economy has the potential to create a strong and anomalous entity in a democracy that emphasises accountability and the responsibility of elected officials.

Central banks played a vital role in maintaining financial stability in the past and they are likely to do so in the future. The optimal use of policy rates and macroprudential tools to achieve both price and financial stability would define the criteria for assessing the success of central banks in the post crisis era. During the crisis, new monetary tools have been explored by the central banks. Now, in addition to continuing to explore such monetary policy tools, policy makers would have to elaborate on the uses of regulatory rules for limiting the risks threatening financial stability and designing the optimal institutional structure for that purpose. The perfect balance between the risk of losing central bank independence and the risk of creating coordination problems (between the central bank and the regulatory and supervisory agency) still has to be found.

3 | FINANCIAL STABILITY AND MONETARY POLICY IN TURKEY

Turkey used to be one of the emerging economies with high volatility and particularly sensitive to global risk perceptions throughout the 1990s and early 2000s. However, this time the headwinds from the global crisis have remained relatively subdued thanks to the resilience of the financial system and prudent macro-policies. Of course, the growth rate of the economy has dropped sharply, but neither price nor financial stability has been seriously jeopardised. In fact, Turkey was one of the few emerging countries that ended up with higher credit rating than pre-crisis level.

A combination of several factors made the difference, but lack of excessive borrowing turned out to be the key. Unlike its peers, the leverage ratios in Turkey stayed at moderate levels during the period of excess global liquidity, thanks to the policies of the

Banking Regulatory and Supervision Agency and the Central Bank of Turkey. In fact, most of those policies implemented in Turkey since 2002 are incorporated into the Basel III principles, such as countercyclical buffers (banks in Turkey are not permitted to expand unless their ratio is at least four percentage points above the legal minimum) and liquidity ratios (both in local and foreign currency). Debt level of the public sector was also reduced significantly thanks to a quite ambitious fiscal discipline that resulted in a primary surplus of five percent of GDP on average between 2002 and 2006. Acceleration of household credits to excessive levels was prevented through timely monetary tightening in 2006. All in all, although debt level of the private sector increased before the crisis, which was a byproduct of the country's convergence and the deepening of the banking sector, it never reached unsustainable levels that could threaten financial stability.

The real strength of the economy, however, came from the management of foreign exchange (FX) risks, which is the most critical aspect of a small, open economy. Thanks to prudent regulations and oversight, the overall FX position of the Turkish banking sector was balanced. Since FX loans to individuals were prohibited, but FX deposits were not, households carried a significantly large long position in FX. It was the corporate sector that carried a significant FX position, about 10 percent of GDP. However, since the duration of their assets was short, whereas the duration of liabilities was long, the short term FX position of the Turkish firms was almost balanced as well. As it turned out, low leverage and low currency exposure became a major source of strength that contributed to the resilience of the Turkish economy to the global crisis, which in turn provided ample space to the Central Bank of Turkey to implement front-loaded and aggressive monetary easing without compromising price stability objective. Since no rescue package was needed to support the banking system, the government was also able to enact modest but still quite effective counter-cyclical fiscal policies in the midst of global turmoil.

Since early 2010 due to anemic growth in external demand, current account balance has been deteriorating rapidly, whereas core inflation remains subdued and output gap persists. Recent surge in capital flows toward emerging markets, including Turkey, has the potential to exacerbate the divergence between the pace of recovery in the domestic demand

and external demand. If this pattern of growth coexists with rapid credit expansion and deterioration in the current account balance, it may lead to financial stability concerns. These developments make it necessary to utilise policy instruments other than policy rates more effectively. Consequently, in today's challenging financial environment, which is likely to persist in the foreseeable future, the Central Bank of Turkey underscored four basic principles upon which the monetary policies would be built to maintain financial stability.

The first one is to discourage excessive leverage and to keep the debt ratios of banks and the corporate sector at modest levels. To that end the required reserve ratios in the Turkish lira (TRY) assets were raised (in consecutive steps starting from September 2010, from 5 percent to close to 10 percent as of January 2011) and remuneration of required reserves was ended.

The second principle is to extend the maturity of capital flows and bank liabilities. This is important for improving the quality of the capital account and avoiding exchange rate misalignments. We decided to adopt a policy mix to deal with this situation. We lowered the policy rate and widened the corridor between overnight borrowing and lending rates so as to allow fluctuations in the short-term interest rates, when needed. This policy so far has been quite effective. We observed a significant drop in the short term speculative inflows. In addition, we differentiated TRY required reserve ratios according to the maturity structure of deposits in order to lengthen the maturity structure of liabilities and reduce the maturity mismatch.

The third principle is strengthening the FX position of both the public and private sector, which is usually the Achilles' heel of emerging deficit economies. To that end the Central Bank of Turkey has adopted a new system for FX reserve accumulation that provides more flexibility to the Bank, while raising uncertainty in the FX market in a controlled manner

to prevent moral hazard problem. Also the required reserve ratio for FX assets has been raised three times in 2010 and kept above that of TRY assets. The Banking Regulation and Supervision Agency also applies various rules and mechanisms to keep FX position of banks in check and prohibits the use of FX denominated loans by households.

The fourth principle is better management of foreign currency risk by the corporate sector through instruments like the Turkish Derivative Exchange. The central bank is working together with supervisory agencies to encourage more widespread use of hedging instruments.

Although it looks quite complicated at first sight, the framework we adopt in spirit is not significantly different from the conventional inflation targeting framework. The only difference is that, previously our policy instrument was the one week repo rate, but now our instrument is a "policy mix" –which consists of a combination of short term interest rates, reserve requirement ratios and interest rate corridor. We seek to use these instruments in the right combination in order to cope with both inflation and macrofinancial risks. The monetary policy stance in this framework is not only determined by the path of policy rates, but as a mixture of all the policy instruments, as I just mentioned. Just like the conventional inflation targeting framework, the policy is forward looking and contingent on economic outlook. The course of the policy mix in the forthcoming period will depend on the factors affecting price stability and financial stability.

We are going through a period in which central banks policies have to be creative in dealing with the "new normal". In our part, we believe that a lower policy rate and a wider interest rate corridor combined with higher required reserve ratios may serve as an effective policy mix in dealing with rapidly increasing macro-imbalances driven by short term capital inflows.

Crises do not generate breaking points in history, say historians; they just highlight the existing trends which were less visible before. The recent crisis put front and center the rising economic power of emerging countries. It has also demonstrated the vulnerabilities within the global system, especially across financial markets. Significant steps have been undertaken to address the latter. However, there is still so much to do to tackle global imbalances, since that involves not only revisiting economic policies, but also economic and institutional infrastructure that shapes them. As the quest for a new global order continues both in theoretical and practical levels, the predictability, balance, and sustainability of the new global order will depend on the cooperative and coordinated efforts to establish a well-represented infrastructure.

On savings ratio

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This paper explores the factors that affect saving and consumption behaviours, in a context where some believe that the high savings ratio of the East Asia and oil-producing countries is one major cause for the global imbalances and the crisis.

The paper elaborates on the factors behind the high savings ratios in East Asia and oil producing countries and low savings ratios in the United States. It argues that the high savings in East Asia can mainly be explained by cultural and structural factors in nature. Simple adjustments in nominal exchange rate cannot influence savings behaviour. The paper also argues that savings increased in East Asia as a result of rescue plans designed by international organisations after the 1997 crisis. Encouraging a reduction in savings ratio has been an important component of the national economic policies in China since 2005. The low savings ratios in the United States over the recent period are mainly due to euphoria sentiments and an analysis of time series suggests that no significant causal relationship exists between savings and consumption behaviours in the United States and those in East Asia.

The paper discusses a set of options for adjusting savings ratio over the time. They include a switch to a more balanced growth pattern, enhanced regulation of the international speculative capital flows and the channeling of more savings into developing countries and emerging markets. In addition, a reform of the international monetary system is in order so as to prevent the over-concentration of foreign assets in one particular currency.

NB: Major views of this paper were from Dr Zhou's speech delivered at the High Level Conference Hosted by Bank Negara Malaysia on February 10, 2009.

There are no commonly accepted explanations for savings and consumption behaviours in the economics and statistics community. With further transmission of the current financial crisis, discussions on the causes of the crisis intensified. Some believe that the high savings ratio of the East Asia and oil-producing countries is one major cause for the global imbalance and the crisis. This paper attempts to explore the factors that affect savings ratio, and examines the reasons behind the high savings ratios in the East Asian and oil-producing countries and the low savings ratio in the United States. It also provides a brief description of savings ratio in China and the corresponding adjustment approaches, as well as a set of options for adjusting this ratio.

1| FACTORS AFFECTING SAVINGS RATIOS

The term “savings” in this paper includes domestic savings, current account surplus and foreign reserve. As of now, we have not seen sufficient and solid academic studies illustrating the linkage between the savings ratio and determinant factors, such as the level of wealth as measured by per capita gross domestic product (GDP), foreign exchange rate, the development of financial intermediation and capital market, tradition, demographic structure and social security system. While exchange rate is statistically correlated with savings ratio to some degree, the coefficients are generally low and the correlation usually insignificant. It therefore seems that savings ratio can't be adjusted by simply adjusting exchange rate.

Identifying the factors determining savings ratio is a major policy challenge for all countries. We can only come up with an effective policy tool kit after identifying determining factors for and their impacts on the savings ratio.

2| CAUSES FOR HIGH SAVINGS RATIO IN THE EAST ASIA AND OIL-PRODUCING COUNTRIES

Tradition, culture, family and demographic structure and the stage of economic development are the major reasons for high savings ratio in East Asia.

First, the East Asia countries are influenced by Confucianism, which values thrift, self-discipline, *zhong yong* or Middle Ground (low-key), and anti-extravagancy. Second, we may be able to trace the cultural differences from a large number of textbooks and literature of different countries. For instance, the Latin American countries have similar levels of national wealth as the East Asian countries but lower savings ratios. This can be attributed to the cultural differences in the region, where people have a higher propensity of consumption and tend to quickly use up all their salaries. Third, family tie is strong in the East Asian countries, and families shoulder social responsibilities such as providing for the elderly and bringing up children. Fourth, according to the Life Cycle Hypothesis by Franco Modigliani, more money is saved to meet future pension and healthcare needs as the share of working age population increases. When we study the phases of economic growth, in times of exceptionally high economic growth, most of the incremental income will be saved, resulting in an unusually high savings ratio. China fits in the above-mentioned two conditions for a high savings ratio. Japan and the United States can also demonstrate the contribution of these factors in determining savings ratio. Similar to the United States, Japan is a developed country with high per capita income. The social security systems in the two countries have their respective weaknesses. However, Japan's savings ratio is much higher than that in the United States. This can be largely ascribed to cultural, family value and demographic feature in Japan, which are fairly similar to those in other East Asian countries.

Some argue that an inadequate social security system leads to high savings ratio. Though logically sound, this argument lacks adequate empirical support. Moreover, it is based on the assumption that human behaviours are rational and people increase their savings for future healthcare and pension needs. In act, such an assumption does not necessarily stand.

High savings ratio in oil-producing countries has different reasons. Endowed with rich oil resources that far exceed their normal demand, these countries naturally accumulate their wealth in the form of savings.

The elementary textbooks on economics always start with “supply, demand and prices”, which lead the readers to believe that certain prices (e.g., exchange

rate and interest rate) can determine the behaviour of savings and consumption. However, the fact is that the level of savings ratio is influenced by a wide range of factors, and it can't be adjusted simply by changing nominal exchange rate. Factors such as national tradition, culture, family structures, demography and social security system can't be changed in the short term. As a result, it may take a long time for policies to yield intended impacts.

3| IMPLICATIONS OF THE ASIAN FINANCIAL CRISIS FOR SAVINGS RATIO IN EAST ASIA

Savings in the GDP are composed of resident, corporate and government savings. If total savings exceed domestic investment, the surplus will take the form of foreign reserves. To analyse the drastic increase of imbalance of savings and trade in East Asian countries that emerged after 1997, we need to examine the impact of the Asian financial crisis on savings ratio in these countries.

The high savings ratio and large foreign reserves in the East Asian countries are a result of defensive reactions against predatory speculation. During the Asian financial crisis, the rampant speculations of hedge funds caused large capital inflows and subsequent reversal in these countries, which exacerbated their economic woes. People in these countries were shocked, and disgusted by these speculative attacks. Afterwards, many suggested that unregulated predatory speculation caused the crisis, and appropriate international regulation was needed. However, for various considerations, some countries were against such regulations, and failed to see the need to adjust the regulatory frameworks. International organisations also failed to perform their regulatory responsibilities over abnormal capital flows, forcing the East Asian countries to amass foreign reserves to fend for themselves.

The increase of savings ratio and current account surplus in the East Asian countries is also a result of the rescue plan designed by international organisations. The rescue plans were silent on regulating cross-border speculative capital flows, which otherwise should have been put under scrutiny. Instead, excessive and stringent conditionalities were

imposed, demanding that the crisis-stricken countries adopt tight-fiscal and monetary policies, raise interest rates, cut fiscal deficits and increase foreign reserves. In the decade thereafter, the East Asian countries learnt the lessons, and increased foreign reserves and domestic savings in order to beef up their defense against financial crisis.

Of course, there were also vulnerabilities in economic development models, foreign debt management as well as institutional arrangements of the East Asian countries. Sweeping structural reforms on the corporate and financial sectors were launched in the wake of the crisis, social security systems were improved, and education and healthcare systems reformed. However, it takes time for these efforts to take effect.

4| CAN CHINA ADJUST ITS SAVINGS RATIO EFFECTIVELY?

During the Asian Financial Crisis, China, as a responsible large economy, did not devalue its currency and paid the price of a fairly slow recovery. The endeavor of the Chinese authorities to maintain the stability of renminbi (RMB) against all odds contributed to stemming the spread of the financial crisis.

After the crisis, China intensified efforts to revamp its corporate and government sectors with the deepening of market-oriented reforms. Profitability of enterprises, especially state-owned enterprises (SOEs), increased; fiscal position improved and residents' income improved steadily. Starting 2002, savings ratio began to surge, with steadily rising resident savings and remarkable increase of corporate savings. China's savings ratio increased from 37.5% in 1998 to 49.9% in 2007. During the period, the ratio of corporate sector disposable income to the national disposable income increased from 13% to 22.5%, while the share of government disposable income to the total increased by only 2 percentage points.

The rate of corporate savings to GDP in China is high compared with other countries in the world. This is closely related to the unsolved distortion of cost/profit of enterprises during China's economic transition. Under the planned economy, housing, healthcare, and pension were provided by the enterprises and the government, and weren't

accounted for in wages. This had dampened people's incentives to save. Savings were even considered "involuntary" as people had to regularly line up in queues at shops for consumer goods in short supply. After the reform in the 1990s, the "iron bowl" (lifelong secure job and welfare) system was smashed and the enterprises stopped providing pension and housing for free. However, effective social security system had not been in place either. These significantly increased the incentive for precautionary savings. Nevertheless, the real cost of labor takes time to be reflected in the cost of the enterprises. As a result, the extraordinary profit from cost distortion did not find its way to liability accounts of pension, healthcare and housing for employees, where it should have, which led to a significant surge of corporate savings. This broadly explained the increase in household and corporate savings. This is also why some people suggested that part of the state-owned shares of listed companies should be transferred to the national social security fund.

The Chinese authorities have a clear policy intention to reduce savings ratio. Since 2005, boosting domestic demand and encouraging consumption have been important components of the national economic policies. These policies would eventually bring down the savings ratio. Yet, in-depth studies are needed to identify factors influencing the savings ratio, its elasticity with respect to these factors, and the specific adjustment measures to take.

Besides, the incomplete reforms in some areas have affected the adjustment of savings ratio. Although private enterprises in China are already market-driven and free of cost distortion, the reforms of the public sector are incomplete despite considerable achievements in reforming SOEs. The lack of clearly-defined and fully monetised cost structure hampered the adjustment of savings ratio. It is therefore important to expedite the reform of the public sector and the transformation of the government functions.

5 | OBSERVATIONS ON LOW HOUSEHOLD SAVINGS RATIO IN THE UNITED STATES

The US household savings ratio in recent years went through two phases: before the mid-1990s, it ranged between 7-10%; after 1997, it declined remarkably

with pronounced "twin deficits", especially trade deficit. Some attributed the low savings to the so-called "euphoria" on the US economic performance since the mid-1990s. Specifically, in late 1980s and early 1990s, after the collapse of the central planning system of the former Soviet Union and Eastern Europe, growth in those regions steadily slipped. In the 1990s, the Japanese economy was also trapped in prolonged stagnation, and European Union's economic performance was lackluster due to structural problems including rigid labor market. The United States, as the largest economy, boasted the optimal economic system that was seemingly unparalleled in the world. The only remaining challenge, in terms of economic system, came from Asia; after 1997, the Asian economies suffered heavy blows. In contrast, the US economy demonstrated strong flexibility and resilience, and recovered rapidly from the 9/11 attack and the burst of the IT bubble in recent years. All these augmented the euphoria sentiment in the market, which in turn influenced the saving behaviour of the US residents. However, the unprecedented magnitude of the current financial crisis is expected to dramatically dampen such euphoria sentiments.

The time series show that this round of low savings and high consumption in the United States commenced in Mid-1990s. In contrast, the savings ratio of East Asian countries only surged after the Asian financial crisis and China's savings ratios did not begin to increase until 2002. The difference in time distribution indicates that there is no significant causal relationship between the two.

6 | OPTIONS FOR ADJUSTING SAVINGS RATIO

Global savings imbalance exists for many reasons. It seems inappropriate to link savings ratio only to exchange rate, and it is also unrealistic to resolve long-term issues in the short run. One should, instead, adopt a broader and more comprehensive mindset in examining the imbalance of savings.

First, a comprehensive set of prescription is needed. Although the United States can't sustain the growth pattern of high consumption and low savings, it is not the right time to raise its savings ratio at this very moment. It needs to strike a balance between stimulating consumption and facilitating the economic

recovery. On the other hand, the East Asian nations should attend to economic growth model, economic structure, price system and the like, in order to bring down savings ratio. Of course, reform of the exchange rate mechanism is part of this prescription. The Chinese government has focused on boosting domestic demand to sustain economic growth in an effort to tackle the ongoing financial crisis and conducting economic adjustment. The RMB 4 trillion stimulus package, one of the largest in the world, is mainly an expenditure program. The program underscores public welfare, job creation, and income growth for the rural areas and the underprivileged groups.

Second, countries and international organisations should strengthen their cooperation and intensify the regulation of the international speculative capital flows. The current financial crisis underscores the necessity of reinforcing the regulation over international capital flows and enhancing their transparency. International organisations and countries concerned should help developing countries to establish a robust early-warning system and guard against attacks from predatory speculation. International cooperation should be strengthened

to improve the aid mechanism. In case emerging markets experience temporary balance of payments difficulties, international aid should be swift, and conditionalities attached should be reduced. This would encourage countries to lower savings including foreign reserves and expand domestic demand.

Third, appropriate measures should be taken to channel more savings into developing countries and emerging markets. Savings flowing from emerging markets to the advanced economies is neither rational nor consistent with the intention of the advanced economies to increase their domestic savings. However, the adjustment of savings ratio in the East Asian countries will not see immediate effects. Meanwhile, savings in oil-producing countries may remain at a high level so long as oil prices don't plunge further. Therefore, global savings imbalance will remain for some time in the future. The top priority at present is to facilitate the rational flow of savings and improve their allocation efficiency. One option is to redirect surplus savings to other developing countries and emerging markets, those with abundant resources, low labor cost, but lack of capital. These economies are the future growth engines of the global economy.

Finally, the reform of the international monetary system should be advanced. Currently, the US dollar is used in most international trade and financial transactions, and is also the most important reserve currency. The International Monetary Fund data showed that the US dollar accounted for 63.9% of the total foreign reserves by the end of 2007. When countries increase savings and if these savings are in the form of dollar denominated foreign reserves, capital will inevitably flow into the United States. In the short run, the United States may need more capital inflows to deal with the financial crisis; over the long run, large capital inflows are not in its best interest of making adjustments to its economic growth model. Moreover, the over-concentration of foreign assets in one particular currency may bring about undesired consequences. Therefore, in addition to upgrading regulatory cooperation and rationalising savings allocation, the international community should move forward in reforming the international monetary system. Efforts should be made to strengthen the surveillance on the economic and financial policies in major reserve currency countries and to enhance the status of the SDR, so as to advance the international monetary system towards diversification over the long run.

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