Global imbalances and gross capital flows

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Introduction

The subject of global imbalances was a constant theme of economic debate in the first decade of this century, yet it seems to have attracted rather less interest in recent years. The reason is the empirical finding that global imbalances – traditionally reflected in current account deficits and surpluses on the balance of payments – have declined since the financial crisis, so that the associated vulnerabilities have also diminished. Moreover, international policy forums have turned their attention to the development of a more secure financial framework and a sustainable recovery of economic growth, as evidenced by the G20 Growth Initiative for example. However, the recent heightened volatility on the financial markets of the emerging economies is a reminder that a number of countries, including those with a current account deficit, are still very vulnerable to a reversal in investor sentiment. Using the new insights offered by the literature following analysis of the financial crisis and global imbalances, this article takes a closer look at the indicators which reflect the external vulnerability of a country or economic region.

In the past, it was usual to consider the current account positions on the balance of payments in order to analyse external vulnerability. Countries with a current account deficit and a net debt position were deemed vulnerable to a reversal in capital flows, known as a sudden stop. This analysis framework was supported by experience during the Latin American crisis in the 1980s and the Asia crisis at the end of the 1990s. In the 2000s, there was growing concern over the escalating deficits in the United States. However, some people considered that, for various reasons, those deficits could quite readily be financed by the surplus countries in Asia, while the euro area with its negligible net position had no role to play. The excess savings of the said surplus countries were therefore thought to be part of the reason for the very easy credit conditions in the United States and the American housing market bubble, which ultimately led to the financial crisis. However, the outcome of the financial crisis – no sudden stop in the United States, heavy losses for the European banking sector as a result of its international exposure, and the fact that the financial position of the Asian surplus countries was relatively unscathed – revealed the shortcomings of this analysis framework.

Together with the availability of supplementary statistics, the economic literature focused increasingly on cross-border gross capital flows. Of course, the analysis of gross capital flows is nothing new: people have long been aware of the importance of gross capital flows, their composition, and any currency, maturity and liquidity mismatches. However, the recent situation is different from the past in that these capital flows have expanded enormously, leading to an unprecedented accumulation of cross-border outstanding amounts of claims and liabilities. Thorough analysis of gross capital flows is therefore vital in order to assess an economy's vulnerability. As is evident from the European sovereign debt crisis and, more recently, the turmoil on the financial markets of the emerging economies, it also remains essential for a vulnerability analysis to consider net positions and current account balances.

Section 1 of this article gives a brief résumé of the situation regarding global imbalances. Section 2 demonstrates the increased importance of cross-border capital flows worldwide, and explains in more detail how the analysis of gross capital flows is necessary and complementary to

any assessment of a country's vulnerability. The financial crisis provides empirical support for this view. Section 3 presents a supplementary and more recent illustration of this, in which the authors investigate the extent to which both indicators have been decisive for explaining the volatility on emerging economies' financial markets since the summer of 2013.

1. Global current account imbalances: the traditional approach

In the run-up to the financial crisis, global current account imbalances increased rapidly. The most striking instances were the escalating surpluses in China and in the commodity-exporting countries, accompanied by the constantly growing deficits in the United States. In the euro area, which – taken as a whole – had an external position that was more or less in balance, the various individual Member States nevertheless had relatively large surpluses or deficits. Before the crisis, current account imbalances were due to various country-specific and global factors, in particular the very favourable financing conditions encouraged by under-estimation of credit risks and foreign capital inflows, over-optimistic income expectations, higher commodity prices and a mercantilist growth strategy accompanied by a massive accumulation of foreign exchange reserves[1].

In 2009, global imbalances diminished sharply, and thereafter remained considerably smaller than in the period preceding the financial crisis, though they still exceeded those of the 1980s and 1990s. This improvement in external positions mainly reflects cyclical adjustments triggered by the financial crisis. The stricter financing conditions (and more especially the drying up of external funding sources) and the fall in asset prices had a particularly severe impact on domestic demand and imports in countries with a current account deficit. In the surplus countries, domestic expenditure generally proved more resilient, but exports suffered from the negative consequences of the collapse and ensuing muted revival of international trade, and – for some countries – the initial decline in commodity prices. The weak recovery of the global economy since the outbreak of the crisis, fuelled at first by the emerging economies (in 2010-2011) and then by the advanced economies (since the end of 2013), prevented a renewed surge in global imbalances. Temporary country-specific factors, such as the increased energy imports by Japan following the 2011 earthquake, also helped to keep global imbalances under control.

(1) For a more detailed description, see for example Butzen *et al.* (2010).

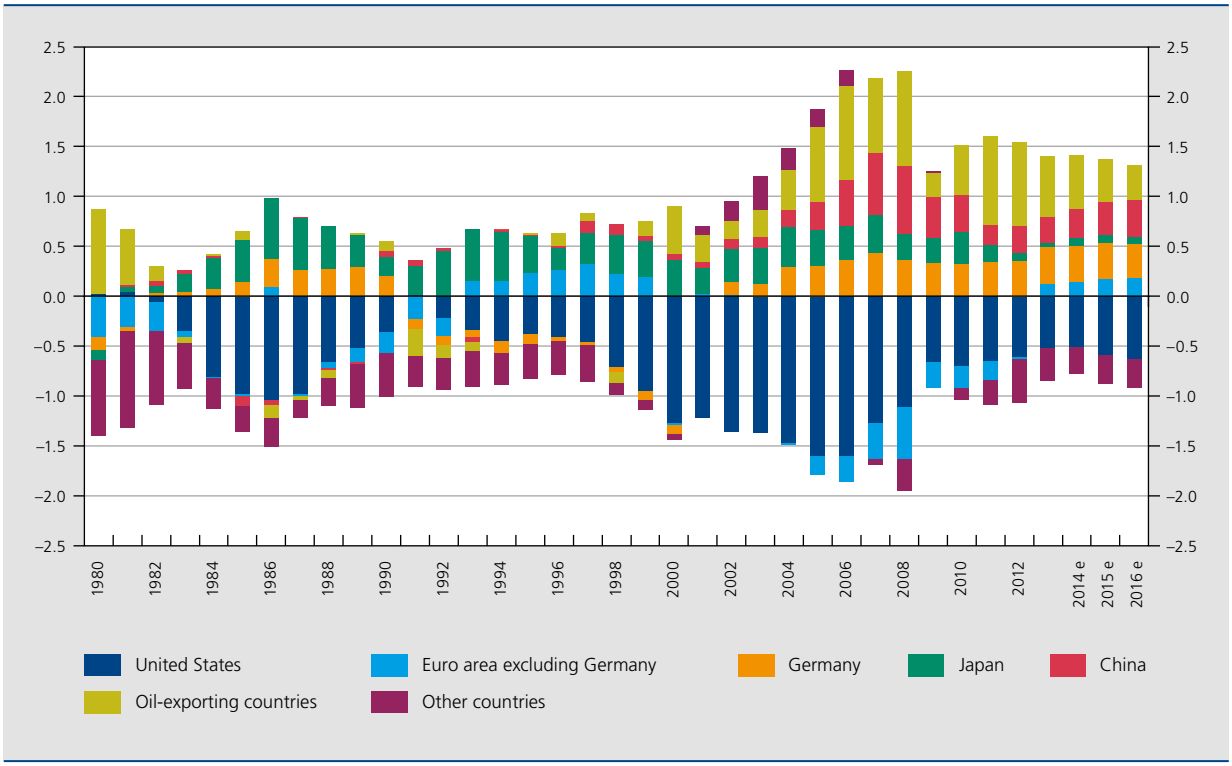
Apart from cyclical factors, more permanent adjustments are in progress in several economies. For instance, many deficit countries are proceeding with fiscal consolidation, although that process has slowed down recently. In addition, and more specifically, the private savings ratio in the United States is rising (albeit from a low level). That ratio is also expected to remain at a structurally higher level than in the pre-crisis period, since recent experience has taught American households that painfully sharp corrections in equity and property prices are not impossible, so that a stouter asset buffer is needed. Furthermore, the increasing oil production in the United States, due mainly to the extraction of shale oil, is also helping to bring down the current account deficit. In China, factors such as the growing importance of consumption in GDP growth and the gradual appreciation of the renminbi have helped to reduce the current account surplus. In November 2013, the Chinese government also presented a reform plan for the coming decade, which aims to continue rebalancing the economy. In addition, the improvements in the external competitiveness of the peripheral euro area countries seem to be more lasting. Yet so far, structural reforms have played only a minor role in reducing the global imbalances, so that there is a risk that the imbalances may begin to increase again as time goes by (IMF, 2013a and Ollivaud and Schwellnus, 2013).

Overall, the US current account deficit has improved from $ 681 billion in 2008 to $ 379 billion in 2013. Similarly, over the same period, the euro area excluding Germany converted its $ 327 billion deficit into a $ 92 billion surplus, mainly as a result of efforts by the deficit countries. For instance, Ireland, Portugal and Spain converted their respective deficits of $ 15 billion, 32 billion and 154 billion in 2008 into a surplus of $14 billion, 1 billion and 10 billion in 2013. The surplus of the oil-exporting countries shrank from $ 585 billion in 2008 to $ 445 billion in 2013, and China's surplus contracted from $ 421 billion to $ 189 billion. The persistence of the German surplus is also striking: since 2011, it has actually overtaken that of China to become the biggest in the world.

A current account imbalance is not in itself an immediate indication that the situation is out of control; it may even be entirely appropriate in view of an economy's fundamentals and structural characteristics. For instance, it may be desirable for a country with an ageing population to set money aside for old age (surplus), and for a country with worthwhile opportunities for investment to raise foreign capital to finance its infrastructure or capital goods (deficit). However, if imbalances are due to underlying internal malfunctioning, they are not sustainable and a correction is advisable. Since external imbalances may therefore reflect internal imbalances, they are

CHART 1 CURRENT ACCOUNT BALANCE

(in % of world GDP)



Source: IMF.

a useful indicator for policy-makers in detecting any risks to macroeconomic and financial stability. Countries with a deficit are generally considered more vulnerable, as they are very dependent on foreign financial flows. If these flows suddenly dry up or go into reverse (the sudden stop scenario), that usually implies a painful adjustment for the economy as a whole, as the recent past has once again demonstrated.

Since the accumulation of imbalances in the mid-2000s was followed by the eruption of a serious financial crisis, it has become even more important to monitor external imbalances. Thus, at the G20 summit in Pittsburgh in September 2009, both deficit and surplus countries agreed on policy measures which should help to correct the global imbalances. A mutual assessment process with technical support from the IMF is monitoring compliance with the commitments given. Furthermore, the European Commission records current account balances in the scoreboard that it has used since 2012 in the new economic governance procedure (the European Semester) to track macroeconomic imbalances in the EU Member States. Since 2013, the IMF has also published an annual report analysing the external sector of 29 major economies and focusing in particular on the current account position.

Nonetheless, the literature does not indicate a robust causal connection between current accounts and the occurrence or intensity of financial crises[1]. A number of authors have shown that other, more financial, factors are also involved. The next section will look at that in more detail. In any case, it may be useful for policy-makers, in their supervision of global financial stability, to enrich their analysis framework with information obtained from other relevant variables.

2. The importance of analysing gross capital flows

The first section of this article described the current account picture in the various main regions of the world, concluding that the current account may be a good indicator of a country's economic fragility and also of

(1) For a detailed analysis, see Blanchard *et al.* (2010), Frankel and Saravelos (2010), Jordà *et al.* (2011) and Gourinchas and Obstfeld (2012).

its vulnerability to financial shocks. However, the recent financial crisis has shown that an analysis based solely on the current account – essentially a net concept – is not enough for accurate assessment of those vulnerabilities. Before the outbreak of the financial crisis, it was the persistent current account deficits in the United States that were the primary focus of concern. The assumption was that these deficits were financed by the surpluses in the emerging Asian economies, whereas the euro area, where the current account was more or less in balance, was not thought to be involved and was certainly not considered vulnerable. This section aims to show that, on the basis of analysis of gross financial flows, Asia did not really contribute to the financing of the credit boom in the United States, while the euro area – and especially the banks – played a crucial role. Those banks therefore proved to be extremely vulnerable when the US credit boom collapsed. In other words, countries or currency areas with a balanced current account can still develop fragile gross financial positions.

This section briefly explains the importance of analysing gross financial flows, rather than focusing solely on net balance of payments concepts. To support this assertion, we begin by describing the pattern of gross capital flows worldwide, before taking a closer look at the role of gross capital flows in the creation of vulnerabilities before the recent financial crisis. In the final section of this article, on the basis of this enriched analysis, we try to assess the vulnerability of the emerging economies in the current economic context.

2.1 The increasing significance of gross capital flows[1]

Greater trade integration and the expansion of trade in goods and services throughout the world have been accompanied by the growth of financial flows since the 1990s, particularly cross-border capital flows. The main capital flow categories in the balance of payments are as follows: (1) foreign direct investment, (2) portfolio investment in debt instruments and equities[2], (3) official reserves, and (4) other investment. This last group includes financial transactions relating to loans and deposits, bank capital, trade credits and official capital flows other than movements in the foreign exchange reserves. In regard to capital movements, gross flows have increased by much more than net flows. The increase reflects a financial broadening of balance sheets, particularly in the financial sector, and at the same time a reduction in the financial home bias which has led to an expansion of the share of foreign assets and liabilities on those balance sheets.

In the past few decades, cross-border capital flows have seen unprecedented growth, which has accelerated particularly strongly since the mid-1990s. In 2007, the cumulative inflows and outflows had risen to no less than 20 % of world GDP, compared to an average of under 1 % in 1980-1995. Although there was an increase in virtually all capital flow categories, the expansion was driven mainly by cross-border interbank transactions (included under "other investment") and to a lesser extent by the formation of reserves. However, at the start of the financial crisis in 2008, gross capital flows collapsed. They picked up again in 2009, but since then – partly as a result of the European sovereign debt crisis – have subsided to levels comparable to those of the late 1990s. These recent developments mask three trends which are not always parallel.

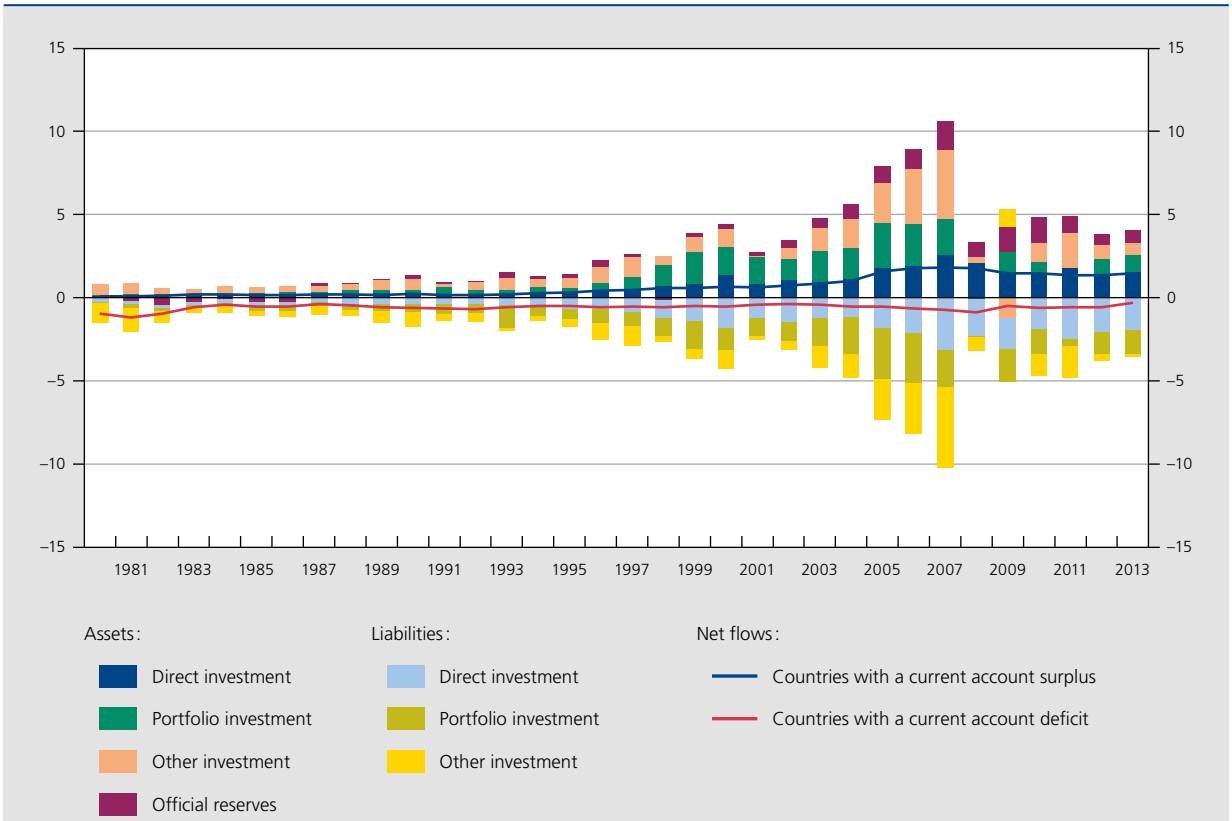
First, since 2008, there has been a persistent shrinking of cross-border interbank transactions, attributable to both supply and demand factors. Banks operating internationally, particularly in the euro area and in the United Kingdom, have refocused on markets at home or nearby, and have cut back substantially on cross-border transactions with a view to general balance sheet repair. Demand for credit is still weak owing to the continuing fragile macroeconomic environment in most advanced countries, while households and businesses are tending to deleverage rather than increase their debt levels. Also, since 2010, there has been a considerable rise in international issuance of corporate debt instruments in emerging economies. The strong international demand for these debt securities was fuelled in particular by a search for yield, while credit quality was steadily declining (BIS, 2014). Finally, the global accumulation of foreign exchange reserves is continuing. Following the 2007 peak and the slowdown in 2008, the formation of reserves rapidly gathered pace again in 2009 and 2010. Since then it has slackened slightly, though the annual formation of reserves still remains substantial at around 0.7 % of global GDP.

In view of their scale, these capital flows are clearly a potentially vital factor in an economy's vulnerability, especially if, over the years, they lead to the accumulation of large outstanding gross positions. In that respect, mismatches in the currency and maturity structure are important because, in the case of large outstanding amounts,

(1) The gross financial flows recorded in the balance of payments statistics – referred to in this article – represent amounts which have already been netted. The gross outflow of capital is in fact the difference between total purchases and total sales of foreign assets by residents. The gross capital inflow is the difference between total purchases and total sales of domestic assets by non-residents.

(2) The distinction between portfolio investment and foreign direct investment depends on the size of the participation held by an investor in the enterprise concerned. If that participation is 10 % or less, the capital flows are regarded as portfolio investments.

CHART 2 GLOBAL INTERNATIONAL GROSS AND NET CAPITAL FLOWS
(in % of world GDP)



Sources: IMF International Financial Statistics, IMF WEO.

small fluctuations in interest and/or exchange rates can have a serious impact. Here it should be noted that such mismatches may also occur in a current account which is in balance or in surplus, so that it is not just countries with a current account deficit that may be vulnerable.

2.2 Measuring economic fragility: net and gross capital flows

As this section will show, the recent financial crisis clearly illustrated that international capital flows are not necessarily related to current account imbalances. It is therefore preferable to supplement an analysis of global current account imbalances with an assessment of gross capital flows and positions.

Research into the financial crisis offers the following insights: 1) (net) capital flows of countries with a current account surplus, in this instance the emerging Asian economies and Japan, were not necessarily the direct source of funding for the credit expansion/boom in countries with a current deficit, namely the United States; 2) before and during the financial crisis, the current account imbalances between the euro area and the United States were fairly small, but the European banks still built up substantial financial positions in the form of mortgage-backed securities and American government bonds, making them vulnerable to economic developments in the United States.

These insights are supported by a conceptual distinction made in section 2.2.1 between saving and financing, and by the explanations put forward in section 2.2.2 for some empirical facts about the financial crisis.

2.2.1 Saving versus financing

Before the outbreak of the financial crisis, the assumed connection between global current account imbalances and the financing of the strong expansion of lending in countries with a current account deficit was often rationalised by the excess savings theory. That theory was based on two assumptions. First, there are net capital flows from countries with a current account surplus to countries with

a current deficit, fuelling excessive credit expansion in the latter; second, the growth of savings worldwide compared to global investment is due mainly to the surplus countries, and especially the emerging Asian economies; that has led to a fall in real interest rates, primarily in the United States.

The sometimes divergent reasons underlying this theory were discussed in detail in the economic literature, and Chinn (2013) presents a good overview: the variations in saving and investment were due to differences in fiscal policy – very expansionary in the United States – and demographic disparities, especially population ageing in the West; higher productivity in the United States and the associated consumption smoothing; the Asian economies geared to exports in conjunction with exchange rate interventions in support of the export sector; and the savings glut, with emerging economies' financial markets being insufficiently developed to absorb domestic savings.

A combination of some or all of the above factors is often put forward, but a common feature of all the arguments is that regions or countries with a current account which is more or less in balance do not play a role and are therefore not regarded as vulnerable themselves, still less as a source of vulnerability for other economies. However, Borio and Disyatat (2011) point out that there is not necessarily any direct link between net capital flows or the current account balance and the global intermediation of funding flows.

The distinction between saving and financing is crucial to their argument. Saving is a national accounts concept defined as income which is not consumed. Saving therefore encompasses the contribution of final expenditure other than consumption to total income (or output). In a closed economy, saving only occurs if something is produced but not consumed, namely investment. However, this concept of saving certainly does not tell us everything about whether or not funding is available for investment. If the resources generated in a particular period are insufficient, it is necessary to resort to one's own financial assets or to borrowings. Thus, there need not be any link between saving (and investment) in the sense of the national accounts and movements – and fluctuations – in the financial assets and liabilities. Indeed, a particular volume of savings may be associated with large and divergent changes in financial assets and liabilities as recorded by the flow of funds in the national accounts.

In the case of open economies, the distinction between saving and financing is most clearly expressed in net capital flows as opposed to gross capital flows. Net capital flows comprise only the result of bilateral trade in goods and services. They offer no information on the much larger gross flow movements which also include purely financial transactions, yet the latter make up the bulk of cross-border financial transactions (Obstfeld, 2012a). That is why the movement in the current account balance says little about a country's role in international financial flows, the degree to which investment spending is funded by domestic or foreign resources, and the impact of cross-border capital flows on domestic financial conditions. While a current account surplus does mean that net claims on the rest of the world are increasing, a balanced current account only indicates that domestic output is equal to domestic expenditure, but does not necessarily mean that domestic saving is directly financing domestic investment. Thus, though the current account is balanced, a domestic company may contract a loan from a foreign bank to finance its investment. If the deposits resulting from the investment expenditure are also placed with a foreign bank, then that only generates mutually offsetting gross capital flows.

The main point to emerge from this is that it is impossible to draw any conclusions about financing patterns and cross-border financial intermediation on the basis of net balance of payments flows. In other words, a country with a current account surplus is not necessarily funding the investment and expenditure of countries with a current account deficit. At the level of the national accounts, however, it is true that countries with a current account deficit offset the saving of surplus countries by consuming more. For the world as a whole, the deficits and surpluses therefore tally, except for some statistical variations. Nonetheless, the underlying consumption and investment expenditure at the root of these imbalances can be funded in many ways. In the case of a current account deficit implying financial liabilities for goods and services, the deficit country certainly has to borrow from the rest of the world, but the counterparty holding these claims is not necessarily a resident of a country with a current account surplus. That is clear from the analysis of gross capital flows during the recent financial crisis and in the preceding period.

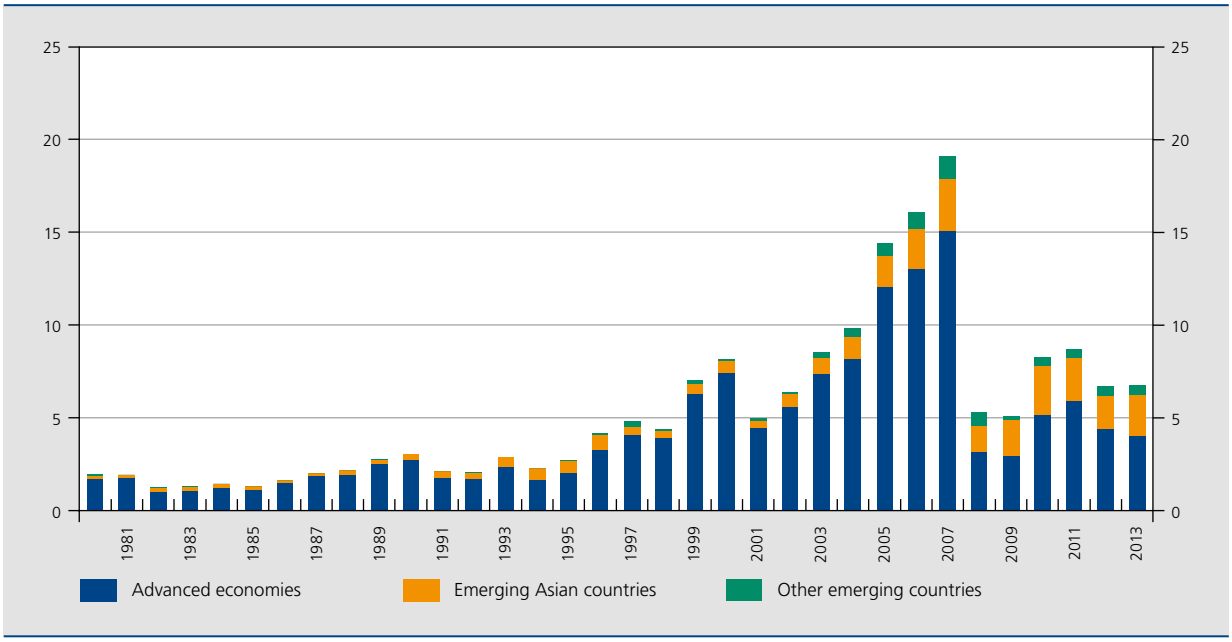
2.2.2 Gross capital flows during the financial crisis

There are several reasons why an analysis based purely on global current account imbalances proved inadequate for detecting the vulnerabilities of economies before and during the financial crisis.

First, the surge in gross capital flows worldwide (see section 2.1) in the 1990s and up to the outbreak of the financial crisis in 2008 was due mainly to the growth of capital flows between the advanced economies. Although

CHART 3 INTERNATIONAL GROSS CAPITAL FLOWS

(in % of global GDP, sum of inflows and outflows)



Sources: IMF International Financial Statistics, IMF WEO.

those economies accounted for an ever-diminishing share of world trade, they still represented at least 75 % of gross capital flows before the crisis, and roughly 60 % after the crisis. Within the group of emerging economies, Asia is seeing the strongest growth. The relative size of these flows compared to the net capital flows or current account balances and their geographical structure already undermine to some extent the theory of excess savings as a key explanation for the financial crisis. According to that theory, it is mainly the emerging countries that have determined and influenced financial conditions throughout the world, whereas their role in global gross capital flows has been rather limited.

Also, the US balance of payments statistics confirm that, during the pre-crisis period, the current account balances did not play a dominant role in financial movements. While the US current account deficit was growing, gross capital flows expanded three times as fast. The United States recorded both substantial capital outflows from American residents and substantial capital inflows on the part of non-residents. That would probably also have been the case if the American current account had been in balance.

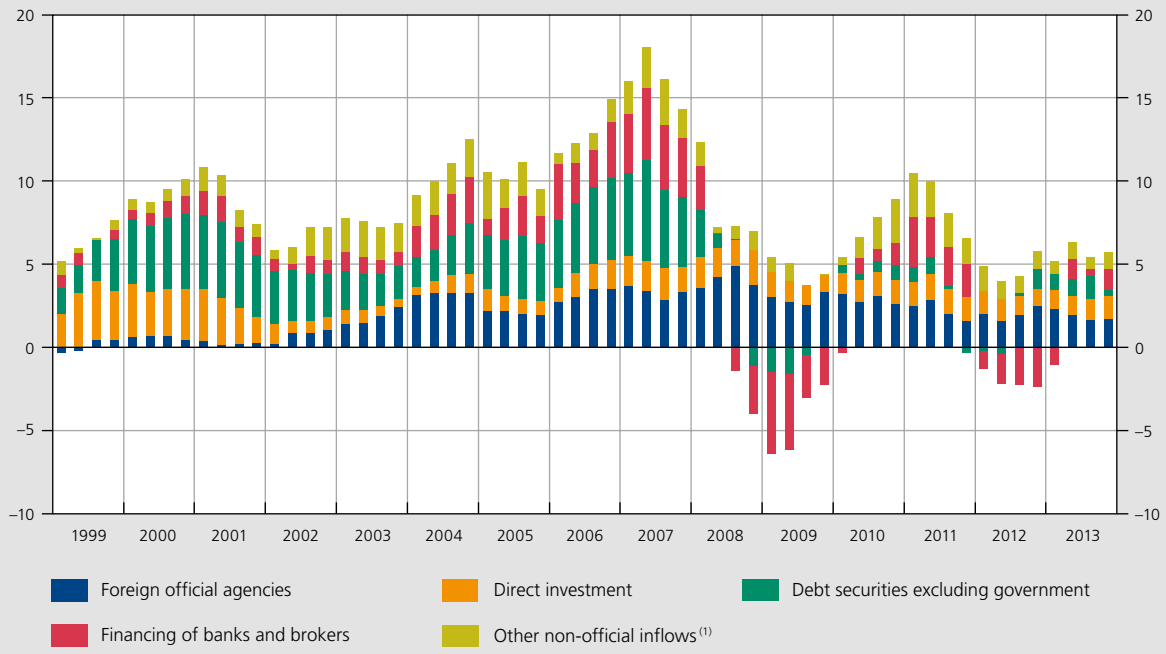
The rationalisation of the excess savings theory via the global savings glut is based partly on the large accumulation of reserves in US dollars – particularly in the form of American government bonds – principally by Asian central banks. However, it is evident from the US balance of payments statistics that the increase in gross capital inflows was attributable largely to the private sector. It was purchases of American securities other than government paper that formed the main capital inflow. From the 2000s onwards, private foreign investors also began to play a steadily increasing role in the financing of American banks and brokers. That development reflects the strong rise in cross-border interbank transactions which were in turn a key factor in the financial crisis.

The American balance of payments statistics on the geographical origin of foreign capital inflows into the United States show that Europe was the main source of finance. Not only did banks in the euro area and the United Kingdom invest substantially in long-term American assets, they also financed those investments by issuing short-term paper in US dollars, such as asset-backed commercial paper (Noeth & Sengupta, 2012). As a result, gross capital flows expanded while net capital flows remained unchanged. The United Kingdom's current account was in deficit, and that of the euro area was more or less in balance[1]. The emerging Asian economies,

(1) The capital flows from the United Kingdom partly reflect the role of London as a financial centre. On the basis of consolidated BIS statistics, Borio and Disyatat (2011) confirm the importance of European banks in the capital inflows into the United States.

CHART 4 UNITED STATES: GROSS CAPITAL INFLOWS BY TYPE

(in % of GDP, moving averages over four quarters)



Source: BEA.

(1) The other non-official inflows comprise American government bonds and other assets held by non-residents other than official agencies.

and especially China, or countries with a large current account surplus such as Japan and the OPEC countries, accounted for only a minor share of the capital inflows into the United States. The geographical breakdown of the gross flows therefore refutes the view that the United States obtained funding mainly from countries with a large current account surplus.

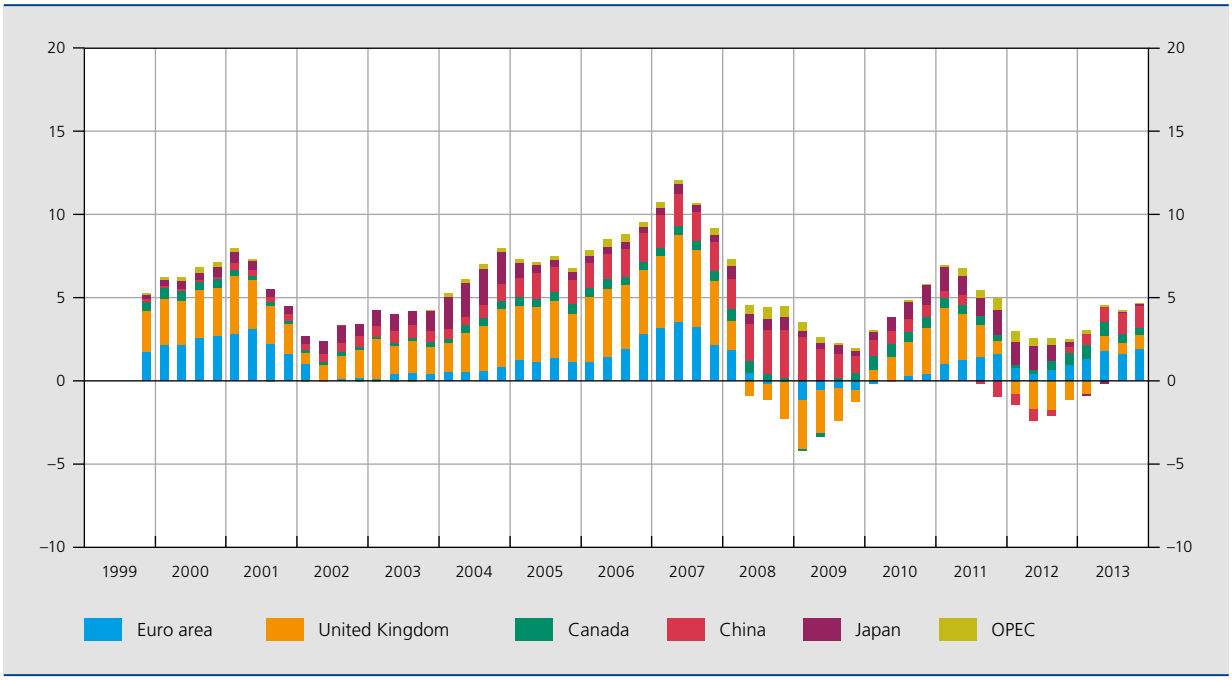
While the US current account deficit only declined slightly during and after the financial crisis, gross capital flows were much more volatile. That volatility reveals the disruption of cross-border interbank transactions, primarily with the United Kingdom and the euro area. It is noticeable that the capital flows from China, Japan and the OPEC countries were maintained during the crisis, indicating that official flows were a stabilising factor rather than a source of volatility for the US balance of payments.

All in all, the analysis of gross capital flows reveals a different picture of the global imbalances as an indicator of countries' economic vulnerability, especially in the case of the American economy. In the period preceding the financial crisis, the Asian countries evidently played a much smaller role in financing credit expansion in the United States, while the European banks performed a vital function in that respect. The analysis based purely on current account imbalances disregarded the role of those banks in the American credit expansion. At the same time, close attention focused on the formation of foreign exchange reserves, but in the end that was only a minor factor in the crisis.

Nevertheless, another chapter of the financial crisis, namely the European sovereign debt crisis, shows that apart from gross capital flows, net positions are still important for assessing a country's economic vulnerability. In the run-up to the financial crisis, the international exposure of banks in the core euro area countries, such as Germany, France, Belgium and the Netherlands, increased not only in relation to the United States but also in relation to the peripheral euro area countries. However, in comparison with the exposure to the United States, the type of financial intermediation is different in the case of the peripheral countries: the banks built up assets in the peripheral countries, but obtained their funding elsewhere. Hale & Obstfeld (2014) demonstrate that a considerable share of the capital inflows into the euro area came via the banks in the core countries and was directed towards

CHART 5 UNITED STATES: GROSS CAPITAL INFLOWS BY REGION

(in % of GDP, moving averages over four quarters)



Source: BEA.

the peripheral countries. The gross capital flows from and to the peripheral countries therefore did not offset one another, so that those countries were net importers of capital. The balance of payments statistics show a sharp increase in "other investment", particularly interbank transactions, that contributed to the strong expansion of credit in the peripheral countries.

Using a new database, Hobza & Zeugner (2014) describe the bilateral financial flows of the euro area. They confirm that, in the pre-crisis period, bank balance sheets in the core countries expanded strongly as a result of the international exposure to both the peripheral euro area countries and the rest of the world. In contrast, the rising deficits in the peripheral countries were financed almost exclusively by core countries with a surplus, but also by capital flows from France and the United Kingdom, countries with a current account deficit. The authors take the view that the imbalances within the euro area were caused mainly by financial flows rather than by the traditional factor, namely trade flows between surplus and deficit countries.

At the start of the crisis, capital flowed back to the surplus countries, particularly Germany, but France largely offset these outflows. It was not until the capital flows originating from France dried up and/or went into reverse from 2011 onwards that the sovereign debt crisis intensified. From then on, the peripheral countries had to resort to ECB funding and the official "assistance" of the IMF and the European aid funds – the EFSF and the ESM – in order to continue meeting their financial needs (de Sola Perea and Van Nieuwenhuyze, 2014).

3. Financial integration and vulnerabilities in emerging economies

Last year, emerging economies were seriously exposed to the financial market turmoil. Some countries proved to be more vulnerable than others to fluctuations in market sentiment. The traditional explanation points to divergences in fundamentals such as growth, inflation, the state of public finances and above all, the current account balance, as an indication of the degree to which a country must resort to foreign sources of finance.

However, this section illustrates once again that focusing too exclusively on the fundamentals, and more particularly on the current account which is a net concept, cannot provide an adequate explanation and that the size and composition of the gross capital flows and positions also play an important role.

We shall first examine the progress of the financial integration in emerging economies over the past decade before analysing the events which have unfolded since the summer of 2013.

3.1 Developments from 2004 to 2012

3.1.1 Continuing financial globalisation in emerging economies

During the past decade, the financial markets in emerging economies have become much deeper and have been increasingly integrated into the global financial system. As mentioned in the previous section, most capital movements nevertheless still take place between advanced economies, though the emerging economies' share in global gross capital flows has risen significantly since the financial crisis.

On the assets side of emerging economies' international investment position, the public sector often plays a dominant role via the accumulation of foreign reserves. Those reserves contain a large proportion of secure short-term government paper issued by advanced countries, though the yields are generally low. On the liabilities side, there is greater diversity, and the rest of this article will concentrate on that aspect.

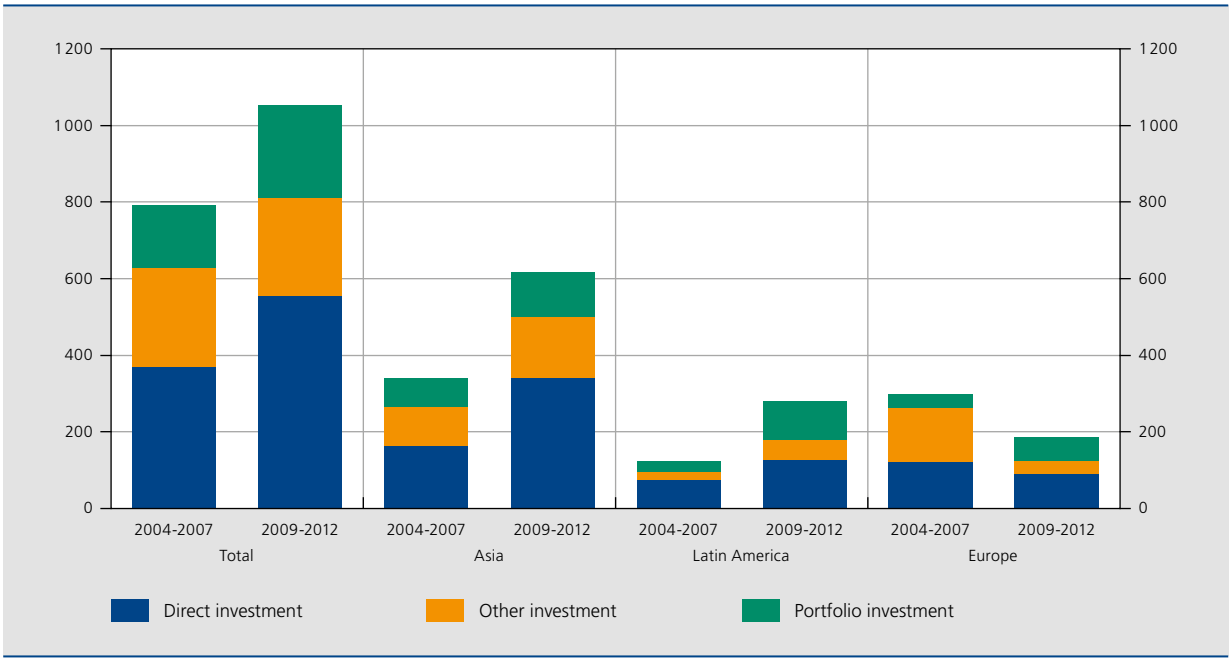
Between 2004 and 2007, emerging economies saw a surge in foreign capital inflows amounting to roughly $ 800 billion a year. The financial crisis of 2008 briefly interrupted those inflows, but from mid-2009 they gathered pace again and actually exceeded the pre-crisis figure (averaging around $ 1 100 billion a year). However, the revival was not equally rapid and strong in all regions.

It was mainly in emerging Europe that capital inflows remained weak, with a particularly meagre contribution from "other investment" (including interbank loans). One reason was that banks operating internationally, particularly those from the euro area which are strongly represented in that region, cut back their financing in the wake of the crisis[1]. In addition to supply factors, demand factors also played a key role. Before the crisis, bank capital flows had still permitted ample lending, but they had thus contributed to the creation of macroeconomic and financial imbalances. The financial crisis triggered a correction of those imbalances which had a serious impact on most economies in the region, since they had to cope with a lengthy period of restructuring and deleveraging. At the same time, most Latin American and Asian economies, as well as Turkey and Russia, saw a relatively rapid

(1) Bank assets held by foreign banks exceed 50 % of GDP in almost all countries of this region, reflecting dominant market shares which may reach 90 % in certain countries (IMF, 2013b).

CHART 6 FOREIGN CAPITAL INFLOWS TO EMERGING ECONOMIES

(in $ billion, annual averages)



Sources: IMF (2014b) and own calculations.

economic recovery attributable partly to the implementation of massive stimulation policies. The better growth figures for those economies were in stark contrast to the persistent economic crisis in the countries of Central and Eastern Europe, suffering from the consequences of the malaise in the euro area.

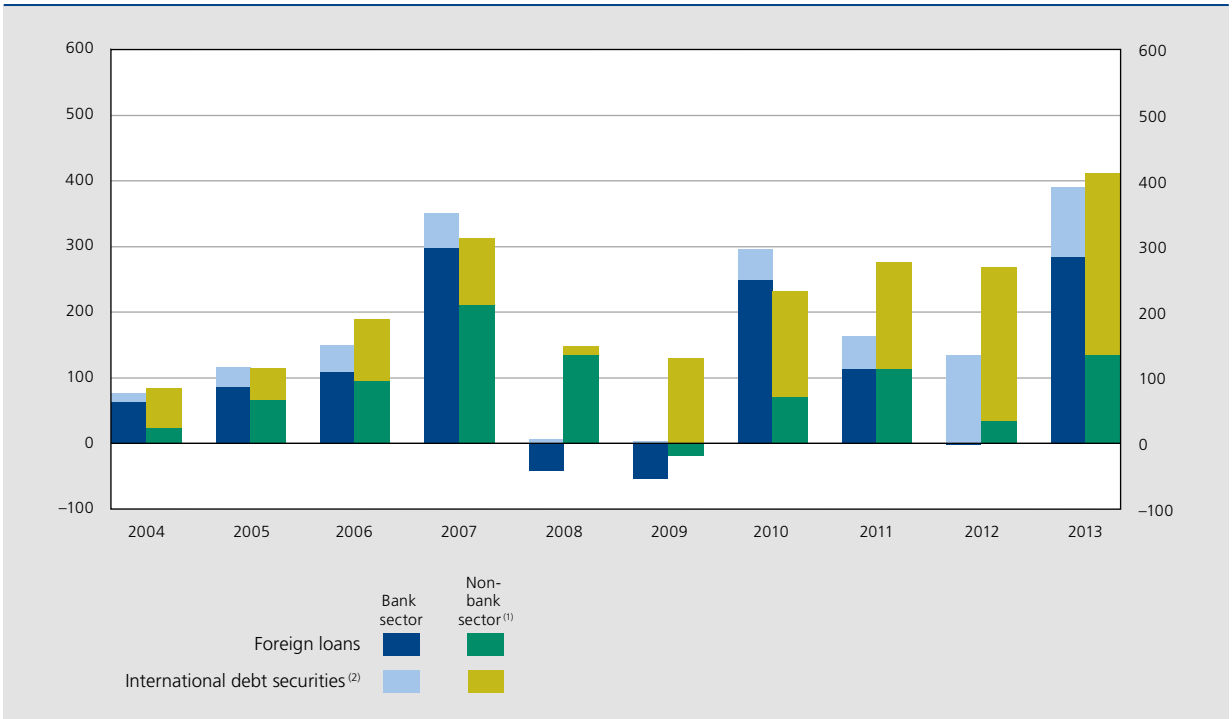
3.1.2 From bank financing to market financing

Overall, the financing mix of emerging economies excluding Asia shows that the flows forming part of "other investment" have recently given way slightly in favour of portfolio investment, while direct investment has continued to dominate total flows. In the period 2004-2007, banks operating internationally, based largely in advanced economies, played a central role in financial intermediation. The capital flows from these internationally active banks to banks – often subsidiaries – in emerging economies increased strongly during that period. Following a contraction during the financial crisis, these bank flows were rather volatile. To compensate for that, emerging economies issued more debt securities. There was a particularly noticeable increase in net issues of international debt instruments by the non-bank sector.

The switch from bank financing to market financing is attributable to a range of factors. In the aftermath of the crisis, internationally active banks were obliged to repair their balance sheets and were therefore less inclined to raise finance outside their core markets. In addition, banks have to comply with the more stringent Basel III regulations, and that may have further curbed their lending. Finally, partly as a result of the unconventional monetary policy measures in the advanced economies, long-term yields on the main bond markets slumped to a record low, so that investors worldwide went in search of more lucrative asset classes, including those of the emerging economies which, furthermore, generally offered better growth prospects than the advanced countries. In addition to country-specific pull factors (namely fundamentals, credit ratings, growth prospects), global push factors also played a significant role in directing financial flows to emerging economies. According to the World Bank (2014), these two factors account for 40 % and 60 % respectively of the increase in capital flows to emerging economies between 2009 and 2013.

The keen interest among foreign investors was a major factor in the further development and deepening of the

CHART 7 FOREIGN FINANCING OF EMERGING ECONOMIES
(in $ billion)



Source: BIS.
(1) The non-bank sector includes both the private and the public sector.
(2) The data on international debt securities are based on the borrower's nationality and not, as usual, on the borrower's place of residence.

financial markets in emerging economies. Two recent developments stand out: the increase in the market financing of non-financial corporations, and the greater scope for governments to issue debt instruments in local currency.

More corporate bond issuance, including offshore

Faced with scarcer bank lending and encouraged by the stronger demand from international investors, firms in emerging economies made extensive use of the international capital markets to satisfy their funding needs. At the end of 2013, the outstanding amount of international corporate debt securities in the emerging economies came to around $ 1 100 billion, or more than double the end-2007 figure[1]. Since market financing often features longer maturities than bank financing, it implies a lower refinancing risk. Thus, in each of the next six years, only one-tenth of this corporate debt will reach maturity.

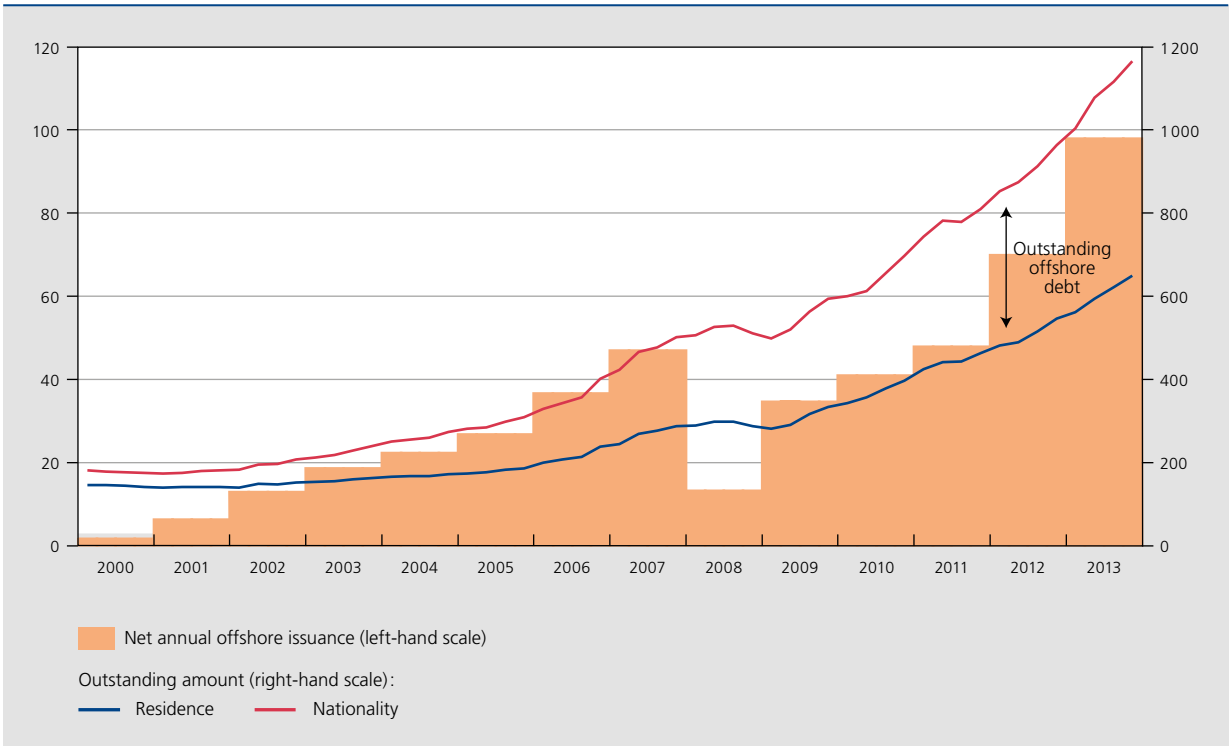
(1) The governments of emerging economies also operate on the international debt markets, albeit to a lesser degree, and the recent expansion of their debt was also less marked. Thus, the outstanding amount of international government debt instruments of the emerging economies has risen by almost 60 % since the end of 2007, reaching $ 750 billion at the end of 2013.

Foreign subsidiaries of firms established in emerging economies accounted for a large part of the debt issuance; thus, at the end of 2013, roughly 40 % of the outstanding debt had been issued offshore. The strong expansion of offshore issuance since the financial crisis is attributable mainly to firms which have their head office in China or Brazil.

It should be remembered that these offshore issues are not included in the balance of payments data since those data are compiled on the basis of the issuer's residence (namely the country in which the subsidiary is established) and not on the basis of the issuer's nationality (namely the country where the subsidiary has its head office). Foreign debt figures based on balance of payments data therefore underestimate the true outstanding amount of external corporate debt. Furthermore, offshore issues are generally denominated in foreign currency, which may increase a country's vulnerability in regard to currency mismatches and hence exchange rate fluctuations. That is a significant risk. For instance, the proportion of offshore corporate debt issued in a foreign currency is 84 % for China and almost 100 % for Brazil (McCauley *et al.*, 2013).

CHART 8 INTERNATIONAL DEBT SECURITIES OF THE NON-BANK PRIVATE SECTOR IN EMERGING ECONOMIES

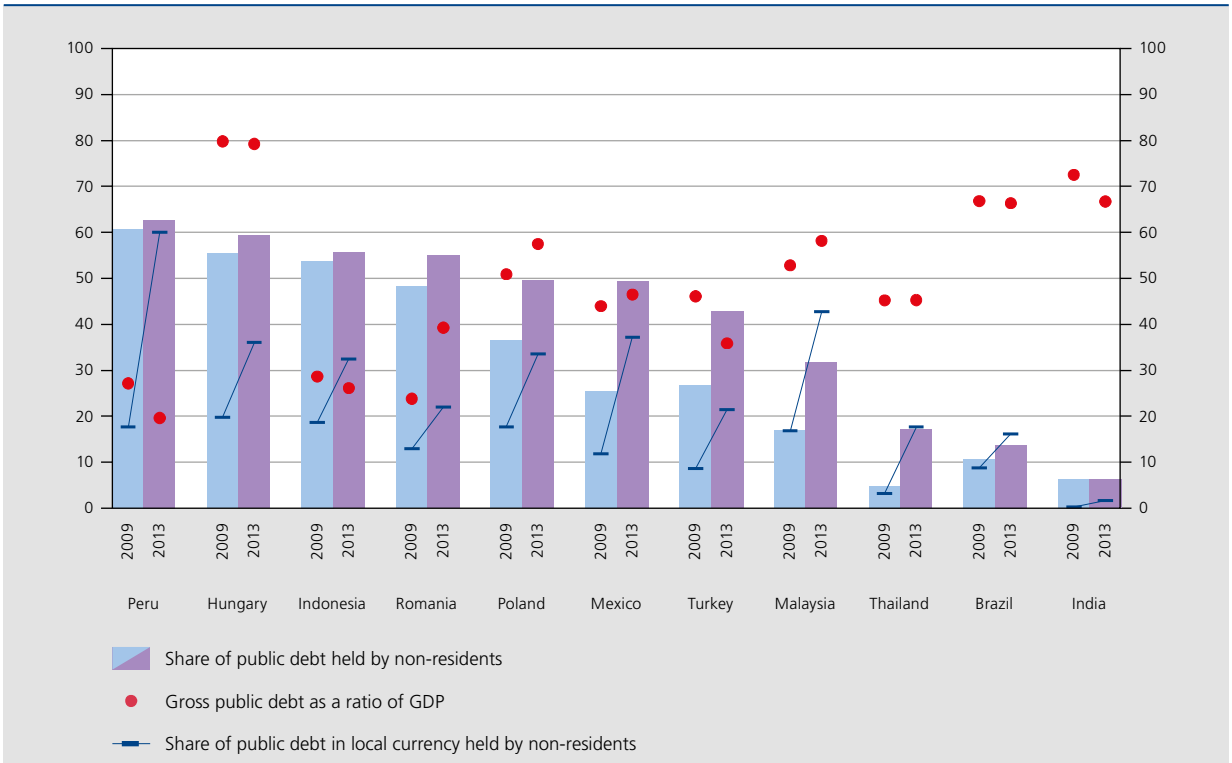
(in $ billion)



Source: BIS.

CHART 9 FOREIGN PRESENCE ON THE PUBLIC DEBT MARKETS OF THE EMERGING ECONOMIES

(in %)



Sources: IMF, Arslanalp & Tsuda (2014).

Growth of government bond issuance in local currency

Since the financial crisis, the foreign presence on the government debt market of emerging economies has also escalated. Thus, the share of non-residents in Thailand's outstanding public debt has quadrupled; in Malaysia and Mexico, that share has almost doubled. In emerging Europe, the rise in foreign participation has been smaller since it was already at a high level, reflecting the close financial integration within Europe. At the end of 2012, it was estimated that foreign investors held around $ 1 000 billion of the public debt of the main emerging economies (compared to $ 500 billion in 2010), of which 80 % originated from foreign non-bank financial institutions, namely large institutional investors, hedge funds and sovereign wealth funds (see Arslanalp & Tsuda, 2014)[1].

Combined with keener foreign interest in the public debt of emerging economies, the growing local investor base made it easier for governments of those countries to issue bonds in their local currency, greatly reducing the risk of currency mismatches[2]. The local public debt market expanded from $ 3 100 billion in 2009 to $ 4 900 billion in 2012, with Brazil, China and India accounting for more than 67 % of that (see World Bank, 2013). It was mainly on these local debt markets that foreign investors considerably strengthened their positions; in many countries they have doubled their positions since 2009. Thus, in 2013, foreign holdings (for which data are available) on the government bond markets in local currency of the emerging economies represented on average 27 % of the total in 2013, compared to just 12 % in 2009. In Peru and Malaysia, non-residents actually hold more than 40 % of government bonds in local currency.

3.1.3 Creation of potential vulnerabilities

Although capital inflows do offer advantages for emerging economies, they also entail a number of risks.

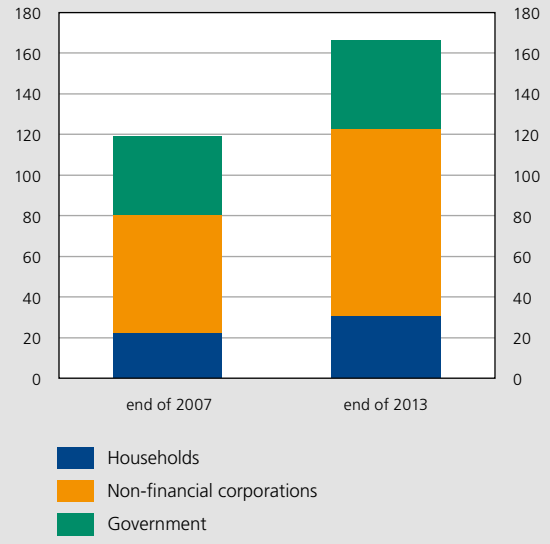
(1) For their study, Arslanalp & Tsuda (2014) used data for 24 large emerging economies which together make up the major part of the investable universe for the public debt of emerging economies.

(2) Firms in emerging markets also issued ever-increasing amounts of debt in local currency. However, foreign shares in that debt remain small, since these markets are illiquid and foreigners are less willing to accept the exchange rate risk as well as the liquidity and corporate credit risks.

First, a growing presence of foreign investors may increase the volatility of the local financial markets. For instance, increased foreign capital inflows make the emerging economies more sensitive to a sudden contraction or reversal of these flows. Liquidity flows of foreign origin tend to be highly pro-cyclical, which means that in good times they are cheap and abundant but rapidly dry up in the event of bad news, e.g. a worldwide rise in interest rates or any deterioration in the domestic fundamentals. That is what happened in the summer of 2013 (see below). It is also noticeable that in good times when there is ample liquidity, investors make fewer distinctions between emerging economies on the basis of their fundamentals, but in bad times they are more inclined to do so. Consequently, in times of adversity, countries with weak fundamentals experience relatively greater volatility. Moreover, excessive inflows over a protracted period may even contribute almost imperceptibly to a deterioration in the fundamentals, e.g. by the formation of asset price bubbles, until a general reversal in investor sentiment suddenly highlights these imbalances.

In addition, the increased presence of foreign investors on local financial markets is no guarantee of more liquid markets. On the Hungarian, Indonesian and Malaysian public debt markets in local currency, there was actually a decline in liquidity (IMF, 2013c). On less liquid markets, a relatively small reallocation of an investor's portfolio may have significant repercussions on prices.

CHART 10 DEBT RATIO OF EMERGING ECONOMIES
(in % of GDP)



Source: BIS (2014).

As already stated, the switch from bank to market financing has not reduced the risk of currency mismatches in the private sector: quite the reverse. Thus, more than 90 % of the international debt securities of firms in emerging economies are denominated in foreign currencies (BIS, 2014).

Finally, the large inflow of cheap liquidity to emerging economies helped to ease financial conditions, which in turn boosted asset valuations and debt accumulation. Many emerging economies therefore face macroeconomic and financial imbalances. Since 2007, both firms and governments have seen their debt ratio increase, by an average of 58 % and 14 % respectively. All this means that emerging economies are more vulnerable to a normalisation of interest rate levels and a reversal of capital flows, which could increase the cost of financing.

3.2 Developments since May 2013

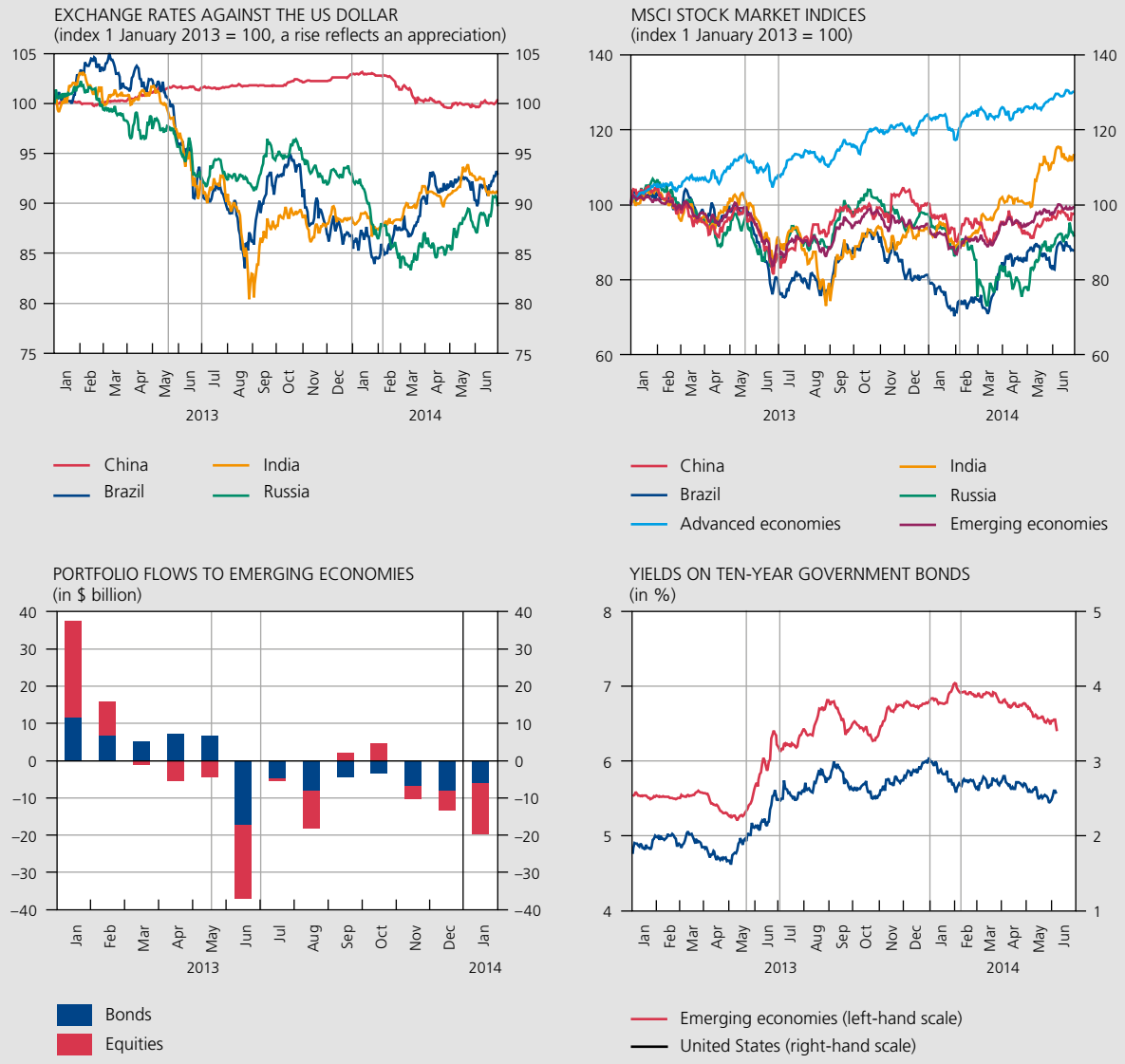
3.2.1 Announcement of a possible normalisation of US monetary policy causes turmoil on emerging economies' financial markets

On 22 May 2013, after a long period of exceptionally accommodative monetary policy in the advanced countries, Ben Bernanke – who was then Chairman of the Federal Reserve – took the financial markets by surprise when he announced that the Fed might reduce its monthly purchases of securities in the near future. The markets interpreted this signal as an indication that the abundant supply of cheap liquidity provided by the Federal Reserve could come to an end sooner than expected, unleashing turmoil on financial markets throughout the world. This period of market stress brought a decline in appetite for risk, a sharp depreciation of some currencies, rising bond yields, falling share prices, and higher financing costs worldwide.

Generally speaking, the emerging markets suffered heavier losses than the advanced economies. Thus, between the end of May and the end of June 2013, the emerging market share indices were down by around 16 %, against a fall of just 7 % for the advanced economies. Over the same period, the Brazilian and Indian currencies depreciated by around 10 % against the US dollar; the Russian rouble depreciated by around 5 %, whereas the Chinese yuan continued to appreciate.

Market expectations of an imminent adjustment to the Federal Reserve's monetary policy therefore led to a tightening of financial conditions worldwide, even before it had actually scaled down its purchase of securities

CHART 11 DEVELOPMENTS ON THE INTERNATIONAL FINANCIAL MARKETS [1]



Sources: Thomson Reuters Datastream, EPFR, BIS.
(1) The vertical lines correspond respectively to the following dates: 22 May 2013, 1 July 2013, 1 January 2014 and 3 February 2014.

or raised its interest rates. At the beginning of July 2013, in order to restore calm, both the European Central Bank and its American and English counterparts gave an assurance that their monetary policy would remain accommodative for some time to come. This forward guidance brought a considerable easing of tension on the financial markets of the advanced economies. However, the stress on the financial markets of the emerging economies lingered on. Thus, from July 2013, the equity markets in the advanced economies bounced back strongly, whereas those in the emerging economies remained rather volatile. Capital flows towards the advanced economies also recovered quickly, while the emerging economies saw a further outflow of funds. The pressure on the exchange rates of some emerging economies (such as Brazil and India) therefore persisted throughout the summer.

Apart from the vulnerabilities already discussed, the markets considered that there had been excessive convergence between the yields and risk premiums of the emerging economies and those of the advanced

economies[1]. In addition, the domestic situation accounted for only a third of these narrow differentials, whereas external factors were the reason for most of the convergence (see IMF, 2013c). A revaluation was therefore necessary. Moreover, many emerging economies also had weaker growth prospects, in contrast to the advanced economies where activity was at last beginning to pick up.

While the autumn proved to be a calmer period for the financial markets, there was nevertheless lingering uncertainty over the emerging economies. At the end of January 2013, risk aversion therefore increased again, triggering a second wave of capital flight.

3.2.2 Various determinants of volatility over three periods

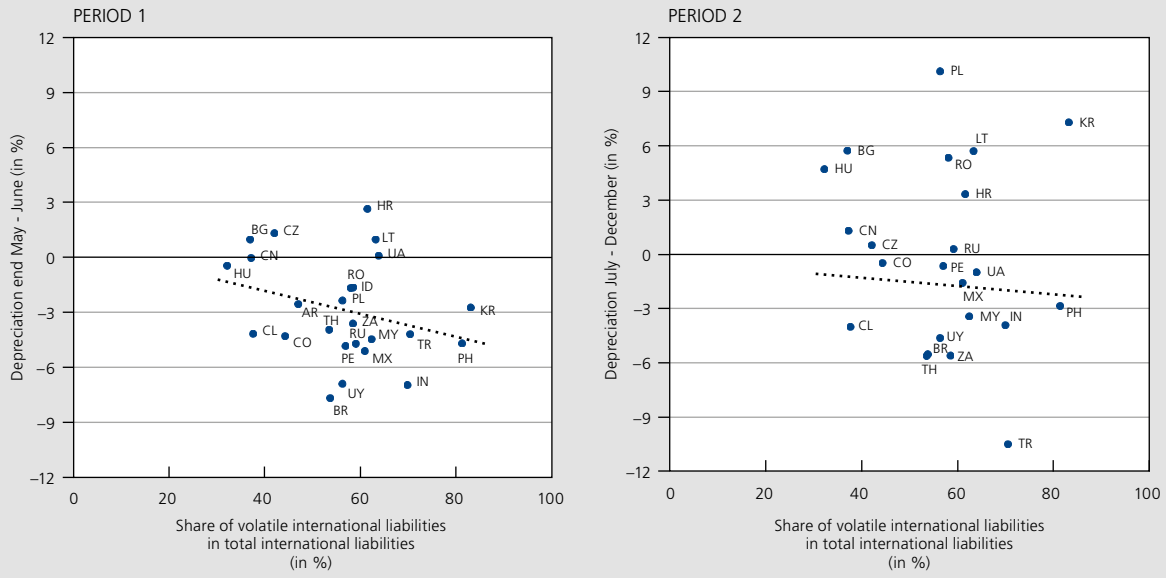
The literature on the importance of fundamentals as a reason for market reactions during the recent periods of financial market volatility in the emerging economies is still at an early stage. Yet it is already evident that the variables determining the volatility on the financial markets of emerging economies have changed over time. At first, push factors were also more dominant, but they subsequently gave way to pull factors.

(1) For instance, in May 2013, the yields on ten-year government bonds issued by Indonesia, Mexico and the Philippines were more than 300 basis points below the average for the period 2005-2012.

Period 1 (end May to June 2013): initial reaction affects all emerging economies, but especially those with a larger, volatile debt position

From the end of May to June 2013, all emerging economies, including those with sounder fundamentals, experienced turbulence on their financial markets. Countries with a current account surplus (such as Korea, Malaysia, the Philippines, and Russia) were also not immune to this turmoil, and their exchange rates came under downward pressure comparable to that experienced by deficit countries (such as Chile, Colombia, Peru, South Africa and Turkey – see chart 13, left). Conversely, countries with a debt position comprising more liquid components proved to be more vulnerable than the others. If, following the example of Eichengreen & Gupta (2014), we take as a proxy the ratio between the stock of portfolio and other investment liabilities and the total international liabilities, we find that the exchange rates of countries with a higher ratio such as Brazil, India, Mexico and Turkey (with a current account deficit) and Korea, Malaysia, the Philippines and Russia (with a current account surplus) were harder hit than those of countries with a relatively less liquid foreign debt (see chart 12, left). The reason is that investors wanted to dispose as quickly as possible of their emerging economy positions, which had escalated in the post-crisis period; that was achievable most easily – and without excessive losses – by reducing the most liquid positions. Furthermore, a parallel exercise based on the total foreign

CHART 12 VOLATILE EXTERNAL LIABILITIES AND EXCHANGE RATES



Sources: IMF, Thomson Reuters Datastream.

capital inflows in the years preceding the summer of 2013 reveals that countries which had recorded strong inflows experienced greater volatility on their financial markets (Mishra *et al.*, 2014). Those countries were apparently more sensitive to a change in global financial conditions, because investors had initially acquired the largest positions there, and therefore incurred the biggest risks. That explains why countries with sound fundamentals also came under relatively severe pressure during the May-June period (Aizenman *et al.*, 2014). This confirms once again the importance of the size and composition of gross positions in the assessment of a country's vulnerability.

Period 2 (July to December 2013): greater differentiation based on fundamentals

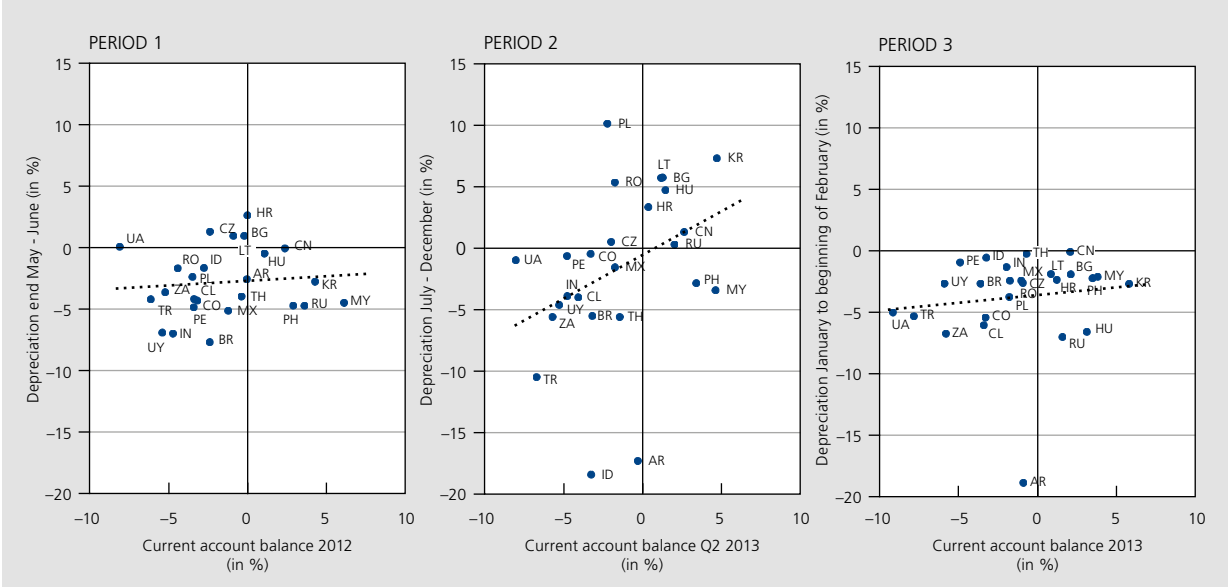
As the summer progressed, investors began to differentiate to a greater degree between emerging economies with strong fundamentals and those with weak fundamentals. This indicates that, following their initial reaction, they realised that fragile economies would find it harder to adapt to a less favourable financial environment. More specifically, investors focused on countries with a large current account deficit which were particularly sensitive to sudden capital outflows. That slightly weakened the link between financial market liquidity and pressure on exchange rates (see chart 12, right), whereas the connection with the current account balance was more obvious (see chart 13, left compared to centre). Thus, Brazil, India, Indonesia, South Africa and Turkey saw their currencies depreciate most sharply during the period July-December 2013. There were also marked depreciations in countries with high inflation and rapid credit expansion.

Countries such as Brazil, India, Indonesia, Russia and Turkey were therefore obliged to raise their key interest rates, introduce capital controls, and/or adopt restrictive macroprudential and fiscal measures. India, Indonesia and Russia among others also deployed their reserves. Conversely, countries with a positive external balance and low inflation, including most emerging countries in Asia and Central and Eastern Europe, were regarded as relatively secure. They therefore experienced little downward pressure on their exchange rate, while some actually encountered upward pressure. That enabled them to maintain their accommodative monetary and fiscal policies and some of them could even ease their policy to stimulate their less dynamic economic activity.

Period 3 (January to 3 February 2014): increasing significance of political tensions and divergent economic prospects

While the capital flight in the summer of 2013 had been caused by a global shock, namely the anticipation of a normalisation of US monetary policy, the financial volatility at the beginning of 2014 was due to specific developments in emerging economies themselves. Thus, in many

CHART 13 CURRENT ACCOUNT AND EXCHANGE RATE



Sources: IMF, national statistics, Thomson Reuters Datastream.

countries, economic activity got off to a weak start, a Chinese shadow bank almost went bankrupt, contributing to a growing awareness of the financial vulnerabilities that had developed in the emerging economies, political friction was intensifying (Thailand, Turkey, Ukraine) and, on 23 January, the Argentine central bank suspended support for the peso, which promptly lost 10 % of its value against the US dollar in a single day. All these circumstances together led to a renewed surge in volatility in the emerging economies at the end of January. Although the losses on equities and bonds were not as heavy as in the summer of 2013, the currency depreciations were on a comparable scale.

Attention now focused mainly on the emerging economies facing political tensions or weak growth prospects. In addition, countries with a large current account deficit continued to be penalised. To keep depreciations within bounds, a number of central banks took even more vigorous action than in the preceding period. For instance, in January 2014, the Russian central bank again sold off reserves. These actions stabilised exchange rates but – combined with the rising political tensions – they also blurred the connection between the scale of the exchange rate depreciation and the indicators that reveal macroeconomic imbalances (see chart 13, right). It is also noteworthy that countries which have implemented policy measures since May 2013 (India and Indonesia) have proved more resilient.

From February onwards, currencies and equities in the emerging economies gradually made up much of the ground lost in January, while at the same time the bond spreads narrowed. Against the backdrop of the renewed appetite for risk, investors in search of yield once again turned to emerging economies. However, confidence remains fragile, as any publication of new information may have adverse effects on emerging economies. Also, we have yet to see the impact of an interest rate hike by the Federal Reserve.

The recent periods of volatility have shown that the emerging economies and capital flows to those countries are still very sensitive to a sudden reversal in investor sentiment, even though most of those economies now have more flexible exchange rates, sounder fundamentals and better capitalised financial institutions than in the late 1990s. However, the above analysis shows that such fundamentals, particularly a current account surplus, are not sufficient to guard against financial market tension. In fact, the strong expansion of gross capital flows and positions since the financial crisis has led to increased vulnerability in emerging economies. The Federal Reserve's announcement that it might scale down its purchases of securities heightened awareness of those vulnerabilities and led to tougher financial conditions in emerging economies. A normalisation of interest rates in the United States could make the situation worse and thus reveal additional vulnerabilities not previously apparent, because the availability of data on the gross flows and positions of emerging economies is still limited, making it difficult to identify vulnerabilities in advance.

Conclusion

The current account (net concept) remains an essential variable in the analysis of a country's economic and financial vulnerabilities. The rapid progress of financial globalisation, as revealed by the unprecedented expansion of international gross capital flows, does bring advantages but it also creates additional risks which are not always taken into account by net concepts. Hence, a broader analysis framework which also incorporates gross concepts is required.

This article has demonstrated the importance of both indicators on the basis of two events : the financial crisis and the recent volatility on the financial markets of emerging economies. This analysis has shown that both net and gross concepts are relevant indicators, each shedding a different light on the location of potential risks.

While the current account has long been an established indicator, it is only since the financial crisis that gross capital flows and positions have attracted significantly greater interest. A start was therefore made recently on compiling and making available better statistics for identifying risks relating to currency and maturity mismatches, since there is still great uncertainty on that subject at present. More transparency in regard to imbalances in gross positions could help policy-makers to devise and implement targeted measures to address these vulnerabilities. Greater transparency also helps investors to make a better assessment of the risks connected with certain markets, so that the valuation of financial assets can be aligned more closely with the underlying fundamentals.

Bibliography

Aizenman J., M. Binici and M.M. Hutchison (2014), *The transmission of Federal Reserve tapering news to emerging financial markets*, NBER, Working Paper 19980.

Arslanalp S. and T. Tsuda (2014), *Tracking global demand for emerging market sovereign debt*, IMF, Working Paper 14/39.

Blanchard O.J., H. Faruqee and M. Das (2010), "The initial impact of the crisis on emerging market countries", *Brookings Papers on Economic Activity 41*, 263-307.

Blanchard O.J. and G.M. Milesi Ferretti (2009), *Global imbalances in midstream?*, Staff Position Note 09/29.

Borio C. and P. Disyatat (2011), *Global imbalances and the financial crisis: Link or no link?*, BIS, Working Papers 346.

BIS (2014), *84th Annual Report*.

Butzen P., W. Melyn and W. Vandevyvere (2010), "Rebalancing global demand", NBB, *Economic Review*, September, 21-38.

Chinn M.D. (2013), "Global imbalances", in G. Caprio (ed), *The Evidence and Impact of Financial Globalization* 3, Oxford, Elsevier, 67-79.

de Sola Perea M. and C. Van Nieuwenhuyze (2014), "Financial integration and fragmentation in the euro area", NBB, *Economic Review*, June, 99-125.

Eichengreen B. and P. Gupta (2014), Tapering talk: *The impact of expectations of reduced Federal Reserve security purchases on emerging markets*, World Bank, Policy Research Working Paper Series 6754.

Frankel J.A. and G. Saravelos (2010), *Are leading indicators of financial crises useful for assessing country vulnerability? Evidence from the 2008-09 global crisis*, NBER, Working Paper 16047.

Gourinchas P.O. (2011), *Global imbalances and global liquidity, Paper presented at the Federal Reserve Bank of San Francisco Asia Economic Policy Conference*, November, 28-30.

Gourinchas P.O. and M. Obstfeld (2012), "Stories of the twentieth century for the twenty-first", *American Economic Journal: Macroeconomics* 4, 226-265.

Hale G. and M. Obstfeld (2014), *The euro and the geography of international debt flows*, CEPR, Discussion Paper 9337.

Hobza A. and S. Zeugner (2014), *The "imbalanced balance" and its unravelling: Current accounts and bilateral financial flows in the euro area*, EC, Economic Papers 520.

IMF (2014a), "Recovery strengthens, remains uneven", *World Economic Outlook*, April.

IMF (2014b), "Moving from liquidity- to growth-driven markets", *Global Financial Stability Report*, April.

IMF (2013a), *Imbalances and Growth: Update of Staff Sustainability Assessments for G20 Mutual Assessment Process*, September.

IMF (2013b), "Financing future growth: The evolving role of banking systems in CESEE", *Central, Eastern and Southeastern Europe – Regional Economic Issues*, April.

IMF (2013c), "Transition challenges to stability", *Global Financial Stability Report*, October.

Jordà O., M. Schularick and A.M. Taylor (2011), "Financial crises, credit booms, and external imbalances: 140 years of lessons", *IMF Economic Review* 59, 340-378.

McCauley R.N., C. Upper and A. Villar (2013), "Emerging market debt securities issuance in offshore centres", *BIS Quarterly Review Q3*, 22-23.

Mishra P., K. Moriyama, P. N'Diaye and L. Nguyen (2014), *Impact of Fed tapering announcements on emerging markets*, IMF Working Paper 14/109.

Noeth B. and R. Sengupta (2012), "Global European banks and the financial crisis", *Federal Reserve Bank of St. Louis Review* 94 (6), 457-480.

Obstfeld M. (2012a), "Financial flows, financial crises, and global imbalances", *Journal of International Money and Finance* 31 (3), 469-480.

Obstfeld M. (2012b), *Does the current account still matter?*, NBER Working Paper 17877.

Ollivaud P. and Schwellnus C. (2013), *The post-crisis narrowing of international imbalances – cyclical or durable?*, OECD, Economics Department Working Papers 1062.

World Bank (2014), "Capital flows and risks in developing countries" in *Global Economic Prospects: Coping with policy normalization in high-income countries*, 96-119.

World Bank (2013), *Recent developments in local currency bond markets*, October (https://www.g20.org).