Global Imbalances and the Accumulation of Risk
Daniel Gros

It is often argued that a key factor behind the current financial crisis has been the combination of large and persistent US current account deficits with savings accumulation in emerging market economies (EMEs), i.e. the so-called ‘global imbalances’. However, the raison d’être of a financial system is dealing with imbalances (between savers and investors). Hence the question is: why should the existence of current account ‘imbalances’, even if they persist for some time, provoke the biggest financial crisis in living history? The answer must come from the huge build-up of a structural mismatch between supply and demand of assets that arose from the ‘global imbalances’.

Figure 1 below shows the close correlation between the US current account deficit and EMEs’ reserve flows. Until 2003 reserves accumulation has been much lower than the US deficit (which had thus been financed largely by private capital transfers); by contrast, after this date, reserves accumulation accelerated relative to the (increasing) US deficit and, in 2006, the change in EMEs’ reserves surpassed by far the US deficit.1 There is thus certainly a link between the US current account deficit and the build-up of the crisis, but this not as straightforward as sometimes believed.

As is well known, the current account deficit of the US arose from an unsustainable increase in household consumption and residential construction. This excess of domestic spending was financed mainly through an increase in the mortgage debt. One key characteristic of mortgages is that they are long term (often for 30 years). Through securitisation, the consumption spree of US households thus led to a large additional supply of long-term (private) assets.

However, this supply of longer-term assets was not matched by a corresponding demand. The excess savings from China and other EMEs were mostly intermediated by their central banks, which had been accumulating huge foreign exchange reserves. These reserves were (and still are) almost exclusively invested in short-to-medium term, safe and liquid securities,2 i.e. US Treasury securities and ABS issued by US agencies.3 Both assets are (at least they were) considered safe, liquid and, in practice, short term despite nominally denominated as long-term securities. In fact, survey data provided by Treasury International Capital System (TICs) suggest that US debt held by foreigners is almost entirely in form of long-term securities; yet, details on the maturity structure show that, in 2008, about two-third of this debt had less than 4 years to maturity.4

1 Part of the build-up of reserves also went into euros. IMF data suggest that this part was relatively minor (20-30%), but it might still have had an impact on government debt in the euro area, contributing to lower interest rates and a compression of yield differentials in Europe as well. Securitisation started in the euro area around this date, although it never acquired the same scale as in the US.

2 Brender & Pisani (2009) reports that about one-third of all foreign exchange reserves are in the form of bank deposits.

3 Debt issued by agencies and government-sponsored enterprises (GSE) is now backed by the “full faith and credit” of the federal government, but investors generally treated the securities as if they had negligible credit risk even before the US government extended a formal guarantee to Fannie Mae and Freddy Mac.

Another way to look at the same phenomenon is to note that the increased demand for US government debt by EMEs’ central banks led to lower yields on that debt, thus forcing those savers in the OECD countries that would normally have held government assets into a frantic ‘search for yield’. But this was a search for yield on safe (and liquid) assets.

There was thus a need for maturity and risk transformation, on a very large scale, to meet a persistent excess demand for safe and liquid assets coming from ‘crowded out’ investors.

Securitisation offered the means to supply the assets with the ‘wanted’ characteristics. The AAA tranches on securitised US mortgages (and other loans) seemed to provide the safety plus a ‘yield pick up’ without any risk, at least in the sense that the securities were rated AAA. As long as US house prices kept on increasing and unemployment remained low, actual delinquencies remained low as well and there seemed to be no reason for market participants to question the high ratings of these securities, although the incentive for the ratings agencies to provide favourable ratings were well known. AAA-rated residential mortgage-backed securities (RMBS) and other financial securities thus provided an important source of liquidity by their widespread use as collateral.

From flows to stocks

Most analysis of global imbalances has focused on the size of the flows, namely the current account deficit of the US relative to US GDP or world savings. Accordingly most concerns about global imbalances emphasised the magnitude of the exchange rate adjustment (dollar depreciation) that would be required to rebalance US spending and absorption. However, this aspect turned out not to have been crucial. The reason is that the severity of the present crisis is due to the unprecedented magnitude of the cumulated imbalances in the stocks of assets and liabilities.

Figure 2 shows the stocks of reserves accumulated by EMEs since 1990 and the cumulated value of the US current account deficits. Both curves take off only after the year 2000.

Over the period 2000-07, the cumulated US current account deficit amounted to almost $5 thousand billion and the household debt increased by almost $7 thousand billion, of which approximately $5 trillion was in the form of mortgages. Meanwhile the foreign exchange reserves of emerging markets increased by about $4 trillion (of which the Chinese central bank accounted for about a third). The financial system thus had to transform trillions of dollars of US household mortgages (issued by private banks) into the type of assets in excess demand from those investors (foreign and domestic) who had been crowded out of the government debt market due to the reserve accumulation by EME central banks. In doing so it took an enormous macro risk.5

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5 For an excellent description of the chain of risk-takers, see Brender & Pisani (2009).
Figure 2. Reserves accumulation by EMEs and the US cumulated current account deficits

Source: IMF, WEO data base April 2009.

Table 1. Value of long-term US securities held by foreign official institutions as percentage of the total foreign holdings, by type of security

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<tr>
<td>Total long-term securities</td>
<td>18.3</td>
<td>20.3</td>
<td>21.3</td>
<td>23.9</td>
<td>26.2</td>
<td>27.9</td>
<td>28.1</td>
<td>33.0</td>
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<tr>
<td>US equity*</td>
<td>5.1</td>
<td>6.0</td>
<td>6.7</td>
<td>6.8</td>
<td>8.3</td>
<td>8.8</td>
<td>8.5</td>
<td>12.2</td>
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<td>US treasury debt</td>
<td>52.6</td>
<td>61.7</td>
<td>58.5</td>
<td>64.0</td>
<td>67.5</td>
<td>70.2</td>
<td>73.9</td>
<td>76.2</td>
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<tr>
<td>US agency debt</td>
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<td>41.0</td>
<td>48.1</td>
<td>57.5</td>
<td>66.0</td>
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<tr>
<td>US corporate debt</td>
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<td>1.6</td>
<td>1.7</td>
<td>2.8</td>
<td>3.5</td>
<td>4.8</td>
<td>3.6</td>
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* Equity includes common stocks, mutual funds shares as well as other forms of ownership interest.

Table 1 illustrates the steady increase in the share of US Treasury and Agency securities held by foreign official institutions. In 2008, the latter held about 70% of those securities.

As mentioned earlier, the key technology that permitted the transformation of US mortgages into safe and liquid assets was securitisation. Until 2007, it was widely believed that securitisation should lead to a better distribution of risk. Indeed, the ‘originate to distribute’ model – in its pure form – implies a full risk transfer to the several buyers of the various forms of ABS and RMBS whereas according to the traditional banking model, the risk stays in the balance sheet of the bank supplying the loan. However, there is an additional element. In the context of global imbalances, the massive buying of US government paper by EMEs’ central banks had displaced other investors, mainly domestic, European and Japanese, whose preference previously had been for safe, short-term and liquid assets. Figures 3 and 4 provide supporting evidence for this argument.
Figure 3. Major foreign holdings of US Treasury securities (as a percentage of the total)

Note: BIC is Brazil, India and China. Russia is excluded because of lack of data availability before 2007.
Source: Treasury International Capital System (TIC S), Securities (B), Special data series, US Department of the Treasury.

Figure 4. Distribution across countries (or regions) of liabilities of US banks and brokers-dealers to foreigners

Source: TIC S, Securities (B), Special data series, US Department of the Treasury.

While Figure 3 documents the partial crowding out of Japan and Europe from the US Treasury securities market and the striking increase in the holdings of the major EMEs (Brazil, China and India), Figure 4 illustrates the boost in the foreign holdings of US bank liabilities.\(^6\) The latter is largely concentrated in international financial centres; about 60% of US banking liabilities are recorded against the United Kingdom and the Caribbean. The euro area, notwithstanding the smaller size, has multiplied its holdings by 3 between 2003 and 2008.

Financial firms had to produce safe, short-term and liquid assets from long-term illiquid and risky loans. The latter are usually the qualities of ABS, and especially RMBS. In fact, a piece of a pool of

\(^6\) They are short-term liabilities of banks and brokers-dealers and include non-negotiable deposits, CDs and short-term securities.
mortgages represents a long-term asset; it is only as safe as the underlying mortgages and is only liquid if there is a demand for this specific asset. Government paper of a given maturity is highly substitutable, whereas every asset-backed security constitutes a special case and thus by its nature is much less liquid. Ultimately an RMBS resembles more an equity investment in a regional mortgage lender than a government bond.

The excess demand for short term, safe and liquid assets could not have been satisfied by the securitisation of US mortgages (and consumer credit) without massive credit and liquidity ‘enhancements’ by the banking system. A clean securitisation with full risk transfer to the investor was thus not possible from a general equilibrium point of view.

How were the RMBS-type of assets made safe, short term and liquid? The exact way in which this was achieved varies enormously from case to case, but the general rules of the game were the following:

a) Safe: As already mentioned, the appearance of safety was created by the slicing of loan tranches coupled with high (AAA) ratings for the most senior tranches. In reality, most often, about 85% of the total, as experience suggested that a total loss of over 15% was extremely unlikely to occur. This service was provided by the ratings agencies for which it represented a major source of income.7

b) Short to medium term: Banks or shadow banking institutions like structured investment vehicles (SIV) or special purpose vehicle (SPV) used RMBS (and similar financial assets) as collateral to borrow more funds, e.g. by issuing asset-backed commercial paper (ABCP), which is short term and thus the kind of assets in excess demand then.8 Issuance of ABCP, which surged after around 2003 (around the same time as reserve accumulation by EMEs also increased as shown above), constitutes a classic maturity transformation, which was very profitable (given the absence of capital requirements) as long as central banks kept short-term interest rates low and promised (as did the Federal Reserve) to increase them only at a ‘measured pace’.

c) Liquid: ABCP were already more liquid than the assets with which they were backed. However, ABCP programmes were usually possible only if a bank provided a back-up line of credit. Only the banking system could provide the backstop liquidity that was required by the ultimate investors.

All these elements were necessary to recycle excess EME savings to dis-saving US households. Banks had to provide the maturity transformation and the credit enhancement that later proved so costly to them. This transformation required of course a huge increase in the balance sheet of the banking (and shadow banking) system and thus a huge increase in leverage.9 This increase in leverage, in turn, acted as a powerful amplifier once risk returned.

This analysis implies that one has to take into account the way current account deficits are financed, and how flow imbalances cumulated into large stock disequilibria, to assess the risk that persistent global current account imbalances may create for financial stability.

Looking forward, this analysis implies that the current (reduced, but still sizeable) US current account deficit should not lead to similar asset supply and demand mis-matches since US households are now starting to save and it is the US government that is running the deficit, thus supplying exactly the kind of assets needed by EME central banks.

References


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7 Benn Steil (2009) shows that the correlation between profits of the major ratings agencies and the number of securitised assets rated by them is almost perfect.

8 According to data mentioned by the US Treasury Department, in 2007 the outstanding amount of ABCP was about $150 trillion and they often have domestic counterpart. TIC data show that the small part held by foreigners is concentrated in Ireland, and more precisely, held by Irish branches of German banks.

9 An increase in capital commensurate with the risk taken by the financial sector would of course have limited the damage, but it would probably have made this transformation too expensive.
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