

The financial crisis and its international transmission: some tentative lessons^{*}

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I. INTRODUCTION

The financial crisis that started in the United States in the summer of 2007 gradually spread to the rest of the world economy, which is now in the midst of its most severe downturn since the Great Depression. The initial transmission of the crisis came through financial sector linkages—in particular, the exposures of highly-leveraged financial institutions in Europe and the United States to privately-issued asset-backed securities (ABS) backed by sub-prime mortgages. Financial sector linkages were also key in subsequent phases of the crisis—for example, emerging markets were severely affected by the process of deleveraging in advanced economies’ financial institutions triggered by the need to reduce the size of their balance sheets. By the second half of 2008, the financial crisis had spread with particular virulence to the real economy, causing a dramatic decline in global demand, economic activity, and international trade across the globe.

This note argues that international financial linkages, which grew dramatically over the past decade, are key in understanding the cross-border transmission of the financial crisis and its implications for exchange rates. In order to draw some lessons of the crisis the note starts by reviewing the evolution and structure of cross-border borrowing and lending in the period preceding the crisis. It focuses in particular on the size of cross-border exposures, their economic type, and sectoral aspects, highlighting key differences between advanced economies and emerging markets. These aspects help clarify the subsequent denouement of

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the crisis—in particular, they help understand why certain countries were more affected than others, as well as identify the factors driving the sizable exchange rate changes that took place over the past year. The note concludes with a brief discussion of a few “lessons” of the crisis which relate to capital flows, exchange rates, and international financial architecture more generally.

II. IMBALANCES AND CROSS-BORDER HOLDINGS IN THE RUNUP TO THE CRISIS

The period from the mid-nineties to 2007 was characterized by a rapid expansion in international trade, the emergence of ‘global imbalances’, as well as by a boom in cross-border capital flows, particularly among advanced economies. We discuss briefly some salient features of both phenomena.

A. Global imbalances

While there is a very extensive literature analyzing causes and consequences of global imbalances, as well as possible adjustment scenarios, accounts of imbalances are often simplistic (United States vs China). As argued in Blanchard and Milesi-Ferretti (2009), imbalances went through several phases with different driving forces: while a large U.S. deficit was a common element, its relative importance as well as its counterparts changed over time (Figure 1).

During the first phase (1996 to 2000), imbalances were characterized by a widening current account deficit in the United States, driven by an investment boom, and surpluses in emerging Asia and Japan, driven by sharply declining investment rates. Flows into the U.S. took primarily the form of FDI and portfolio equity investment. During 2001 to 2004 the U.S. deficit continued to widen, driven this time by a sharp decline in domestic saving, with a 5 percent of GDP worsening in the fiscal balance playing a key role. Its surplus counterparts included not only Asian countries, but also oil exporters and a number of countries in Central and Northern Europe, including Germany. The financing of the U.S. deficit was primarily in the form of foreign purchases of U.S. bonds, with foreign official institutions playing an important role.

Finally, during the ‘boom and bust’ phase 2005-2008 the composition of imbalances changed once again. The U.S. deficit declined but remained large, with a correction in ‘real’ trade flows offset by a sharply higher commodity prices, and foreign purchases of U.S. Treasury, corporate, and agency bonds accounted for the lion share of its financing. A number of European countries (such as Ireland, Portugal, Spain, the United Kingdom, and countries in Central and Eastern Europe) accounted for an increasing fraction of world current account deficits, driven primarily by investment booms, including in construction. These larger deficits were accompanied by credit booms and appreciating real effective exchange rates. Among their counterparts, surpluses widened dramatically in China and oil exporters (driven by higher saving), but also in Germany and other countries in Central and Northern Europe.

In sum, even though imbalances were not the trigger of the financial crisis, they clearly reflected the “financial excesses” that were the root cause of the crisis—and particularly so in the period 2005-2008.

B. Cross-Border Flows

The process of international financial integration—and in particular the substantial two-way capital flows among advanced economies—have received comparatively less attention than global imbalances prior to the current financial crisis. Because these aspects are of key importance in understanding the cross-border transmission of the crisis, it is useful to briefly review their evolution over the past decade.

Figure 2 shows global capital flows by region in relation to the size of world GDP. The increase in these flows over the 1998-2007 decade—from around 5 percent of world GDP in 1998 to over 17 percent of world GDP in 2007—is striking. The dominant importance of flows to and from the main advanced economies is evident, and would be even more dramatic if euro area countries were considered separately (in the figure only flows into and outside of the euro area are included).¹

Figure 3 focuses on external assets and liabilities, and hence on stocks rather than flows.² It shows that, for advanced economies, cross-border holdings increased in all asset and liability categories—by the end of 2007, both external assets and external liabilities exceeded 220 percent of advanced economies’ GDP, twice the ratio relative to a decade earlier. In terms of portfolio composition, the very large increase in equity instruments is driven both by flows and by the increase in stock price valuations during this period. The increase in debt holdings represents almost entirely a boom in cross-border debt flows.

Banks played a very important role in this respect (Table 1). Total cross-border claims and liabilities of BIS-reporting banks almost tripled in U.S. dollar terms between end-2001 and end-2007. In both absolute terms and in relation to the each region’s GDP, bank positions within Europe are dominant, while cross-border bank assets and liabilities grew much more slowly—and are much less important in absolute terms—in other advanced economies.³ For

¹ Capital inflows and outflows for Middle-Eastern countries are significantly understated because countries such as the United Arab Emirates and Qatar do not report balance of payments data to IFS.

² Cross-border holdings are defined as the sum of total external assets and liabilities from a country’s international investment position. Here euro area countries are considered separately.

³ Netting out intra-euro area holdings reduces claims and liabilities between euro area countries by about one half.

advanced economies as a whole, over half of the increase in external debt assets and liabilities over the past decade is explained by banks.

The increased international role of banks is not fully captured by these statistics, which are based on the residence principle.⁴ In recent years banks expanded their international activity not just through cross-border borrowing and lending, but also by setting up overseas affiliates and branches that would often fund themselves on local markets. And European banks played a particularly important role in this respect. This type of international banking activity is captured by balance of payments statistics only to the extent that the affiliates fund themselves on international markets. Exposures related to this type of banking activity played an important role in the transmission of the crisis, as discussed further below.

For emerging markets (also Figure 3) total cross-border holdings increased too, but both the pace of the increase and the overall size of cross-border exposure remains much smaller. For example, total external liabilities increased from some 70 percent of GDP in 1998 to 88 percent of GDP in 2007 for the aggregate of emerging markets, while external assets increased from 57 percent of GDP to 88 percent of GDP. But the most striking difference is in terms of portfolio composition: for emerging markets, capital flows took increasingly the form of FDI and portfolio equity investment, particularly on the inflows side, with a much reduced role for external debt liabilities. Indeed, between 1998 and 2007 total debt liabilities declined from 47 to 34 percent of GDP—the total stability of debt assets and liabilities as a share of GDP is due to the increase of foreign exchange reserves on the asset side of the balance sheet. Figure 4 shows how the net external debt position improved significantly in Latin America and especially emerging Asia, where hefty reserve accumulation implies a large net creditor position in debt instruments. In contrast, the net position in foreign direct investment and portfolio equity became much more negative (especially in emerging Europe).

One key implication of the change in the structure of external liabilities in emerging markets (as well as of the improvement in their net external position, particularly in Asia but also in Latin America) has been a reduction in their foreign currency exposure. External debt liabilities, which declined, are typically denominated in foreign currency, while FDI and portfolio equity liabilities, which increased, are denominated in domestic currency. This change plays an important role in explaining the effects of the crisis on balance sheets in emerging markets, as discussed in Section IV. Exposure to BIS-reporting banks grew rapidly in emerging Europe (Table 1), while it remained low in relation to the region's GDP in both Asia and Latin America—not surprisingly in view of the reduction in the level of external

⁴ This implies, for example, that a claim of the U.S. affiliate of Barclay's on the U.K. affiliate of Goldman Sachs is considered a U.S. claim on the United Kingdom, while on a consolidated basis this would be a claim of the U.K. banking system on the U.S.

debt. Banks from advanced economies increased significantly their presence in emerging markets during this period, but primarily by raising funds locally.

Of course external vulnerabilities are not only affected by the portfolio structure, but also by the overall external position. Table 2 provides a regional summary of current account balances and net foreign asset positions in emerging markets at the end of 2007—the year before the crisis. Regional differences were substantial, with countries in emerging Europe characterized by larger current account deficits and net external liabilities than countries in other regions.

III. THE FINANCIAL CRISIS AND SUDDEN STOP IN CAPITAL FLOWS

The previous section has highlighted the extent of cross-border holdings for advanced economies on the eve of the crisis as well as the key role played by banks, both in direct cross-border holdings of debt instruments and more generally through their international banking activity. As is well known, the crisis originated in a segment of the U.S. securities market—namely, privately-issued asset-backed securities (ABS) backed by sub-prime and other types of mortgages. Figure 5 shows net foreign purchases of U.S. bonds, the most important source of U.S. current account deficit financing over the past decade. Purchases of corporate bonds, which include privately-issued ABS, had played a very important role in previous years, virtually dried up in the 3rd quarter of 2007 and have not recovered since. The decline in the demand for privately-issued U.S. corporate securities, together with the reduction in U.S. short-term interest rates by the Federal Reserve, led to a weakening of the U.S. dollar, that by March 2008 had reached historical lows (Figure 6).

Table 3 helps to explain the initial international transmission of the crisis. It highlights while total holdings of U.S. debt securities on the eve of the crisis (June 2007) were particularly high in China and Japan, holdings of privately-issued mortgage-backed securities were instead concentrated in advanced economies and offshore centers. Among advanced economies, the largest holders were France, Germany, Switzerland, and the United Kingdom—in addition to banking centers such as Belgium and Ireland.⁵ Hence a portfolio shock which reduced the value of claims on the United States (in principle not dissimilar to the ones considered in scenarios featuring a sudden adjustment in global imbalances) had different cross-border implications to those underscored by these scenarios, and did not have a significant direct impact on large creditor countries such as China, Japan, and oil exporters.⁶

⁵ Of course the actual exposures of banks domiciled in these countries could have been larger to the extent that their affiliates in the United States or in offshore centers were holders of these securities. For a discussion of foreign exposures to U.S.-issued ABS, see Beltran et al., 2008.

⁶ Scenarios featuring a disruptive unwinding of global imbalances were typically characterized by a decline in demand for U.S. portfolio instruments and a large dollar depreciation (Faruqee et al., 2007; Lane and Milesi-

The statistics presented in Table 3 provide a picture of cross-border exposures to U.S. asset-backed securities. Calculating ultimate exposures for different banking systems is considerably more complex, for two reasons.

1. Offshore center activity makes it more difficult to infer the ultimate ownership of mortgage-backed securities. For example, as of June 2008 close to \$200bn in U.S. asset-backed securities were held in offshore centers, of which the large majority in the Cayman Islands, where structured finance is of particular importance. While U.S. residents may well have been the ultimate owners of some of these securities, financial institutions from other advanced economies were also exposed, in all likelihood through their conduits and structured investment vehicles (SIVs).
2. Foreign banking systems had exposure to the U.S. mortgage market through their “local” U.S. activities as well. As of June 2007, U.S. affiliates of foreign banks had \$3.66 trillion in dollar claims on U.S. residents, of which \$3.2 trillion were claims of affiliates of European banks. Swiss banks had the largest “local” exposure (close to \$1 trillion) followed by U.K., French, and Dutch banks.

As has been already documented in the literature on the financial crisis, initial losses were concentrated in highly-leveraged institutions in the financial sector and in off-budget entities (such as conduits and SIVs) set up by these institutions. An additional source of vulnerability was the funding structure supporting holdings of asset-backed securities (see, for example, Arteta et al., 2009). Conduits (and to a lesser extent SIVs) financed ABS holdings through issuance of short-term asset-backed commercial paper (ABCP), in turn typically held by investors such as money-market mutual funds. As these sources of funding dried up, financial institutions took these off-budget entities “on budget.”

While in terms of wealth destruction these losses on investments were initially much smaller than those associated with, say, a stock market decline, their concentration in highly-leveraged institutions gradually set in train a process of asset sales that triggered sharp declines in asset prices. At the same time, extreme uncertainty about the size of losses and their distribution across banks implied a freezing of interbank markets and credit more generally.

Following the collapse in Bear Stearns, there was a major retrenchment in cross-border banking flows in the 2nd quarter of 2008 (Figures 8, 9, and 10), which was particularly dramatic in banking centers such as the United Kingdom and Switzerland, but was also

Ferretti, 2007), with stronger spillover effects on countries “long” in dollars (such as China and Japan) rather than on Europe.

significant for the United States. In the 3rd quarter the global reach of the crisis became increasingly evident, with signs of slowing or declining activity across the globe.

The financial crisis morphed into a global downturn at the end of the summer of 2008. The fourth quarter of 2008 was characterized a dramatic fall in world demand and a collapse in cross-border flows, as a result of the deleveraging process (Figures 7-10). The end of the period of “easy credit” as well as the concentration of losses in the banking system had significant effects on a number of economies in Central and Eastern Europe that relied more heavily on external finance and particularly on bank credit, as highlighted by the recourse to an IMF program by Hungary, Latvia, and the Ukraine. The deleveraging process was associated more broadly with sharp depreciations of most floating emerging market currencies, with the selling by banking institutions compounded by hedge funds reducing the size of their balance sheets to meet redemptions. As shown in the top panel of Figure 9, foreigners were net sellers of portfolio instruments particularly in the 4th quarter of 2008, and there was a net reduction in “other” foreign claims (primarily bank loans and deposits), which was particularly substantial in emerging Asia. Safe haven currencies—the dollar, the Swiss franc, and especially the yen—rebounded strongly.

Conceptually, there are three key cross-border aspects of the financial crisis in the second part of 2008:

- Unprecedented deleveraging by financial market institutions and other financial intermediaries;
- a sharp increase in home bias, likely influenced as well by measures implemented nationally to deal with banking sector problems;
- a dramatic increase in risk aversion and “flight to safety”.

In principle, an homogeneous increase in home bias across countries should lead to an appreciation of creditor-country currencies and a depreciation of debtor-country currencies. However, for the United States there were two factors that pushed the dollar higher. The first was the role of Treasury securities as safe assets—portfolio flows into U.S. Treasuries were very high in the second half of 2008, as shown in Figure 5. The second factor, described in more detail by McGuire and von Peter (2009), was a “dollar shortage” in the banking system. The cause of this shortage was alluded to in the previous section. Non-U.S. financial institutions had financed their holdings of U.S. asset-backed securities (directly or indirectly through their conduits and SIV) through issuance of short-term dollar-denominated asset-backed commercial paper. This source of funding dried up, both because of the concerns on the solvency of the banks and because of the run on money-market funds, traditional holders of ABCP, following the Lehman bankruptcy and the news that the xxx fund had ‘broken the buck’. Central banks stepped in, with the activation of swap lines between the Fed on the one

hand, and the ECB and several other central banks on the other hand, designed to provide dollar liquidity.

In emerging markets, the deleveraging process and increased risk aversion in advanced economies led to a “sudden stop” in capital inflows, with net sales of emerging market assets by foreign residents and large exchange rate depreciations, particularly in countries where the decline in gross flows was more dramatic (Figure 11). Several emerging markets sold reserves to cushion the impact of the sudden stop in capital inflows and ease pressures on private sector financing (Figure 10, bottom panel).

In recent months the financial turmoil has abated and there are tentative signs of recovery in the world economy. The prices of ‘risky’ assets have rebounded, and in foreign exchange markets the dramatic exchange rate changes that took place between the fall of 2008 and early March 2009 have been mostly unwound, with the dollar depreciating and most floating emerging market currencies appreciating strongly.

It is still too early to tell whether the global recovery will be sustained or whether it is primarily driven by temporary factors such as sharply expansionary fiscal policies and end to the process of de-stocking. But in any case, it is clear that the consequences of the crisis will be long lasting, both in terms of their effects on the economy and the structure of the financial system and in terms of how economic thinking will be shaped in years to come. In what follows we turn to some tentative lessons that the crisis has taught us, primarily related to international macroeconomics and finance.

IV. SELECTED LESSONS AND OPEN QUESTIONS FROM THE CRISIS

There is a growing literature discussing what we have learned from the crisis (see, for example, IMF, 2009). Many of these issues are not new, and some featured prominently in the debate on emerging market crises a decade ago. Indeed, this financial crisis has shown that macroeconomic and financial weaknesses and exposures that were considered potential sources of external vulnerability for emerging markets became sources of vulnerability for advanced economies as well.⁷ Other key issues not mentioned here include, for example, the architecture and scope of domestic financial regulation; the appropriate mechanisms for cross-border financial supervision; whether and how monetary policy should respond to asset price bubbles; and the underlying factors explaining the size of the collapse in international trade.⁸

⁷ This parallel was noted, early in the crisis, by Reinhart and Rogoff (2008).

⁸ On this second topic see, for example, Claessens (2009). On the first, see IMF (2009b).

A. Large current account deficits are dangerous

Of course there is no theoretical presumption that current account deficits and surpluses, even if large, are necessarily bad. Indeed, capital should flow to where it has the highest risk-adjusted return. But there are a number of reasons why large current account imbalances may also reflect a variety of domestic and international problems and distortions. While global imbalances were not per se the trigger of the crisis, they did reflect to a significant extent these problems and distortions, and the policy advice dispensed on how to reduce them was largely appropriate. And imbalances were clearly unsustainable, even though their unwinding is occurring in a different guise from the “disorderly adjustment scenarios” that some of the literature had foreshadowed.

Turning from global imbalances to large deficits in individual emerging markets, it is remarkable to observe that virtually all ‘crises’ triggered by the world financial turmoil happened in countries that were running high current account deficits and had high external liabilities (Table 4). The boom period of easy credit was associated with a dramatic compression in spreads, as markets took a very benign view of external vulnerabilities—in this regard, the crisis reflects in part an extreme form of ‘a return to fundamentals’. At the individual country level, the key issue going forward will be how to insure against risks while not precluding net access to foreign capital for countries whose growth prospects warrant higher returns on investment.

So what are the prospects going forward? Imbalances are narrowing substantially in 2009, reflecting lower oil prices but also sharp contractions in domestic demand in several deficit countries. To what extent is this reduction in imbalances permanent? While there is clearly a cyclical element at play in explaining smaller imbalances, other factors are likely to be more persistent. One is the increase in private saving in a number of deficit countries that experienced significant wealth losses through housing and stock price declines. And another related factor is downward revisions to potential output. These are going to be larger in countries that were experiencing credit booms and running large current account deficits—and in relation to previous projections on the evolution of imbalances will imply lower imports over the medium term.

B. The Importance of Sectoral Exposures

A key factor in explaining the severity of the domestic and international repercussions of the financial market shock was the sectoral exposure to losses. This “lesson” is not new—the Asian crisis had provided compelling evidence of the importance of balance-sheet linkages when there are large changes in exchange rates and asset prices. Sectoral exposures played a key role in the initial transmission of the crisis to countries whose financial institutions were exposed to asset-backed securities. More generally, the concentration of exposure—and initial losses—in the highly-leveraged financial sector implied much more severe multiplier effects. Among emerging markets, several countries in Central and Eastern Europe, that

relied extensively on external credit and where euro area banking institutions played a key role in domestic banking were severely affected by the seizing up of credit markets and banking sector woes in advanced European countries. Foreign-currency exposures to domestic banks by unhedged sectors (such as households in Hungary) implied a more disruptive impact of exchange rate depreciation that would otherwise have been the case.

C. Exchange Rate Flexibility and Portfolio Structure

In a number of emerging market countries, exchange rate depreciations during the second half of 2008 were of an order of magnitude that would have wreaked havoc on external accounts in the past, because of balance-sheet effects. Even though economic activity suffered, these economies have this time been much more resilient, especially if one considers the extent of the global recession. The changes in portfolio structure discussed in Section II played a key role. In fact, external liabilities of a significant number of emerging markets are now denominated in domestic currency—countries are “net creditors” in FX terms (see, for example, Figure 4). As a result, the balance sheet effects of an exchange rate depreciation work very differently now relative to the past. This point is clearly illustrated in Figure 13, which compares the effects of exchange rate depreciation on the net foreign asset position in a number of past crisis episodes with the same effects in 2008. While the ratio of external liabilities to GDP rose significantly in all past crisis episodes, reflecting a short position in foreign currency, the opposite was true in 2008—the stronger FX position of countries and the exposure of foreign residents to declining domestic asset prices (such as equity values) implied an improvement in the net external position for countries such as Brazil, Korea, and Turkey.

D. Fixed Exchange Rates and Credit Booms

The aftermath of the crisis has further underscored the difficulty in closing current account deficits and unwinding appreciations caused by (ex-post) unsustainable credit booms under fixed exchange rate arrangements, and particularly so when inflation in trading partners is very low. A key policy issue going forward will be how to control booms—and contain current account deficits—when monetary policy is tied to the mast. An obvious policy lever is fiscal policy. One potentially significant problem, further discussed below, is that credit booms tend to ‘flatter’ fiscal accounts. Under these circumstances, countries may have political difficulties running very large fiscal surpluses even if these were “structurally” justified. Many open issues remain on the table: How actively can prudential regulation and supervision tools be used to control booms? Is there a role for capital controls, and of what type? Should foreign-currency borrowing be discouraged, and how?

E. Credit booms can flatter fiscal accounts

The crisis has shown very dramatically how quickly fiscal prospects change when a credit boom comes to an end. Several industrialized countries—Ireland but also the United Kingdom and the United States—are prime examples of how declining asset prices can have very significant effects on public revenues, that go well above the traditional cyclical effects of automatic stabilizers.⁹ For all countries with a well-developed financial system, and all the more so for countries with established fiscal frameworks, a better understanding of the impact of asset prices on revenues is key. Another related issue is the estimation of “output gaps” for the purpose of calculating structural balances—both the level of potential output and its growth rate are likely to be revised downwards in several countries, suggesting—with the benefit of hindsight—that fiscal policy was “looser” than previously thought.

F. Global financial architecture issues

The resilience of several emerging markets to the crisis is also related to the availability of reserves that helped bridge shortfalls in capital inflows without requiring dramatic changes in current account balances. While the literature makes a strong case that reserve accumulation in a number of emerging markets has been excessive, the crisis clearly shows the need for mechanisms that ensure the rapid availability of resources for countries facing sudden stops in capital flows through no fault of their own. Reforms of the international financial architecture that lower the incentive to accumulate precautionary saving through ever-higher foreign exchange reserves would not only be desirable from a ‘country insurance’ perspective, but also help rebalance demand in the world economy.

Yet this is still an area where there are more questions than ready answers. A key issue going forward will be how public authorities in emerging markets will respond to a resumption of capital inflows once the crisis period subsides. In particular: is there a risk of “global imbalances mark II” with emerging markets stepping up again purchases of U.S. Treasury securities—which will be in plentiful supply? Or will the crisis have a lasting negative effect on the role of the dollar as reserve currency, as the “flight-to-safety” wanes? To what extent can the increase in IMF resources, or contingent mechanisms such as the FCL, help provide an alternative to reserve accumulation as an insurance mechanism? Could a synthetic reserve asset like the SDR (if issued in significant amounts) provide an alternative to reserve accumulation? What role can other cross-border insurance mechanisms, such as reserve swaps and other reserve-pooling agreements?

⁹ For an earlier analysis of this issue, see, for example, Jaeger and Schuknecht (2007).

V. CONCLUDING REMARKS

TO BE ADDED

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Table 1. International claims and liabilities of BIS-reporting banks vis-à-vis specific regions (locational banking data, 2001 and 2007)

	BIS bank claims	BIS bank liabilities	BIS bank claims	BIS bank liabilities
	2001	2001	2007	2007
	US\$ billions			
All countries	11,364	10,115	32,840	28,284
Developed Countries	10,512	9,065	30,336	25,695
i) Europe	5,902	4,628	19,269	15,291
ii) Other	3,138	2,413	6,998	5,213
iii) Offshore centres	1,472	2,024	4,070	5,191
Emerging and developing countries	2,196	1,049	2,504	2,589
i) Africa	56	60	100	184
ii) Middle East	106	283	361	689
iii) Asia & Pacific	267	349	831	859
iv) Europe	138	110	809	474
v) Latin America/Caribbean	285	247	404	383
viii) IO and unallocated	262	1,069	620	2,889

	BIS bank claims	BIS bank liabilities	BIS bank claims	BIS bank liabilities
	2001	2001	2007	2007
	ratio of region's GDP			
All countries	36%	32%	60%	52%
Developed Countries	44%	38%	81%	69%
i) Europe	69%	54%	116%	92%
ii) Other	20%	16%	34%	25%
Emerging and developing countries	29%	14%	15%	15%
i) Africa	17%	18%	12%	21%
ii) Middle East	13%	34%	21%	39%
iii) Asia & Pacific	8%	11%	11%	11%
iv) Europe	14%	11%	24%	14%
v) Latin America/Caribbean	14%	12%	11%	11%

Reported data are claims and liabilities of BIS-reporting banks on a locational basis vis-à-vis the various regions. Source: Bank for International Settlements.

Table 2. Emerging markets: external position and current account balances, 2007

	Asia	Latin America	Emerging Europe	Middle East and North Africa
Median CA balance	1.8%	-0.8%	-7.4%	2.8%
Median NFA position	-24.3%	-33.6%	-50.1%	25.0%
Number of countries with CA deficit < -5% of GDP	3	7	15	7
Number of countries with NFA < -50% of GDP	3	3	10	5
Total number of countries	21	21	20	25

Source: IMF statistics, national sources, and Lane and Milesi-Ferretti, “External Wealth of Nations” database.

Table 3. Foreign holdings of U.S. bonds (in billions of US\$)

Country	Mid 2008					Mid 2007				
	Total Bond Holdings	Treasury	Agency	Corporate	Corporate MBS	Total Bond Holdings	Treasury	Agency	Corporate	Corporate MBS
	(billions US\$)									
Total	7352	2589	1637	3126	458	6642	2194	1413	3035	594
Advanced	3646	1032	514	2100	234	3508	963	508	2037	350
Offshore	810	115	107	587	196	762	85	111	566	204
Emerging+developing	2897	1442	1016	438	28	2373	1147	794	432	40
China	1106	535	544	27	6	894	477	387	29	9
Japan	1052	628	272	152	16	976	622	231	123	17
Korea	123	41	60	23	2	133	44	70	19	2
Hong Kong	118	65	31	22	9	107	57	24	26	15
Singapore	67	32	8	27	2	67	36	5	26	3
Cayman Islands	515	45	51	419	164	461	29	56	376	157
United Kingdom	488	52	30	406	46	500	48	28	424	90
Luxembourg	466	103	32	331	22	469	56	42	371	39
Belgium	436	15	25	395	11	372	15	33	323	19
Ireland	325	20	35	270	28	261	16	30	215	33
Switzerland	152	46	19	88	12	155	40	18	97	20
Germany	176	52	12	112	31	166	46	15	105	33
Netherlands	123	18	18	88	21	136	17	24	96	32
France	89	16	19	55	24	90	17	11	62	31
Spain	21	9	2	10	0	16	6	2	8	0
Italy	16	11	3	2	0	24	14	4	6	2
Russia	223	95	127	0 ..		147	34	114	0 ..	
Mexico	115	41	38	36	0	89	34	33	22	0
Mideast Oil Exporters	251	140	65	46	5	169	111	34	24	4

Source: U.S. portfolio surveys.

Table 4. External Imbalances in IMF Program Countries, 2008
(in percent of GDP)

	Current account balance	Net foreign asset position
Belarus	-8.4%	-23.0%
Hungary	-7.8%	-105.0%
Iceland	-34.7%	-302.7%
Latvia	-13.2%	-81.7%
Pakistan 1/	-8.4%	-38.3%
Romania	-12.6%	-57.4%
Serbia	-17.3%	-68.4%
Ukraine 1/	-7.2%	-21.9%

1/ Net foreign asset position as of end-2007

Sources: IMF statistics and Lane and Milesi-Ferretti, “External Wealth of Nations” database.

Figure 1. Global imbalances, 1996-2008

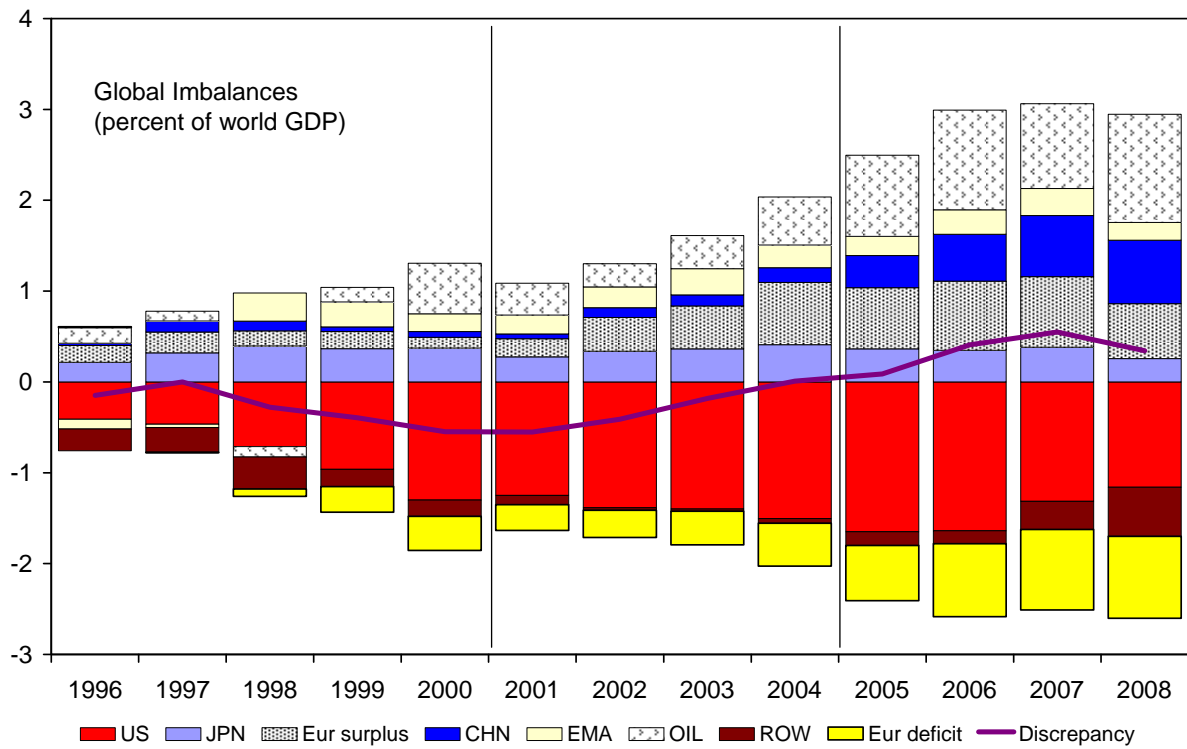
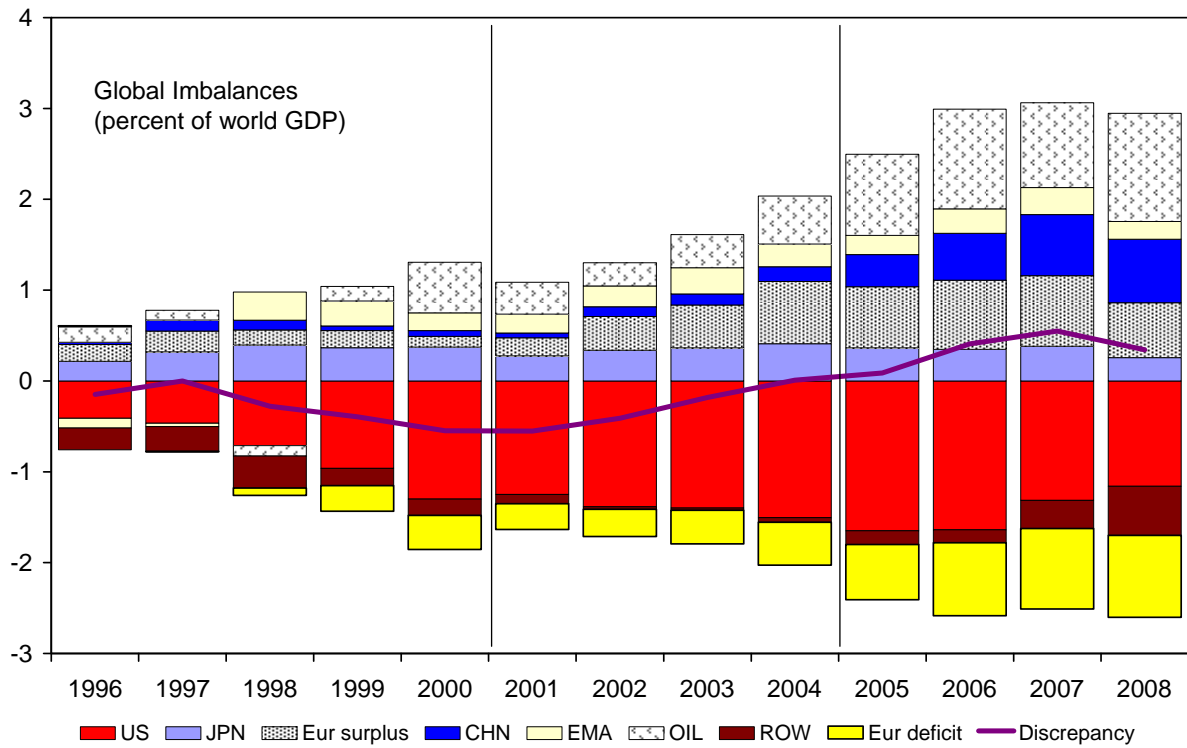
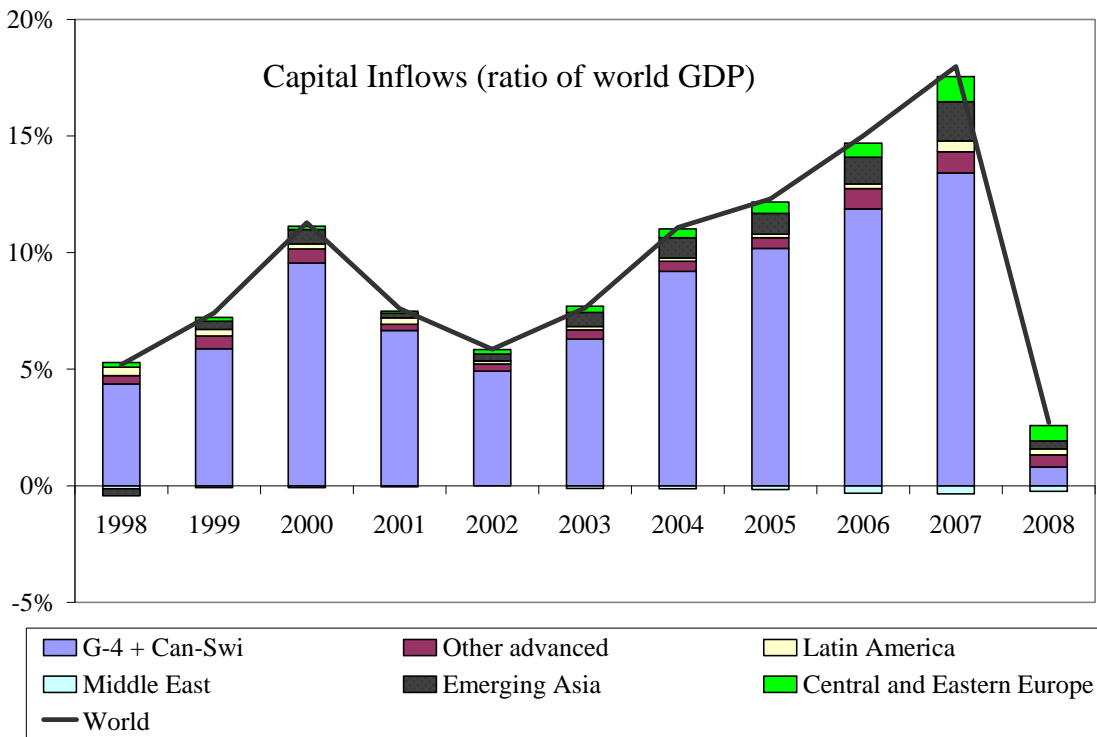
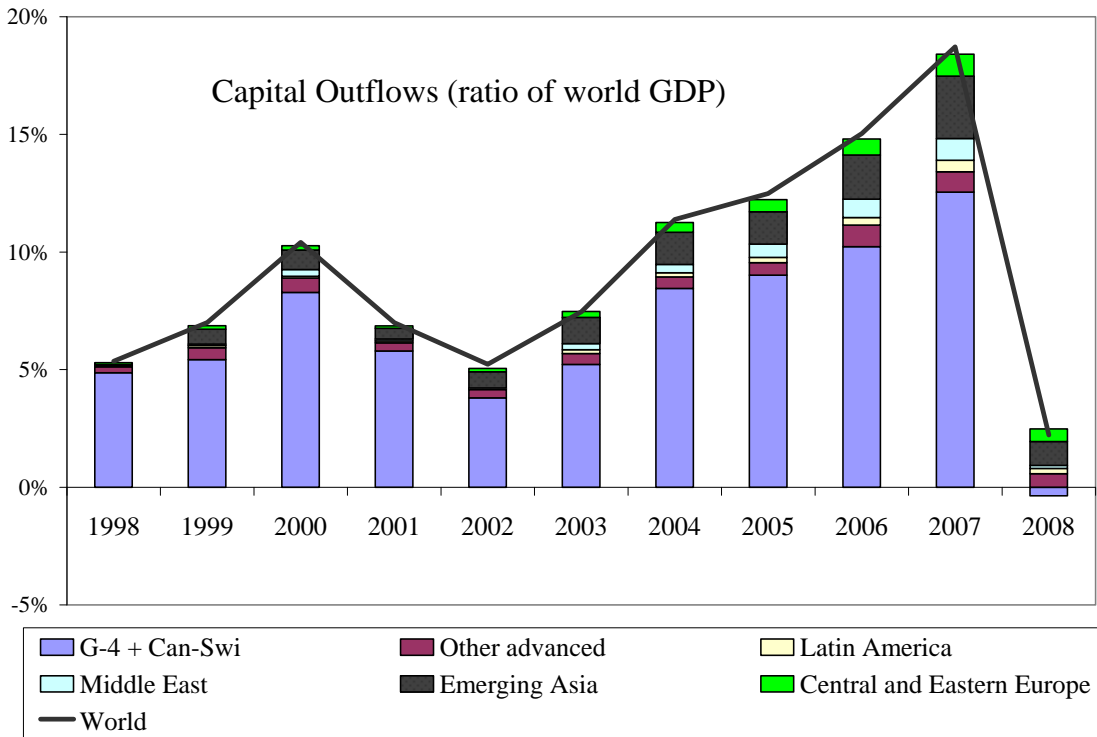
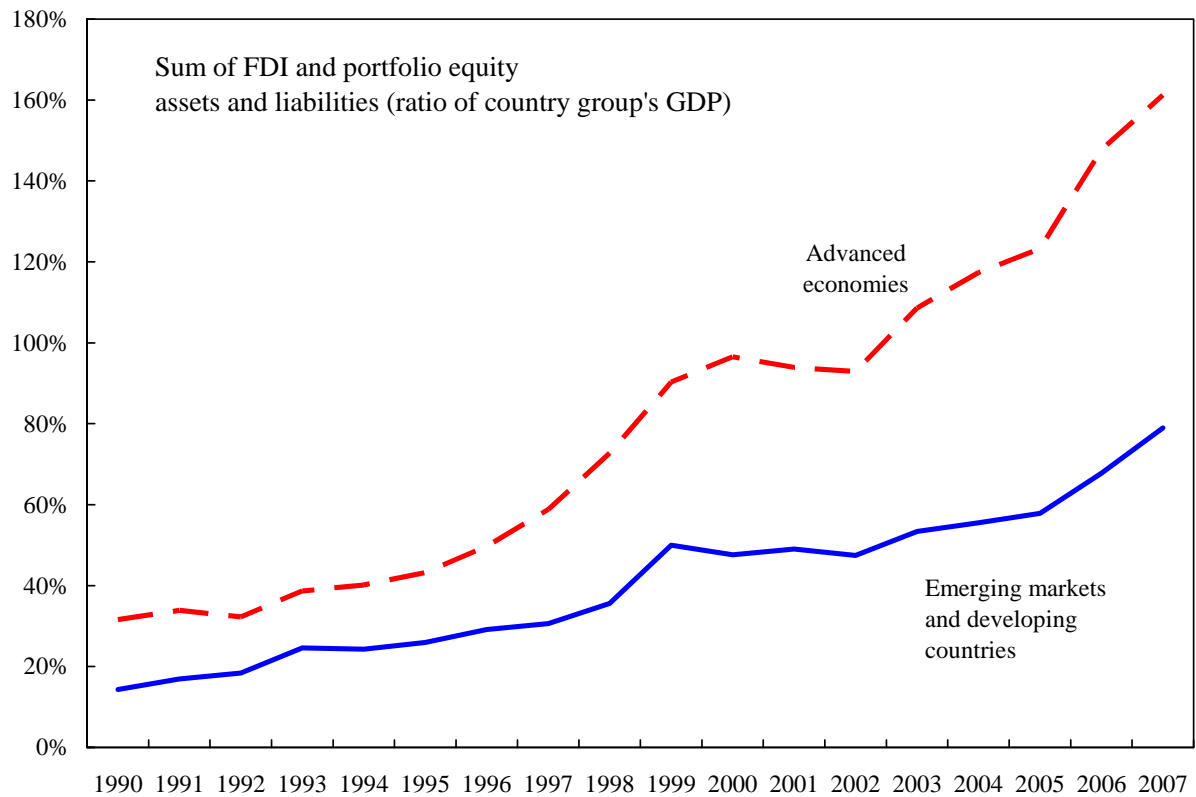
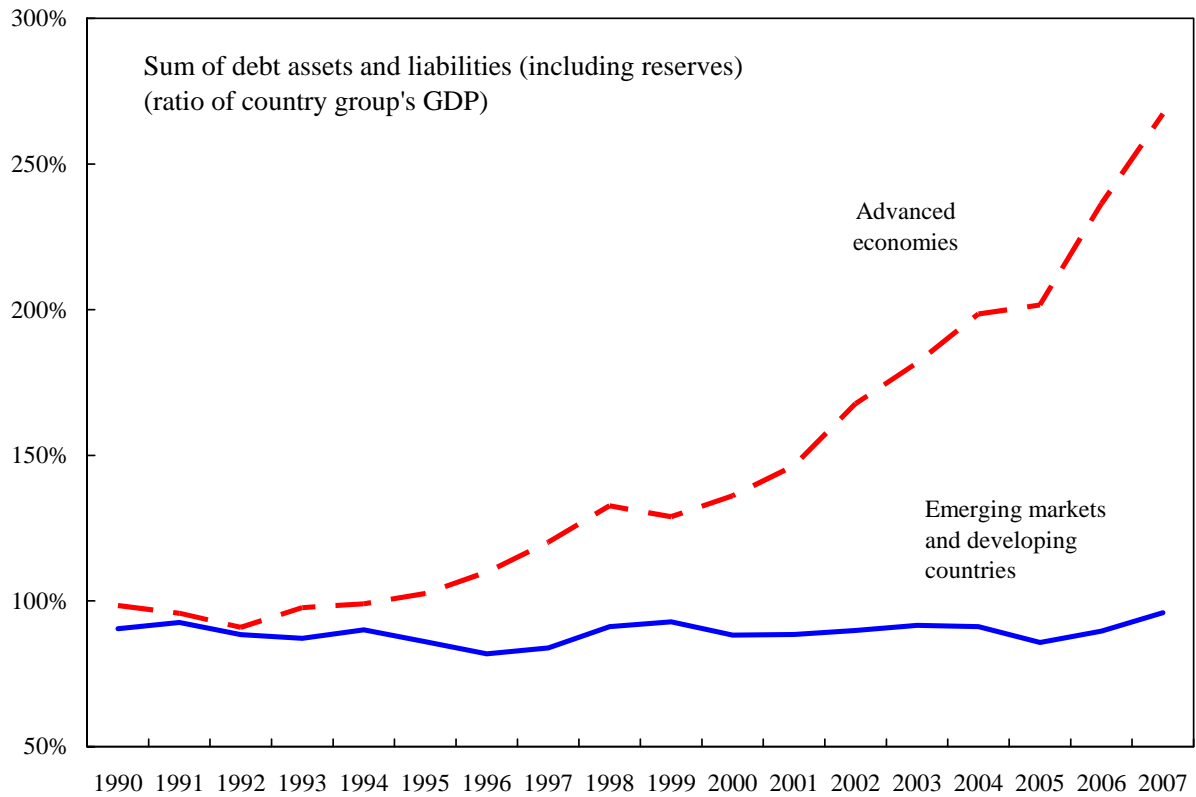


Figure 3. Global Capital Flows*



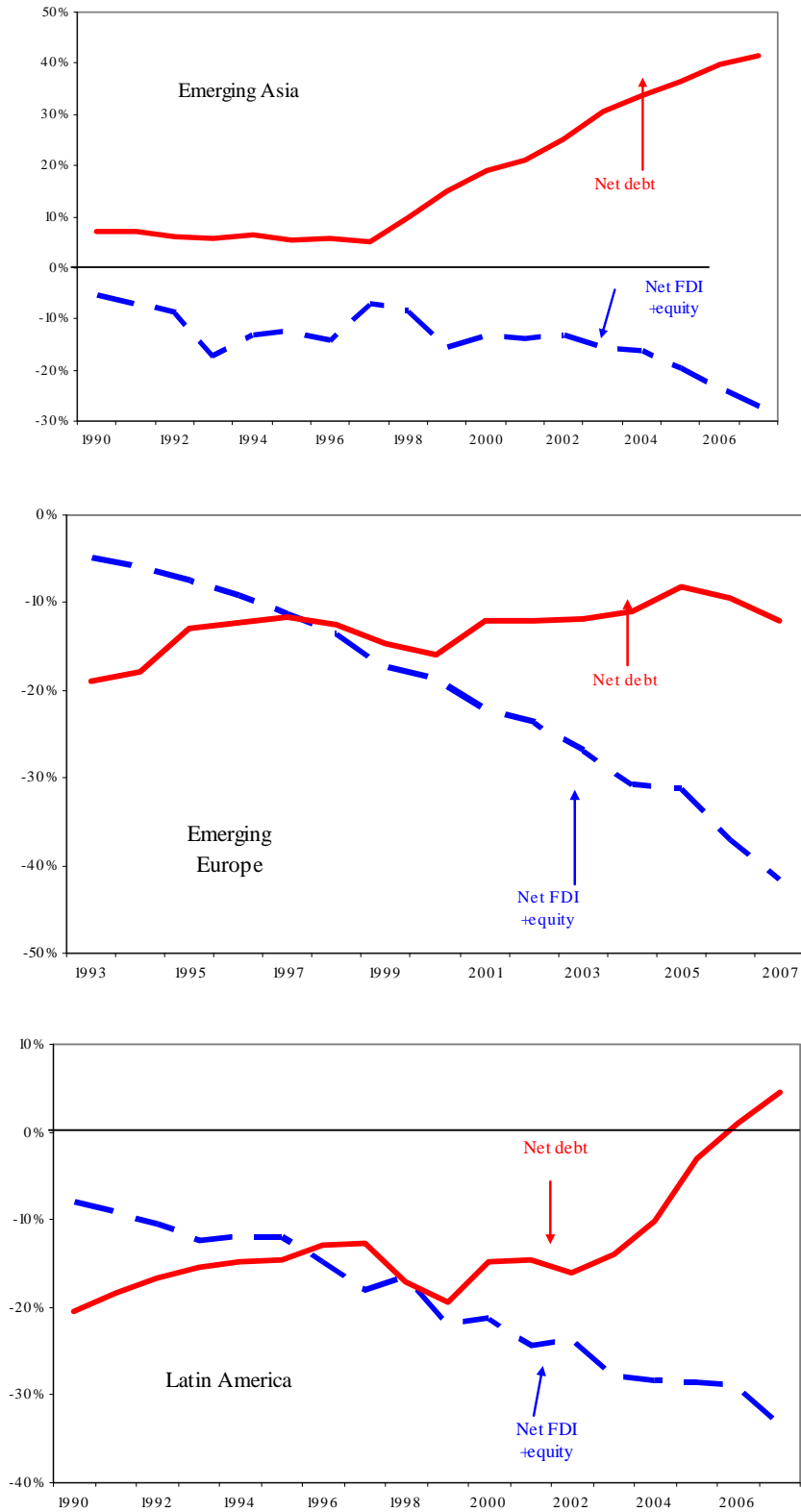
* Source: IMF, Balance of Payments Statistics. Data for 2008 are incomplete, particularly for countries in the Middle East.

Figure 4. Composition of cross-border holdings



Source: Lane and Milesi-Ferretti, "External Wealth of Nations" database.

Figure 5. Emerging Markets: External Portfolio Structure



Source: Lane and Milesi-Ferretti, "External Wealth of Nations" database.

Figure 6. Foreign Purchases of U.S. bonds (billions US\$)

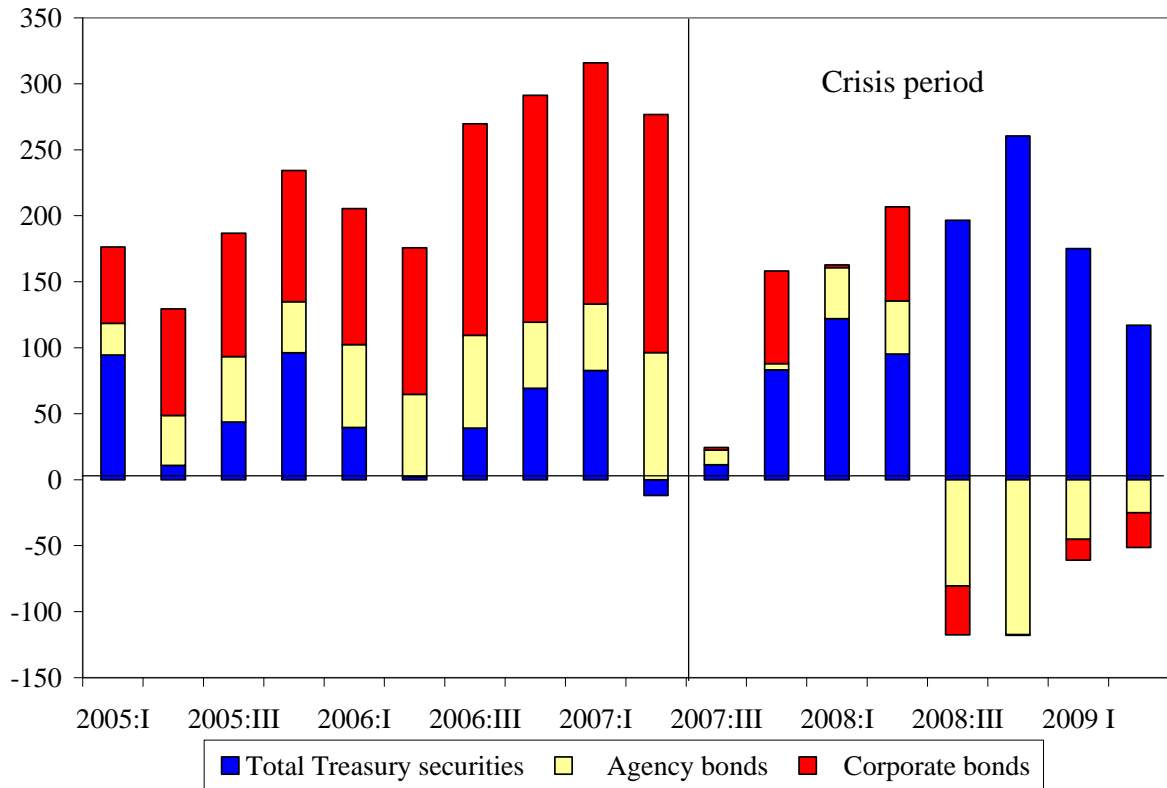


Figure 7. The Dollar's Real Effective Exchange Rate, Jan.1995- May 2009

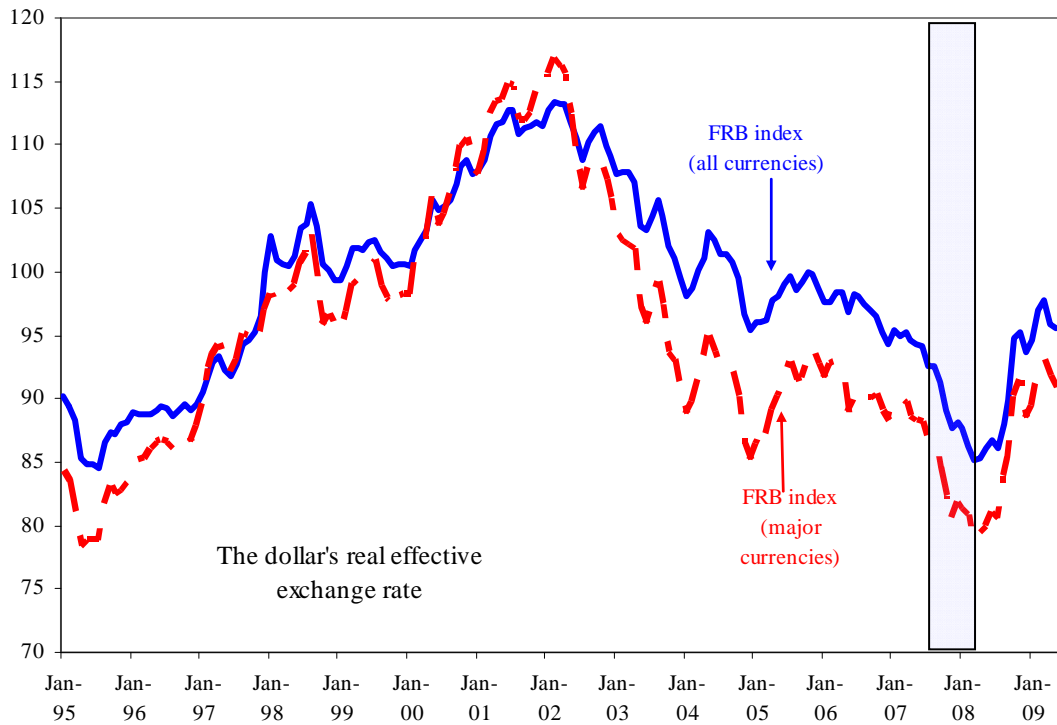
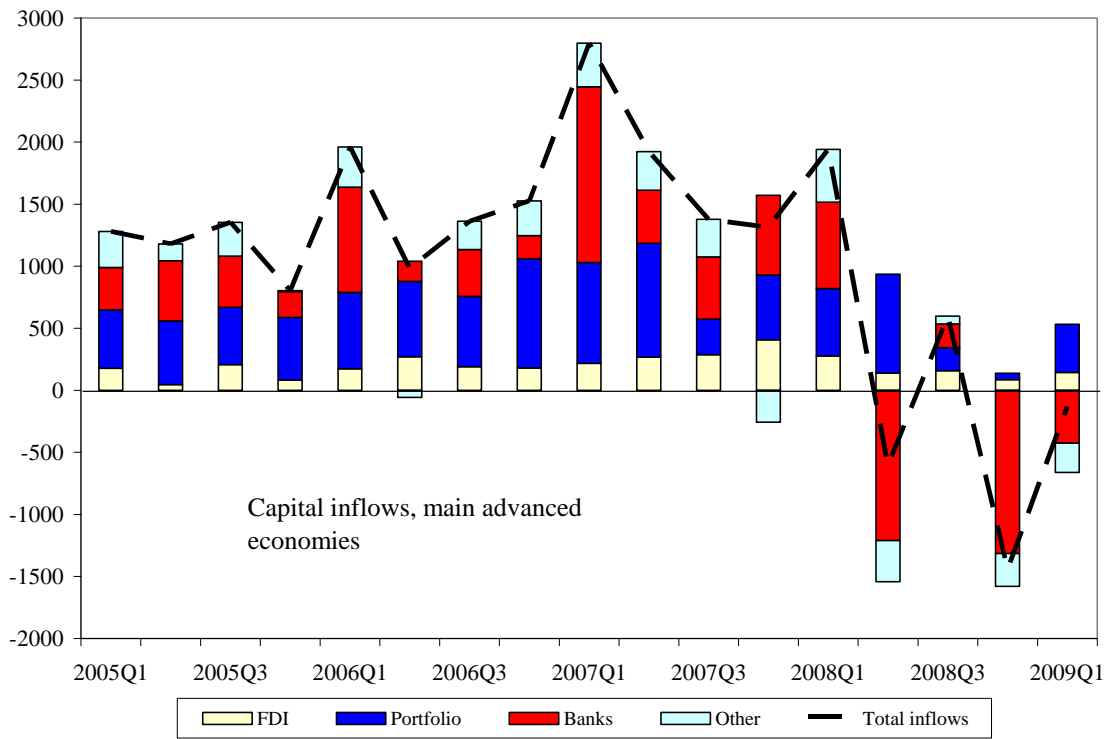
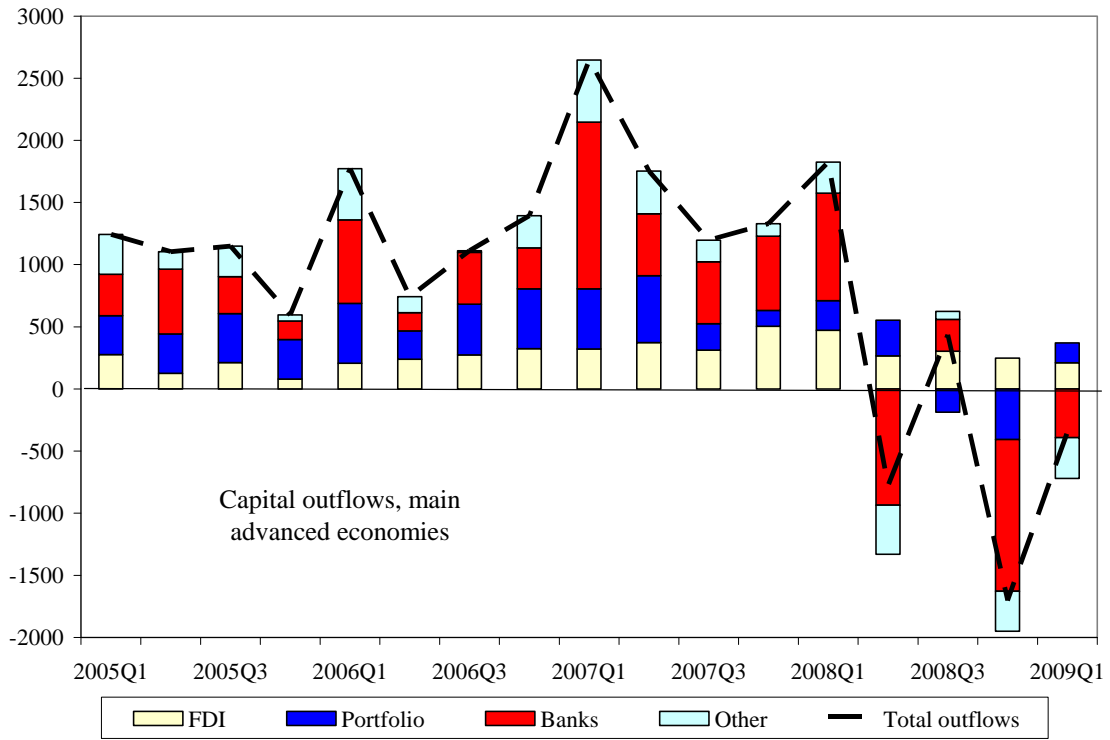
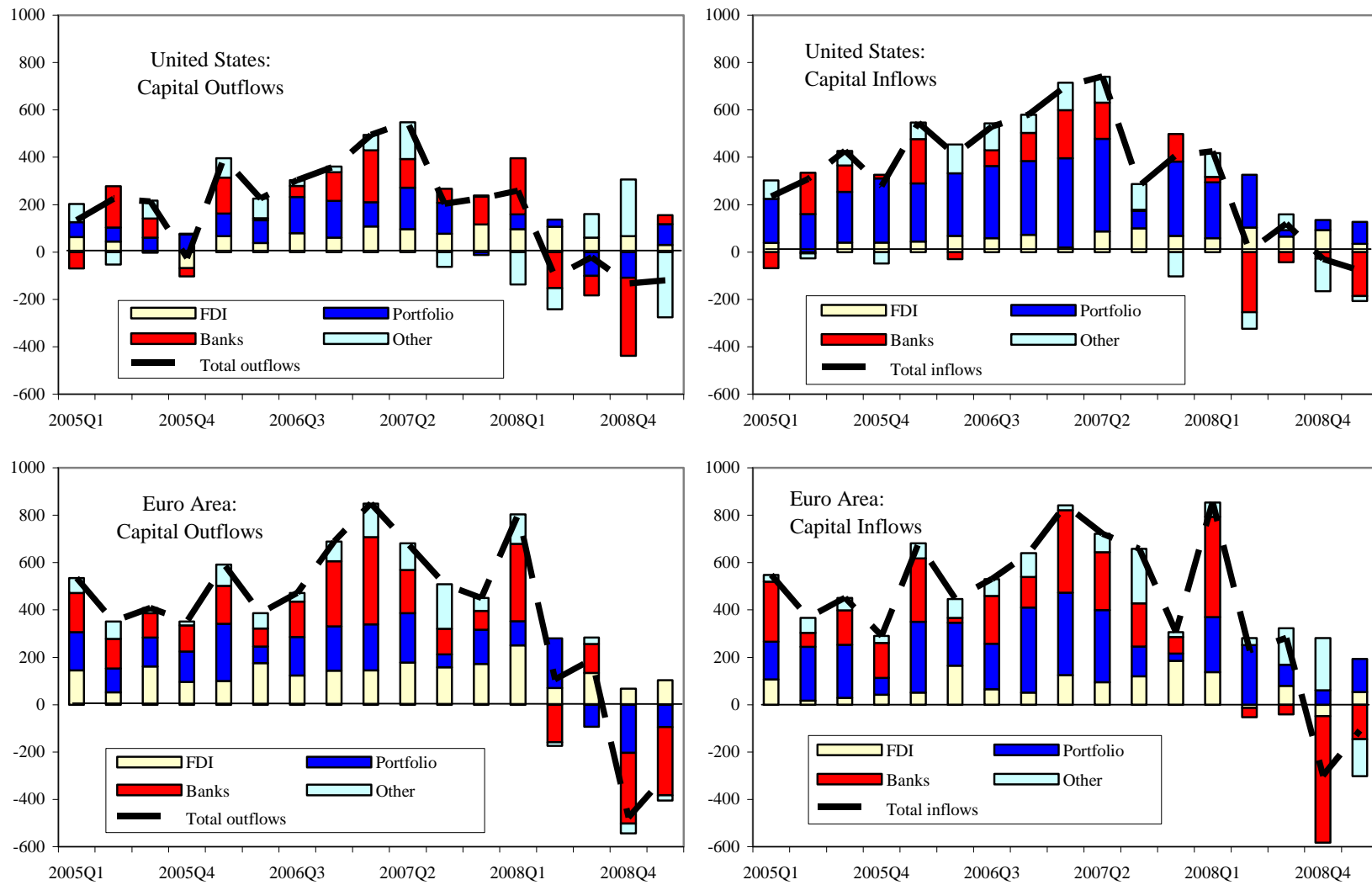


Figure 8. The collapse in capital flows—advanced economies



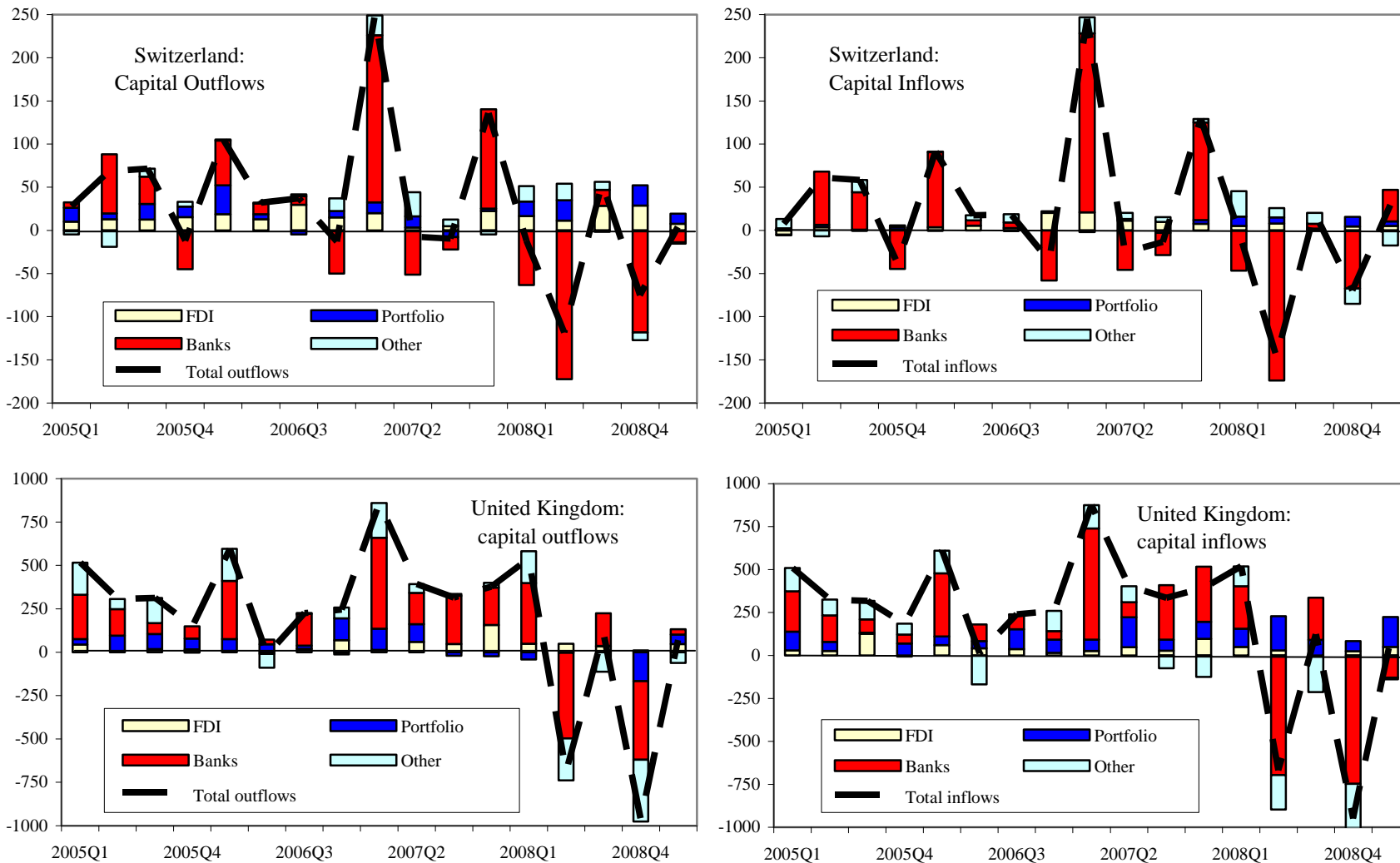
Data in billions of US dollars. Source: IMF, Balance of Payments Statistics.

Figure 9. United States and euro area: capital inflows and outflows



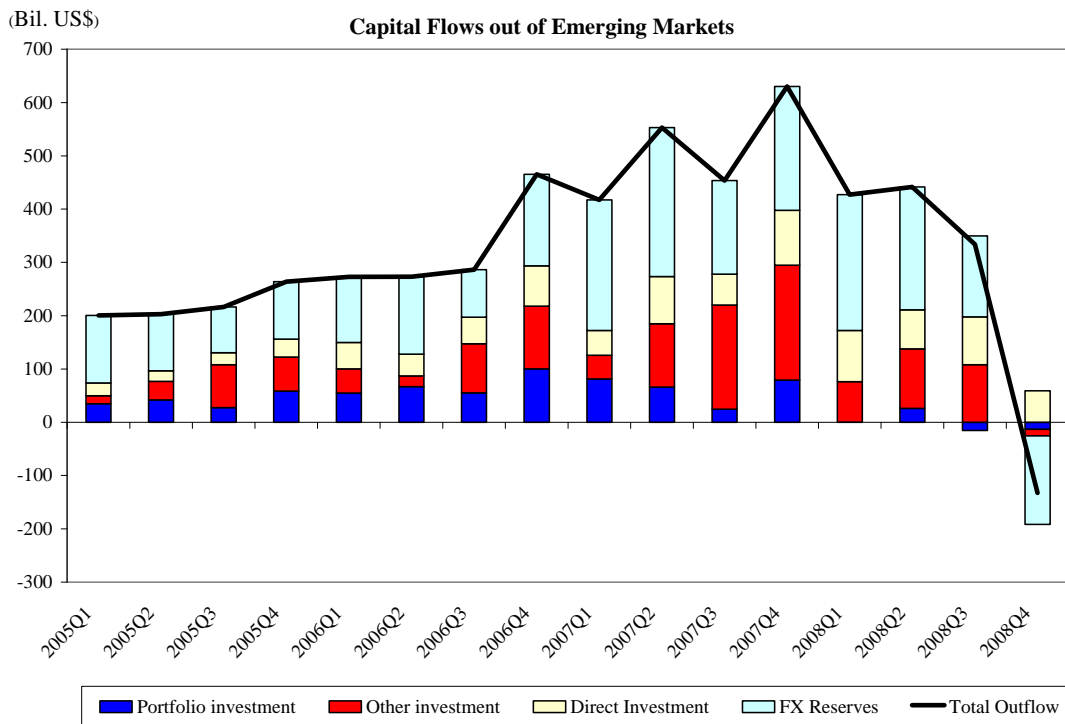
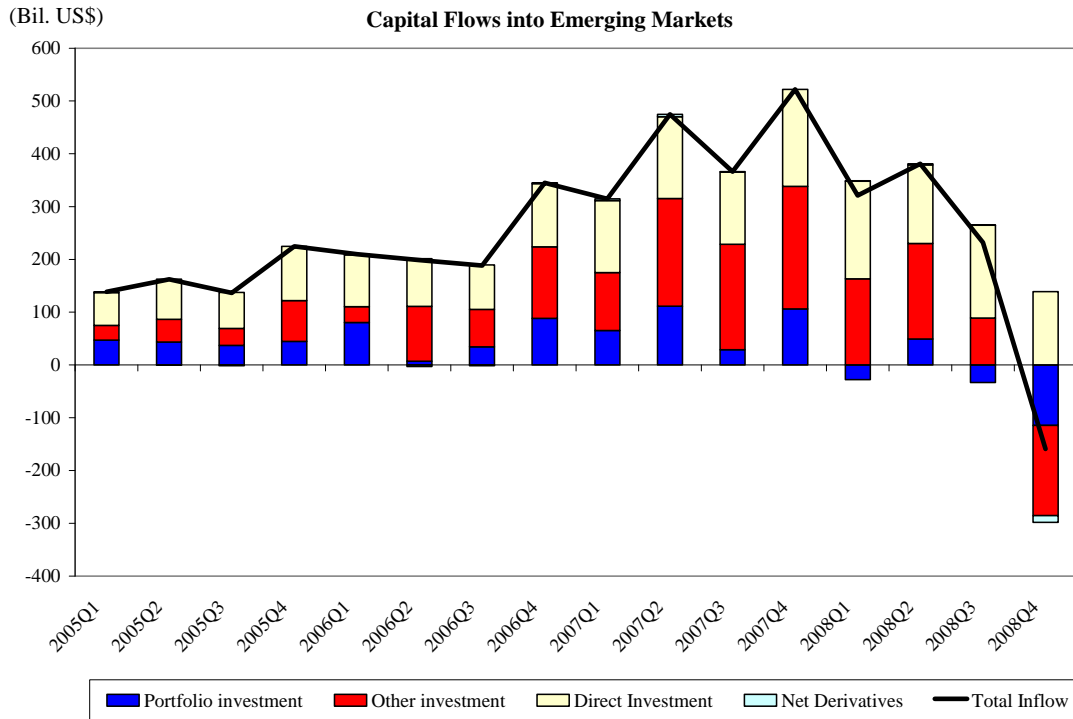
Data in billions of US dollars. Source: IMF, Balance of Payments Statistics and author's calculations.

Figure 10. Capital inflows and outflows: Switzerland and the United Kingdom



Data in billions of US dollars. Source: IMF, Balance of Payments Statistics and author's calculations.

Figure 11. The collapse in capital flows: emerging markets



Source: IMF, Balance of Payments Statistics.

Figure 12. Net Capital Flows to Emerging Markets

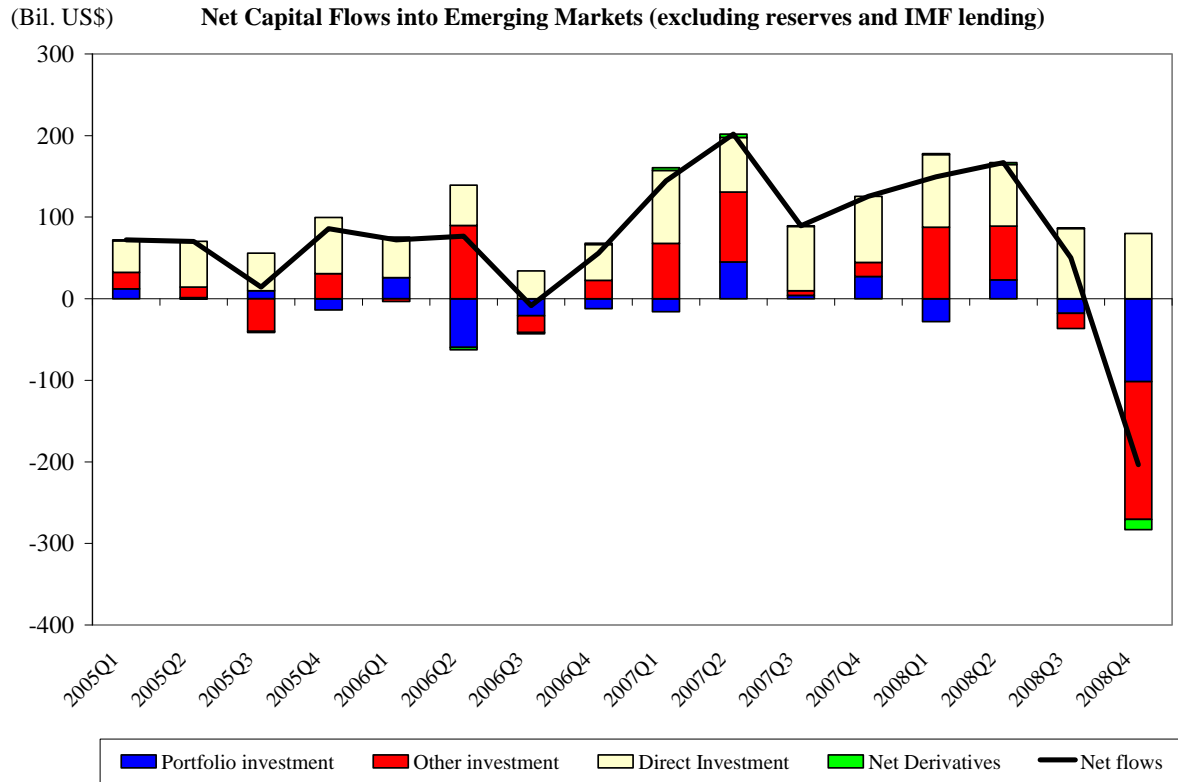


Figure 13. Decline in gross flows and exchange rates

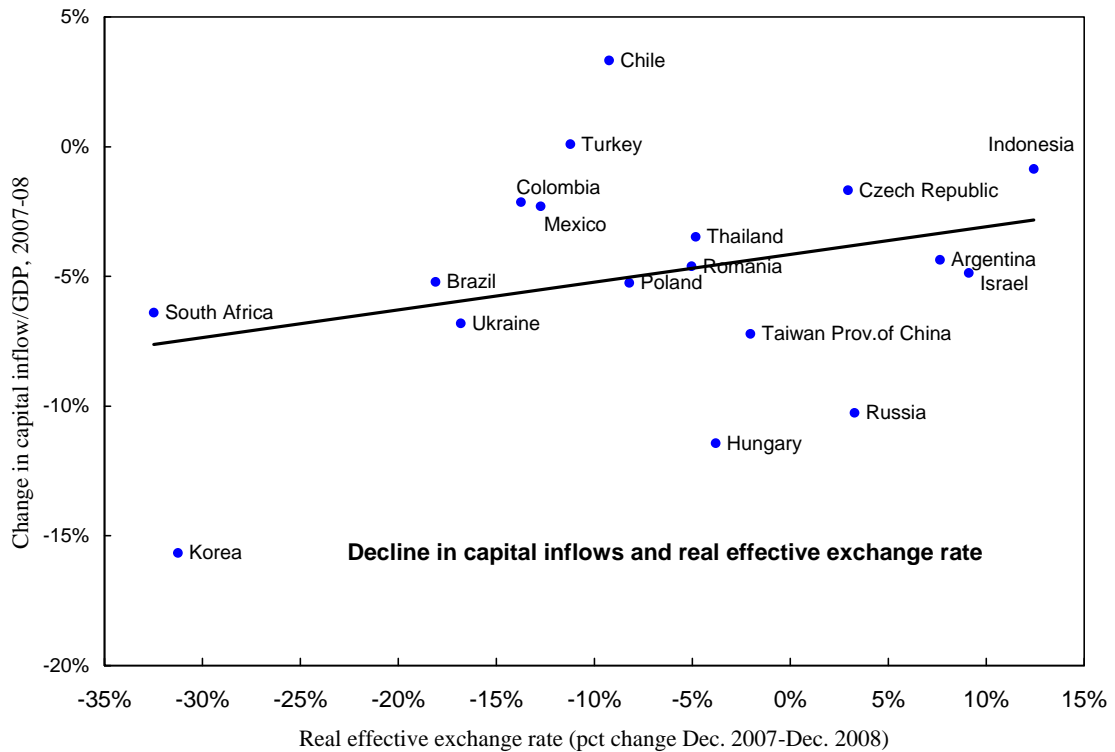


Figure 13. Emerging markets: real depreciation and change in external position:
past and present

