5
Financial Flows to Emerging Economies and Policy Alternatives in Post-2008*

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1. Introduction

Cross-border capital flows have been intensified over the last decades with the greater integration among domestic financial markets and the consequent increase in the volume and speed of financial resources in the international financial market. Along with their greater size, gross flows have become more volatile everywhere mainly in the case of their share oriented to Emerging-Market Economies (EMEs), which have been pro-cyclical, exacerbating economic fluctuations.

Concerned with the amount and volatility of capital flows to EMEs after the contagion of the 2008 global crisis and the potential risks and costs related to international financial integration, IMF has revised its former official position against capital controls, which it considers now as a "measure of last resort". Indeed, the issue of the regulation of financial flows garnered greater attention in the years following this crisis, which brought a new wave (or boom) of capital inflows to EMEs from the second quarter of 2009. This wave has been boosted by the post-crisis circumstances, among which the Federal Reserve (FED) quantitative easing policy, low interest rates in

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advanced economies (AEs) and better prospects for economic growth EMEs in the aftermath of the crisis (Canuto and Leipziger, 2012; Akyüz, 2011). The recent boom has been featured by short periods of fall in capital inflows followed by new surges.

Especially during the zenith of the recent wave (mid-2009 to mid-2011), "emerging-market" assets and currencies became objects of desire on the part of global investors, resuming policy dilemmas to emerging countries stemming from the combination of high growth rates, accelerating inflation (associated with the new commodity prices boom), excessive currency appreciation and/or asset price overshooting. Yet, some EMEs chose to regulate capital inflows in order to deal with these policy dilemmas, on the contrary of the pre-crisis context when prevailed a hands-off approach to capital inflows.

This chapter aims at analyzing some macroeconomic issues related to the recent waves of capital flows to EMEs and discussing some policies alternatives post-2008 to deal with them, with special focus on capital account regulation (CAR) and official intervention in foreign exchange market. For this purpose, firstly (section 2) the recent features of cross-border capital flows and some consequences to EMEs are analyzed. Secondly (section 3), the relationship between capital flows and exchange rate regime in EMEs under conditions of an international monetary hierarchy are discussed. In section 4, some economic policy approaches to deal with capital flows, with emphasis on capital account regulation, are examined. Finally, section 5 concludes the chapter.

2. Recent features of cross-border capital flows and some consequences to EMEs

2.1. Some features of cross-border capital flows

Private capital flows have increased sharply to and from both developed and EMEs over the last decades (Cardarrelli et al, 2009; Bluedorn et al, 2013). In the case of EMEs, capital flows have boosted since the beginning of the 1990s due to a set of factors both structural (international portfolio diversification, capital account liberalization, trade openness and high emerging economies potential growth) and

cyclical ones (low US interest rates, low global risk aversion, high domestic interest rates). Consequently, international financial integration of a diversified group of EMEs has swelled rapidly, in particular over 1991-2006 (Figure 5.1), according to the index of international financial integration (Lane and Milesi-Ferretti, 2007).

<FIGURE 5.1 ABOUT HERE>

Along with their greater size, gross flows have become more volatile everywhere. Advanced economies (AEs) experiment greater substitutability across the various types of capital flows (direct investment, portfolio and bank credit) and greater complementarity of gross inflows and outflows, resulting in a relatively small and smoother movements in net capital flows. While in AEs capital outflows increase in line with capital inflows, in EMEs capital inflows increase more than outflows (Figure 5.2) - as a result net inflows tend to be greater compared to AEs. The values of net private capital inflows (IIF) differ from financial account balance (IMF) in Figure 5.2 due to the use of different definitions and classifications of EMEs (e.g., Korea is part of IIF sample, but is not part of the IMF's group). Moreover, IIF capital inflows include all the flows related to non-residents, while outflows include all the flows related to residents. Therefore, "net capital inflows" is the sum of all net purchases of EMEs assets by private foreign investors. As we can see in Figure 5.2, in EMEs both gross and net capital flows have been sizable, while net flows has been much volatile: capital inflows and outflows tend to rise when global financing condition are easy, and to fall when these conditions tighten (Bluedorn et al, 2013; Claessens and Ghosh, 2013).

<FIGURE 5.2 ABOUT HERE>

As for the regional distribution of capital flows, over 2011-2014, emerging Asia was the region that received the greatest amount of capital inflows to EMEs (52.8% of total capital inflows in 2013), followed by Latin America (23.5%) and emerging Eastern Europe (17.1%), while Africa and Middle East got a more modest amount (6.6%) (Figure 5.3). In emerging Asia, China, the biggest emerging economy, received records of capital inflows, mainly in the form of foreign direct investment (FDI). In Latin

America, Brazil and Mexico, the major economies of the region, and more recently Peru, were the biggest recipient of capital flows, while in Emerging Europe, Russia and Turkey stood out as the main recipient of capital flows.

<FIGURE 5.3 ABOUT HERE>

Regarding the composition of net capital inflows according to IIF data (see note 1), historically FDI has been the main type of capital flows to EMEs, followed by portfolio lows (mainly bonds). Other investments (bank loans and official financing), that were prominent in the 1970s, have become a secondary class of capital flows. As Figure 5.4 shows, over 2011-2014 FDI was the predominant type of capital inflows to emerging Asia (mainly due to China). In the case of Latin America, the main types were portfolio and FDI, while in emerging Europe debt portfolio was the main modality (with exception of 2014 when a withdrawal of portfolio from Russia and Ukraine took place). As for Africa and Middle East, FDI were the main sort of capital flows of non-residents.

<FIGURE 5.4 ABOUT HERE>

2.2. Waves of capital flows to emerging economies

Capital inflows to EMEs have increased sharply since the beginning of the 1990s from 1.4% of GDP on average in 1989-1994 to 4.7% of GDP in 1995-2014 (Figure 5.5). From the 1990s on, it is possible to identify, broadly speaking, three waves of episodes of capital inflows to EMEs: a first one from early 1990 until 1997-98 Asian and Russian crises; a second wave from mid-2004 until the global contagious that followed the Lehman Brothers bankruptcy (September 2008); and, finally, a third wave has begun in mid-2009, with a strong recovery in 2010-2013 and a fall in 2014. The recent literature has referred to such episodes as "surges" of capital inflows that are periods of large capital inflows (Ghosh *et al*., 2012).

Concerning the determinants of capital flows, the literature distinguishes between *push factors* (global ones) and *pull factors* (country-specific). Most empirical works show that exogenous factors are the main determinants of large upward swings in

capital flows to EMEs. Ghosh *et al.* (2012) found that surges of capital inflows to EMEs over 1980-2009 were synchronized among countries and that global factors – US interest rates and risk aversion – were key to determine whether a surge would occur, while domestic factors (economic performance, country's external financing needs, financial openness, etc.) seems to explain the magnitude of the surge. On the same stride, Ahmed and Zlate (2013) identified a number of factors, including growth, interest rate differentials, and global risk aversion as important determinants of net private capital flows to EME in 2002-2012. Moreover, they found that the sensitivity of portfolio flows to interest rate differentials and risk aversion increased during the post-crisis period.

<FIGURE 5.5 ABOUT HERE>

The trigger to the first wave of capital inflows (1991-1998) was the U.S. expansionary monetary policy in the beginning of the 1990s, along with the search of risk diversification of global institutional investors and the process of capital account liberalization of EMEs. During this period, emerging Asia and Latin America were the main recipients. Regarding the composition of capital flows, portfolio flows were the main type, favored by interest rate differentials, and increasingly FDI. Most EMEs adopted some sort of managed exchange rate regime (semi-pegged exchange rate). Capital inflows financed large current account deficit and consequently, external vulnerability climbed in most economies that witnessed speculative attack on domestic currencies. As a result, this regime collapsed almost generally in Asia and Latin America EMEs (Paula *et al.*, 2013).

The second wave of capital inflows to EMEs (2003-2008) was related to either push factors - low U.S. interest rates due to the loosing Fed monetary policy and the reduction in the global risk aversion - and pull factors, including higher EMEs potential growth. During this boom, net FDI flows predominated in all EMEs regions (Figure 5.6), involving a larger set of countries, including emerging Europe. New features of the international financial integration of the EMEs during this wave were: (i) the surge in capital inflows was accompanied by sharp increase in outflows due to the increasing diversification of portfolios; (ii) much stronger current account positions for most EMEs

with surplus or reduction of the deficit due to the commodity boom; (iii) acceleration in the accumulation of foreign reserves that, along with the adoption of floating exchange rate regimes, contributed to the reduction in the external vulnerability but did not avoid the currency appreciation trend (Figure 5.7). The contagion-effect following the Lehman Brothers bankruptcy curtailed the surge of capital flows.

<FIGURE 5.6 ABOUT HERE>

The third wave of capital flows to EMEs has begun in the middle of 2009, with a strong recovery of capital inflows (Figure 5.2). The main drivers behind of this wave are: (i) loosening monetary policy in AEs (including Fed "quantitative easing" - QE), interest rate differentials widening and increased risk appetite of global investors; (ii) better economic performance of the EMEs; and (iii) the quick recovery of the commodity prices. Capital inflows were driven primarily by portfolio flows (excluding China) and FDI (Figure 5.6). This episode was characterized by a greater share of volatile portfolio inflows compared to the previous wave. According to Sahay *et al.* (2014), during 2010-13 EMEs received nearly a half of all global flows (mainly Latin America and emerging Asia) and total inflows were larger than their fundamentals would suggest. In May 2013, when the Fed indicated that it might begin tapering its monetary policy toward the end of the calendar year, global investors set into motion a portfolio adjustment that caused a temporary but significant reversal in capital flows to U.S., putting upward pressures on the exchange rates of many EMEs (Figure 5.7) (BIS, 2014). In this period, appreciated currencies and boosting domestic demand resulted in a gradual widening of current account deficits or narrowing of surpluses in most countries. Since mid-2013, capital inflows (portfolio and other investments) have somehow reduced and becoming more volatile. The combination between tighter financial conditions with weaker terms of trade for commodities exporters has led to less favorable external conditions that have contributed for a synchronized slowdown in EMEs (Sahay *et al*., 2014, p.15).

<FIGURE 5.7 ABOUT HERE>

2.3. Summing up of the main characteristics and some consequences of capital flows to EMEs

Based on our previous analysis and other recent empirical studies, some of the main features and consequences of capital flows to EMEs have been:

a) Volatility of capital flows has increased over time and fluctuations in net flows are much sharper for EMEs compared with AEs – in the latter, gross outflows largely offset gross inflows, generating smoother movements in net flows. By contrast, in EMEs gross inflows and net flows have fallen dramatically during the crisis and have rebounded sharply afterward (IMF, 2011a, p.125; Bluedorn *et al*., 2013).

b) Exogenous (push) factors have been the main determinants of large upward swings to EMEs, while surges of capital inflows have been synchronized among countries and determined mainly by global factors - US interest rates and risk aversion (Ghosh *et al.*, 2012).

c) Portfolio flows and banking flows have been very volatile compared to FDI and such volatility has recently risen. FDI has been slightly more stable than other types of flows, and its volatility has increased due to the rise of direct borrowing by subsidiary firms (IMF, 2011a).

d) EMEs tend to receive capital flows (gross and net ones) that are large compared to their domestic economies and absorptive capacity, in particular relative to the size and depth of their financial systems, so that such economies face problems related to an asymmetric financial integration (see more on this in the next section).

e) Episodes of large capital inflows have been associated with GDP growth acceleration, but afterwards growth often drops significantly: over one third of the completed episodes ended with a sudden stop or a currency crisis (Cardarelli *et al.*, 2009, p.5). Thus, an inverted V-shaped pattern of net capital flows to EMEs around outside the policymakers control has taken place (IMF, 2011a).

f) Fluctuations in GDP growth have been accompanied by large swings in aggregate demand and in the current account balance, with strong deterioration of the current account during the inflow period, and sharp reversal at the end (Cardarelli *et al.*, 2009,

p.5). Indeed, business and financial cycles have been much more volatile in EMEs than in AEs (Claessens and Ghosh, 2013, p.92).

g) The surges of capital inflows have been associated with real effective exchange rate appreciation (Figure 7), damaging the competitiveness of export sectors and potentially reducing economic growth in the long run (Cardarelli *et al.*, 2009), while contributing to macroeconomic overheating in the short run by increasing domestic consumption followed by widening current account imbalances.

Summing up, boom-and-bust pattern of capital flows has been predominant in EMEs, as sharp rises in capital flows have been followed by slowdowns and reversal. This pro-cyclical pattern has been stressed by many analysts, and has important consequences for the modus operandi of economic policies in EMEs, in particular to the exchange rate management. These issues are analyzed in the next section.

3. Capital flows and exchange rate regime in emerging economies under conditions of international monetary asymmetry

Since the breakdown of the Bretton Woods system and the financial liberalization trend, both prominent mainstream and heterodox scholars have stressed the increased likelihood of speculative capital flows, which brings challenges to the macroeconomic policies, among which the management of the exchange rate.

Tobin (1978) was one of the first mainstream economists to state that the main macroeconomic problem related to integrated financial markets is not the choice of the appropriate exchange rate regime but the excessive short-run capital mobility that reduces the autonomy of national governments to pursue domestic objectives with respect to employment, output and inflation. Stepping forward, Stiglitz (2000) points out the pro-cyclicality of capital flows mainly to EMEs under conditions of asymmetric information, which exacerbate economic booms, exposing these countries to the vicissitudes associated with external factors in line with the empirical findings reported in section 2.2.

More recently, some empirical works have confirmed the direct relationship between an increasing international financial integration and the loss of economic

policy autonomy. For instance, Saxena's (2008), by analyzing the impact of capital flows and the exchange rate regime on monetary policy in EMEs in 1975-2006, found that domestic short-term interest rates are significantly affected by foreign interest rates in countries with high capital mobility. This author also found that flexible regimes tend to exhibit greater co-movement with US interest rates than the pegged exchange rate regimes, and consequently even with flexible exchange rate regime the autonomy of the monetary policy was reduced with greater international financial integration.

In the same stride, Rey's (2015) analysis restated that capital flows´ boom and bust pattern is determined by a global financial cycle, which depends on two linked variables: the VIX (a measure of investor´s risk aversion) and the monetary policy (Fed Fund Rate level) in the U.S. Monetary conditions of the centre country influence global banks leverage, with credit growth in the international financial system, being transmitted world-wide through cross-border gross credit flows. Therefore, as Rey stressed, this channel invalidates the traditional "trilemma" of the open economy, upon which in a world of free capital mobility, independent monetary policies are feasible if exchange rates are floating. Instead, monetary conditions are transmitted from the main financial centre to the rest of the world through gross credit flows and leverage, irrespective of the exchange rate regime. Therefore, "fluctuating exchange rates cannot insulate economies from the global financial cycle, when capital is mobile. The 'trilemma' morphs into a 'dilemma' – independent monetary policies are possible if and only if the capital account is managed, directly or indirectly, regardless of the exchange rate regime" (Rey, 2015, p.21).

Yet, heterodox scholars has already come to the same conclusion. According to Flassbeck (2001, p.44) "Fixing the exchange rate one way or the other does not create, but only reveals, the existing lack of monetary autonomy in a system of free capital and goods flows. There is no 'impossible trinity', but rather an 'impossible duality'. To open the capital account and to lose national monetary autonomy is not contingent on the exchange rate regime".

The loss of monetary autonomy even with floating exchange rates is due to the need of official interventions in the currency market to smooth exchange rate volatility in the post-Bretton Woods era. As the Post Keynesian literature (Schulmeister, 1988; Davidson, 1982; Harvey, 2009) highlighted, in this setting, featured by floating

exchange rates and free capital mobility, short-term capital flows constitute the chief determinant of nominal exchange rates, which are highly volatile. In this perspective, the speculative feature of these flows, subordinate to financial investors' risk aversion/appetite, is the main cause of the volatility of exchange rates. Further, there are feedback loops between capital flows and exchange rate volatility, inasmuch this volatility stimulate short-term flows.

However, in EMEs the volatility of capital flows is higher than in AEs, these flows are even more sensitive to the monetary policy in the centre country and to risk perception. As a result, their exchange rates are more volatile, requiring permanent interventions by the central banks (the so-called "fear of floating", e.g. Calvo and Reinhart, 2002) which, in turn, reinforce the interaction between the exchange-rate and the policy rate, as domestic interest rates are used to curb exchange rate fluctuations. This means that in the case of EMEs the loss of monetary autonomy in a context of free capital mobility is greater than in AEs. Further, exchange rate volatility is more harmful for these economies than for the AEs due to its negative impacts on financial fragility and inflation. One of the reasons why authorities seek to limit exchange rate movements are related to the effects of excessive exchange rate volatility (mainly devaluation) on the outstanding foreign currency debts of banks and firms with un-hedged foreign currency liabilities and also on governments with large foreign currency debt, raising questions about their fiscal sustainability. In addition, exchange rate fluctuations may generate uncertainties that can adversely affect export competitiveness and investment in the external sector. As Flassbeck (2001) pointed out, the "fear of financial fragility" and the "fear of inflation" underline the widespread "fear of floating" in EMEs.

The EMEs' specificities are linked, in last resort, to their position in the current international monetary and financial system (IMFS). Following Prebisch's thinking, as it is impossible to analyze the dynamics of developing countries independently of their position within the inherently hierarchical "centre-periphery" world economic system (Ocampo, 2001b), it is not feasible to grasp these specificities without regard to the hierarchical and asymmetrical nature of the IMFS.

Cohen (1998) adopts the concept of "monetary pyramid" to classify the different types of currencies, which should be distinguished according to their degree of "monetary internationalization". Besides the superior position of the key currency

(currently, the fiduciary U.S. dollar - USD) – which has the highest degree of liquidity as it performs internationally the three functions of money (medium of exchange, unit of account and denomination of contracts, and store of value) – this system is marked by an asymmetry cutting across the currencies of AEs (other than the U.S), placed in an intermediary position, and those of EMEs at the bottom of the monetary hierarchy. While AEs' currencies are also international currencies inasmuch they perform (in a lesser degree than the USD) the aforementioned functions of money, EMEs' currencies are non-international ones, for they are incapable of performing at this scale these functions. EMEs are not able to issue international debt in their own currency (the so-called "original sin", e.g. Eichengreen and Hausmann, 2005) and their currencies are the first victims of global investors' "flight to quality". Yet, although EMEs' currencies (*qua assets*) are priced with a lower liquidity premium, they might be demanded according to investor´s expectations of financial return (Andrade and Prates, 2013). One should note, however, that hierarchy of currencies is not about total returns, but about liquidity.

This monetary asymmetry is one of the basic asymmetries featuring the world economy and superimposed itself on the financial asymmetries, among which two stand out. Firstly, capital flows towards EMEs depend on exogenous sources, which cause these countries to be permanently vulnerable to their reversal by virtue of changes in the monetary conditions of the centre countries (mainly, in the U.S), as well as by the increase in the risk aversion of global investors; using the words of Ocampo (2001a) and Rey (2015), whereas the AEs (centre) are "global financial cycle makers", EMEs (periphery) are "global financial cycle takers". Secondly, the disparity between the size of EMEs' currency and financial markets and the speculative pressures they face. Although the residual nature of capital flows directed to EMEs, their potentially destabilizing effects on their financial markets and exchange rates are significant, since the volume allocated by global investors is not marginal in relation to the size of these markets (Akyüz and Cornford, 1999). In other words, this financial asymmetry stems from that fact that international financial integration is integration between "unequal partners" (Studart, 2001).

It is exactly the mutually reinforcing monetary and financial asymmetries that underlie the aforementioned greater macroeconomic challenges faced by EMEs in a

context of free cross-border finance. On one hand, their currencies, placed at the bottom of the currency hierarchy, are particularly vulnerable to the inherent volatility of capital flows, ultimately determined by an exogenous process (the global financial cycle). Consequently, their exchange rates are more volatile. In turn, the greater exchange rate volatility has more harmful effects than in AEs exactly because EMEs currencies are non-international ones, which increases the risk of financial fragility (due to the potential currency mismatches) as well as the pass-through of exchange rate changes to domestic prices. Many studies show that this pass-through is greater in EMEs than AEs (Mohanty and Scatigna, 2005). Yet, the main explanation put forward by them is the different composition of their price indexes: the higher pass-through in EMEs is due to the higher share of basic goods, which prices are set in the international market, in the consumption basket.

On other hand, monetary and financial asymmetries also result in different degrees of monetary policy autonomy in EMEs and AEs. As Ocampo (2001a, p.10) points out: "whereas the center has more policy autonomy and is thus 'policy making' - certainly with significant variations among the different economies involved -, the periphery is essentially 'policy taking'". In other words, the monetary and financial asymmetries result in a macroeconomic asymmetry: the dilemma or impossible duality is greater in EMEs because their position in the IMFS strengthens the relationship between the policy rate and the nominal exchange rate and the influence of global investors' portfolio decisions on these key macroeconomic prices.

To sum up, in order to figure out the relationship between capital flows and the exchange rate regime in EMEs, it is necessary to taken into account the monetary, financial and macroeconomic asymmetries of the current IMFS.

4. Economic policy approaches to deal with capital flows

The capital flows boom that surged after the 2008 global financial crisis has had similarities and differences with regard to the pre-crisis one (see section 2). This section addresses another specificity of this more recent boom: the economic policy responses of EMEs aimed at curbing the undesirable effects of an excessive entry of foreign currency. Indeed, the combination of high growth rates under the double-speed recovery

of 2009-2010, accelerating inflation (also associated with a renewed commodity prices boom), excessive currency appreciation, and/or asset price overshooting presented EMEs with policy dilemmas (Akyüz, 2011). The adoption of restrictive monetary policy would also help to contain growth and inflationary pressures, but it would encourage further capital inflows, which, in turn, would foster an asset price boom and exchange rate misalignment, aggravating the risk of future sudden stops and subsequent financial crises.

Unlike the case in the pre-crisis context, many EMEs (even those with current account deficits) not adopted a hands-off approach to capital inflows in the post-crisis period. As Rodrik (2006, p.12) points out, during 2003–2007 these countries "over-invested in the costly strategy of reserve accumulation and under-invested in capital account management policies." Indeed, after the financial crises of the 1990s in Latin America and in Asia, in most EMEs the managed exchange rate regimes (fixed or currency bands) were replaced by the dirty floating regime in which official intervention in currency markets became the rule and not the exception (BIS, 2005; Calvo and Reinhart, 2002).

In some cases, the significant interventions of central banks aimed at influencing the level of the nominal exchange in order to ensure a competitive real exchange rate, the so-called "mercantilist motive". An increasing number of countries have also started to intervene in the currency markets to accumulate foreign currency reserves as an insurance against future negative shocks and speculative attacks against the domestic currency. Whereas between 1998 and 2002 such a trend was more evident in East Asian countries (Aizenman *et al*., 2004; Dooley *et al.*, 2004), after 2003 many Latin American economies, benefiting from increased commodity prices and the pre-crisis capital flows wave, have begun to imitate the Asian strategy. However, precautionary reserve accumulation often implies quasi-fiscal costs, as it generally involves sterilization operations by the central bank (exchange of high-yield domestic assets for low-yield foreign reserves).

Yet, the contagion effect of the 2008 global crisis on EMEs, which witnessed capital flights and currency depreciations in the last quarter of 2008, brought to light that the accumulation of foreign currency reserves was insufficient to immunize them against the potentially destabilizing effects of capital flows. These effects reached

especially their currencies due to the asymmetries of the current international monetary and financial system (see section 3). Moreover, it also revealed that the effectiveness of reserves in curbing a speculative attack depends on the institutional features of the currency market and the composition of the balance of payment surplus that enables the accumulation of the foreign exchange stock. For instance, the greater currency depreciations took place not only in countries with high current-account deficits (such as South Africa and Turkey), but also in those that absorbed significant amounts of speculative capital inflows and/or allowed speculative transactions on the foreign exchange derivative markets, such as Brazil and South Korea.

These lessons shaped the economic policy responses over the zenith (mid-2009 to mid-2011) of the post-crisis boom. Over these years, Brazil, South Korea and other emerging-market countries (such as Indonesia, Thailand, Peru and Turkey) chose to adopt capital account regulations (CAR) to deal with the aforementioned policy dilemmas (on the regulations adopted by emerging peripheral countries after the global financial crisis see, among others: IMF, 2011b; Klein, 2012; Fritz and Prates, 2014; Baumann and Gallagher, 2013). Nevertheless, this hands-in approach to capital flows did not result in the abandonment of the reserve accumulation strategy, but in a slower pace of this strategy (see Figure 5.8).

<FIGURE 5.8 ABOUT HERE>

This new policy mix was also related to the very post-crisis circumstances. Historical low interest rates, QE and the double-speed recovery resulted in excessive inflows of capital to EMEs (see section 2) and the related "currency war", which meant strong appreciation pressures on their currencies. In this setting, policy-makers in many EMEs adopted a pragmatic approach, as accumulation reserves policy, besides insufficient, would be even more costly due to the greater amount of foreign currency surplus to be sterilized. Ahmed and Zlate (2013) evidenced for the pre-crisis boom that reserve accumulation improved the country external liquidity situation, having a positive impact on global investors´ expectations and on the external ratings, therefore stimulating further capital inflows. This amplifying outcome also justifies the mix of the two approaches to face capital flows booms.

CAR belong to the broader family of financial regulations and encompass two classes of regulations: (i) *prudential financial regulations* are regulations affecting the asset and liability positions of resident financial institutions, among which capital-adequacy standards, reporting requirements, or restrictions on the ability and terms under which domestic financial institutions can provide capital to certain types of projects; they may also include prudential rules on currency mismatching of balance sheets, or restrictions on issuing certain types of derivatives or forward contracts; (ii) *capital controls* are a range of financial regulation tools that manage cross-border flows (both inflows and outflows) associated with foreign investors as well as resident companies and banks; unlike prudential financial regulations, they can influence portfolio decisions taken by resident non-financial institutions and non-resident agents (Gallagher *et al*, 2012). Capital controls can target inflows or outflows, and generally concern particular flows (such as portfolio investment). Moreover, they can be *tax-based* (financial taxes or reserve requirements against certain types of investments are examples of tax-based controls) or *quantitative*, which may involve outright bans on certain investments (e.g. the purchase of equities by foreign investors), restrictions or quotas, or license requirements (Epstein *et al.*, 2004; Prates, 2015).

CAR can be used for different goals, such as: (i) to reduce the vulnerability to financial crises related to speculative capital inflows and outflows; (ii) to drive a wedge between onshore and offshore interest rates in order to provide monetary authorities with some policy autonomy at least in the short-run; (iii) to maintain short-term stability of nominal exchange rate and curb currency appreciation pressures derived from excessive capital inflows. Yet, these goals are related. For instance, currency appreciation stimulates speculative positions in foreign currency in the spot and derivatives markets, threatening financial stability. Therefore, the ability to maintain the exchange rate at a competitive level contributes to financial stability.

Some countries such as Brazil and South Korea needed also to launch specific regulations targeting FX derivatives operations to reach these two goals due to their central influence in the exchange rate trend and/or in the financial situation of banks and corporations in both economies (Fritz and Prates, 2014).

As these two classes of CAR are specific in terms of the range of agents and capital flows they can reach, the set of CAR adopted has varied among EMEs. Indeed,

the case studies aforementioned as well as the ones on the CAR adopted in the 1990s (Epstein *et al*., 2004, Magud and Reihart, 2006) highlight that designing the regulatory toolkit is country-specific, shaped by the policy goals, the capital flows composition (Table 5.1) as well as by macroeconomic and institutional factors. Regarding the macroeconomic ones, for instance, a great interest rate differential due to a restrictive monetary policy stimulates regulatory arbitrage with the aim of circumventing CAR, mainly in the case of countries with sophisticated financial markets and high degree of financial openness. As for the effectiveness of CAR, Magud and Reihart (2006) reviewed more than 30 papers that evaluated capital controls either on inflows or outflows around the world, making use of a capital controls effectiveness index in order to standardize the results of the empirical studies; the authors concluded that "capital controls on inflows seem to make monetary policy more independent; alter the composition of capital flow; reduce real exchange rate pressures (although the evidence is more controversial)", but "seem not to reduce the volume of net flows (and hence, the current account balance (Magud and Reihart, 2006, p.6-7). In order to be effective, CAR have to be broader and even more dynamic, flexible and adjustable, involving a steady "fine-tuning" to close the loopholes found by private agents. This seems to be the case of the Brazilian experience with CAR after the global financial crisis (Fritz and Prates, 2014; and Paula and Prates, 2015).

<TABLE 5.1 ABOUT HERE>

4. Final remarks

The amount and volatility of capital flows during the post-crisis boom, their potentially damaging consequences for EMEs and the very pragmatic response of these countries summarized above pushed forward the IMF research department to produce a series of policy and background papers on this subject (IMF, 2011b, Ostry *et al*. 2010, among others) that result in a definitive policy framework launched in December 2012 (IMF, 2012).

This framework made relevant progress compared to the IMF traditional rejection of capital controls and also to its preliminary approaches of 2010 and 2011.

These approaches established a clear-cut hierarchy between instruments to manage capital flows covering the whole range of macroeconomic policies, prudential regulations and capital controls (defined in a jurisdictional manner as measures discriminating between residents and non-residents) which should be used under highly specific circumstances (Ostry *et al.* 2010, 2011a, 2011b; IMF, 2011c). By introducing the term "capital flow management measures" (CFMs), the IMF gives more policy space to EMEs subject to major capital inflows. Yet, by labeling CFMs as a temporary instrument, it still supports financial liberalization in these economies as a final goal and keeps discriminating between CFMs and financial prudential measures, setting bounds to EMEs' policy space and their country-specific needs (Gallagher, 2012; Fritz and Prates, 2014).

Therefore, the differences between prudential regulation and capital controls regarding the types of agents and capital flows they could reach as well as the other macroeconomic and institutional specificities shaping each country regulatory approach (see section 4) are not taken into account by the IMF in its new institutional view on capital flows regulation.

Yet, EMEs should have permanent authority to manage capital flows based on all types of available regulatory tools not only because each country approach need to be tailor-made according to the aforementioned specificities (as the experiences in the 1990s and 2000s revealed), but also due to the features of the current IMFS. As the global financial crisis was not followed by the structural reforms awaited by many scholars (Davidson, 1982), this system is still featured by a currency hierarchy with the dollar at its top and an asymmetrical financial integration. The interplay of these features has more harmful impacts exactly on EMEs whose currencies are positioned at the hierarchy lower bond, as detailed in section 3. Moreover, the improvements in the international governance after this crisis have been shy (Frieden *et al*., 2012) As AEs are business and financial cycle makers (Ocampo, 2001a; Rey, 2015) and have not embraced capital outflow regulations, EMEs need to tackle alone the spillover effects of those countries domestic policies.

Hence, CAR need to be a permanent part of the policy toolkit to be used in a counter-cyclical way to smooth booms and busts, to curb financial risks and to increase the policy space in order to exert control over the key macroeconomic prices such as the

exchange rate and interest rate. We call this strategy "an integrated approach of capital flows regulation".

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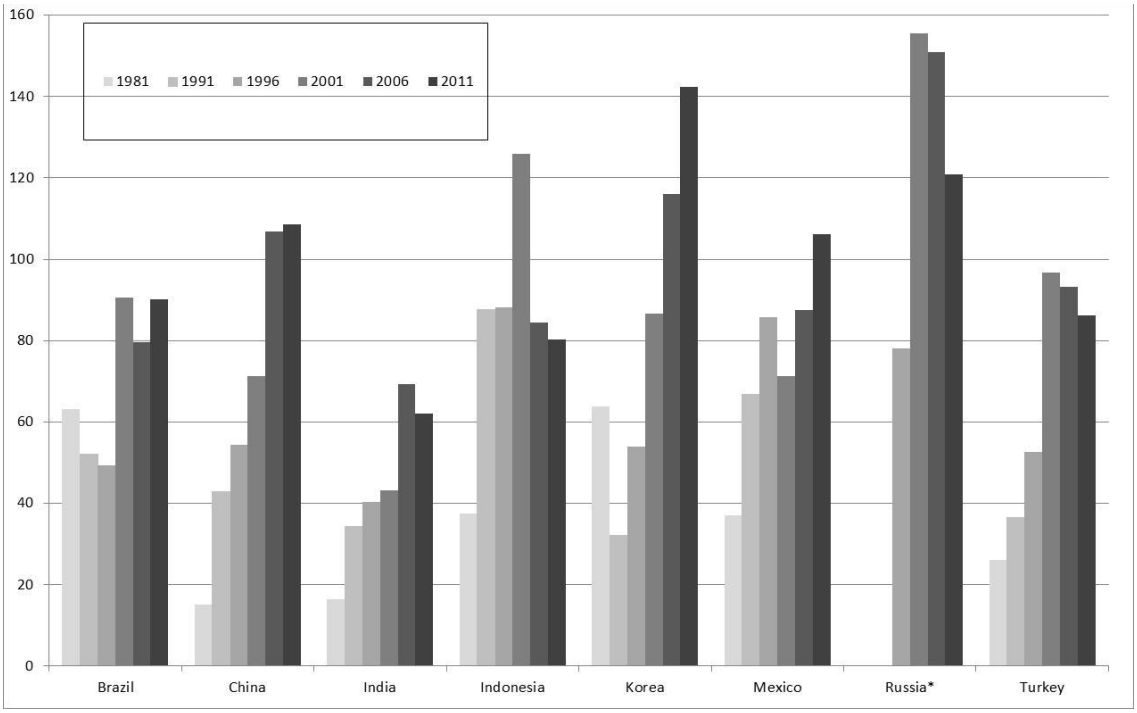
FIGURES

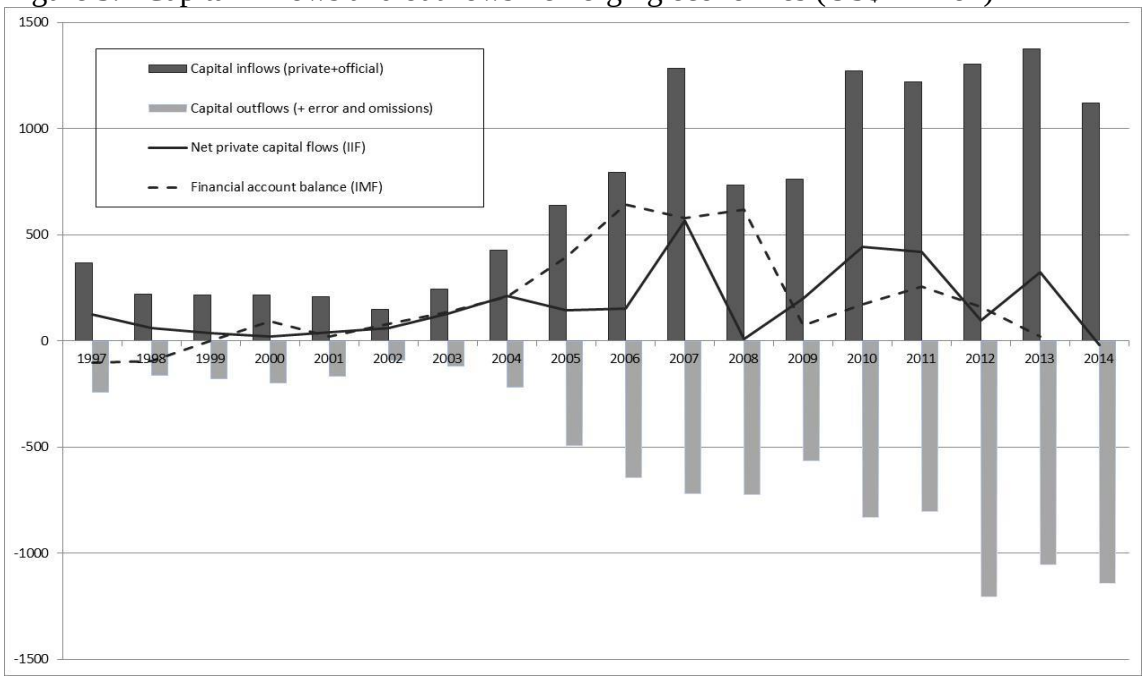
Figure 5.1 International Financial Integration – major emerging economies (% of GDP)



Note: The index corresponds to international assets plus liabilities over GDP.
(*) For Russian Federation data in 1996-2011 only.

Source: Data from Lane and Milesi-Ferretti database, http://www.philiplane.org/EWN.html

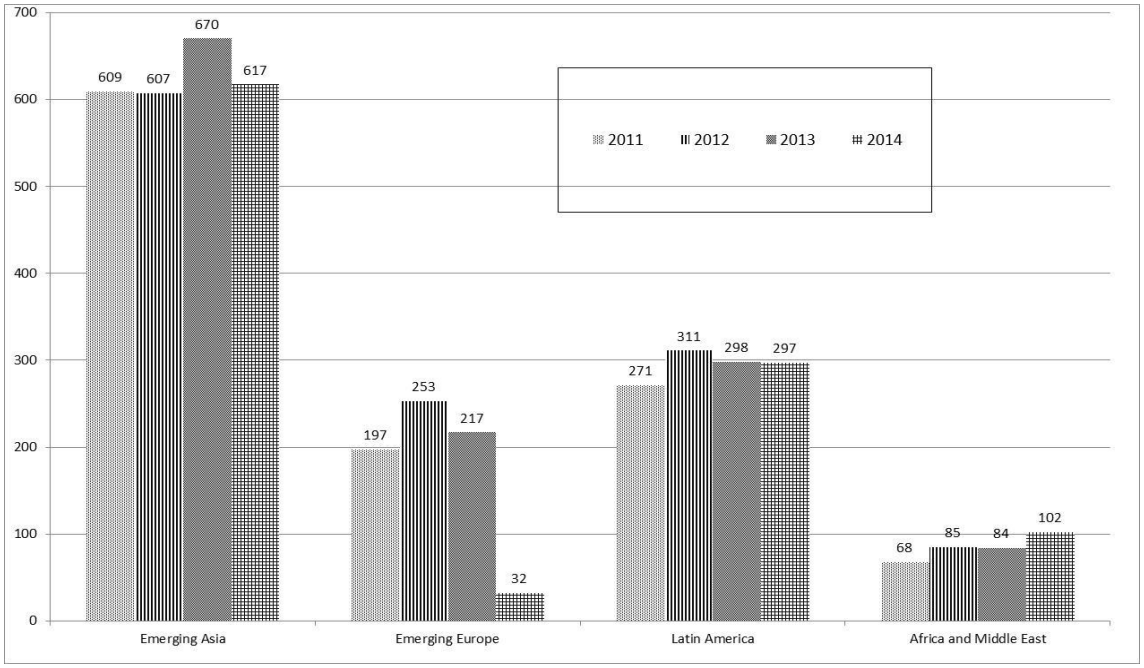
Figure 5.2 Capital inflows and outflows - emerging economies (US$ million)



Note: Capital inflows: sum of all private capital inflows (equity and debt) by non-residents plus official inflows (international financial institutions and bilateral creditors); capital outflows: sum of all private capital outflows (equity and debt) by residents plus error and omissions (excludes reserves variations); net capital flows: see footnote 1.

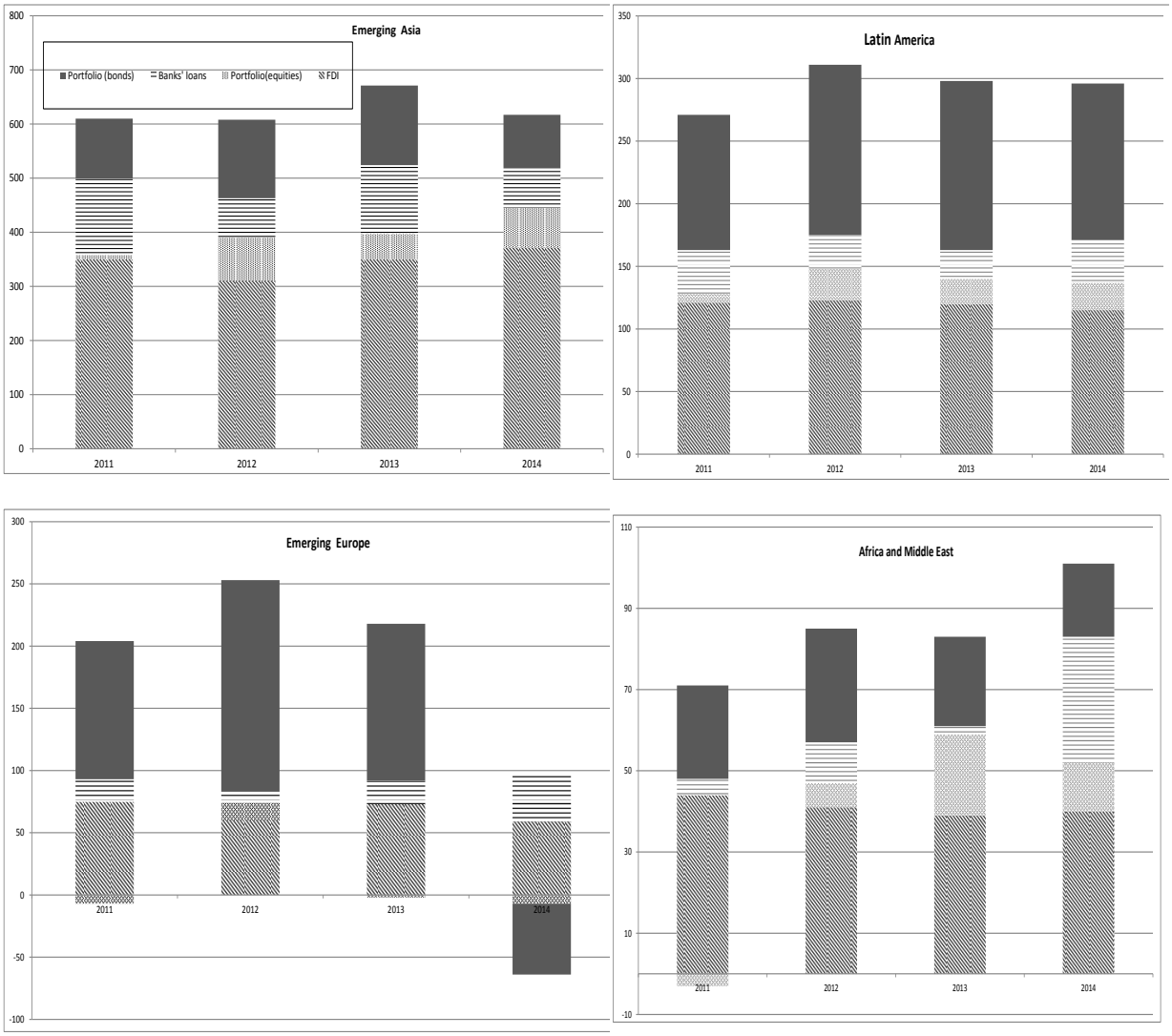
Source: Data from Institute for International Finance (2015) and IMF (2015)

Figure 5.3 Capital inflows by region (US$ billion)



Source: Data from Institute for International Finance (2015)

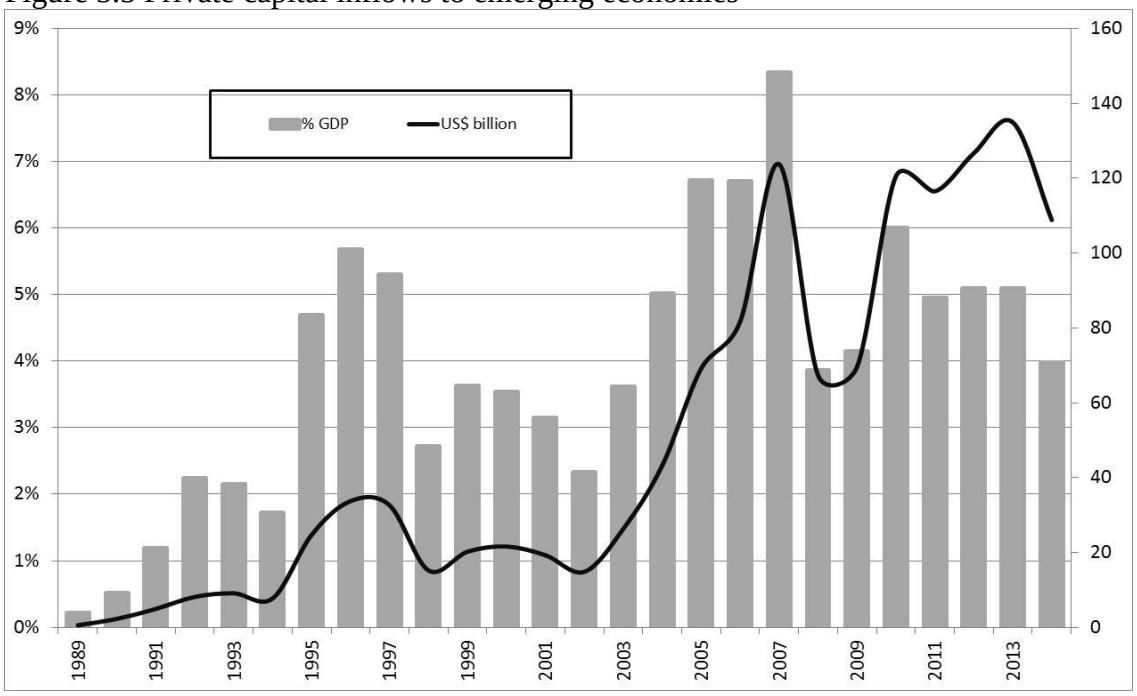
Figure 5. 4 Capital inflows by region and modality (US$ million)



Source: Data from Institute for International Finance (2015)

Note: Emerging Asia: China, India, Indonesia, Philippines, South Korea, and Thailand; Latin America: Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, and Venezuela: Emerging Europe (Eastern): Bulgaria, Czech Republic, Poland, Romania, Russia, Turkey, and Ukraine; Africa and Middle East: Egypt, Lebanon, Morocco, Nigeria, Saudi Arabia, South Africa, and UEA.

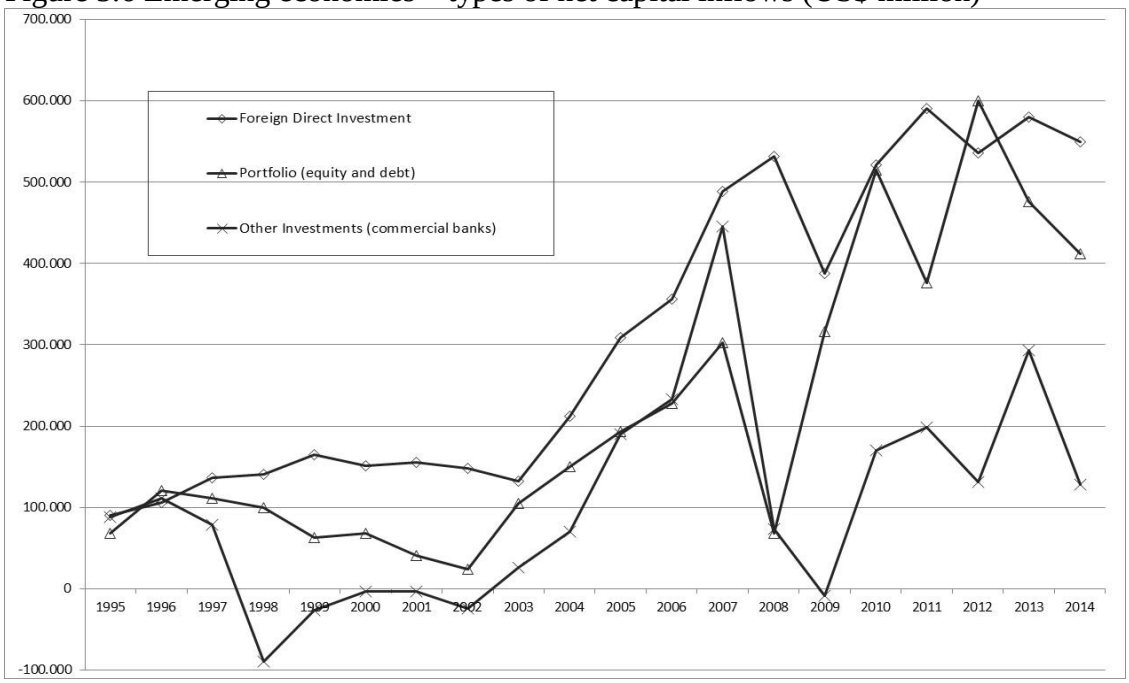
Figure 5.5 Private capital inflows to emerging economies



Note: Private capital inflows includes all the capital flows (both equity and debt) involving non-residents (foreign private sector and lenders). Included foreign investors' withdrawals of capitals and not included outward investments of residents and inflows from official sector sources.

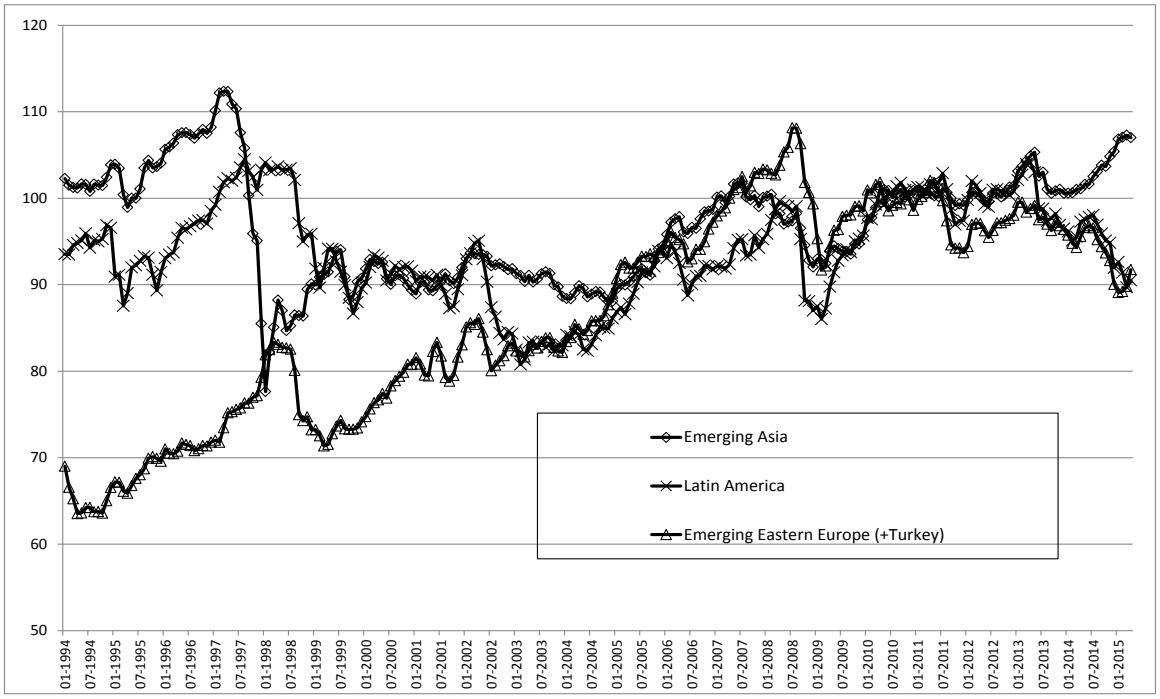
Source: Data from Institute for International Finance (2015)

Figure 5.6 Emerging economies – types of net capital inflows (US$ million)



Source: Data from Institute for International Finance (2015).

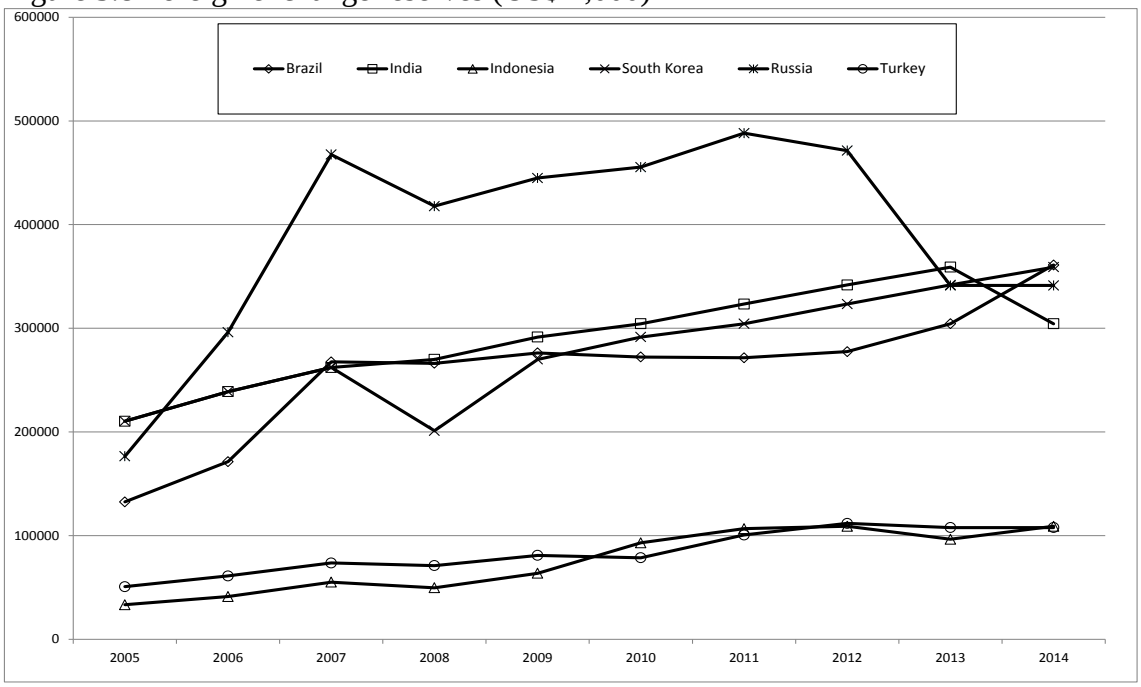
Figure 5.7 Real effective exchange rate (2010=100)



Note: Emerging Asia: China, India, Indonesia, Korea, Malaysia, Philippines, and Thailand; Latin America: Brazil, Chile, Colombia, Peru and Mexico; Eastern Europe (+ Turkey): Croatia, Hungary, Poland, Romania, Turkey, and Russia.

Source: Data from BIS (2015)

Figure 5.8 Foreign exchange reserves (US$ 1,000)



Source: Data from IMF (2015)

Table 5.1 Capital account regulations

Regulation		*Agents*	
		Financial vs. non-financial	*Resident vs. non-resident*
Prudential regulation		Financial institutions	Resident
Capital controls	Portfolio and FDI	Both	Non-resident
	Foreign loans	Both	Resident

Source: Adapted from Prates (2015, p. 182).