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*Lessons from Emerging Economies for African
Low Income countries on Managing Capital Flows*

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Lessons from Emerging Economies for African Low Income countries on Managing Capital Flows

Stephany Griffith-Jones and José Antonio Ocampo¹

The experience of emerging economies with financial liberalization, and particularly with capital account liberalization –the specific subject of this paper—holds important experiences for low-income countries, which have generally lagged in the liberalization process. The relative or limited effectiveness of capital account regulations –the term we will use here rather than controls—after liberalization also holds relevant lessons. As we will see here, these regulations have diverse forms, which have been used with variable intensities by different countries.

As we will emphasize, these regulations are part of the broader set of “macro-prudential regulations” and are particularly important for developing countries. The reason for this is the fact that capital flows towards developing countries tend to follow a pro-cyclical pattern, and on several occasions generate strong boom-bust cycles, which have devastating effects on countries. This is associated not only to the strong cycles of domestic demand (private and public), current account balances and real exchange rates that capital account cycles generate but also to the close links between the domestic financial system and capital flows. Because domestic macro-prudential regulations tend to be weaker in low-income countries (see for example, Griffith-Jones and Gottschalk, 2017), it seems especially desirable that regulations on the capital account of a macro-prudential nature should be strengthened.

The paper is divided in six sections, aside from this introduction. The first looks at the lessons from capital account liberalization in developing countries. The second reviews the

¹ We thank Victor Murinde for his encouragement to write this paper. We are grateful for the excellent research assistance of Samuel Leistner. We are very grateful for financial support from DfID and ESRC.

international trends in this regard. The third looks at the pro-cyclical pattern of capital flows towards developing countries –and, particularly, of financial flows. It also examines the evolution of spreads, comparing those for low income and emerging economies. The fourth considers the different types of capital account regulations and their variable use in the developing world. The fifth reviews the existing literature on the effectiveness of these regulations. The last draws brief conclusions, with particular reference to low-income countries.

I. LESSONS FROM CAPITAL ACCOUNT LIBERALIZATION

The analysis of external capital flows must start with a review of the characteristics of financial markets –as opposed, if we want to state it in that way, to the markets for goods. In this regard, three issues are central. The first, which was the dearest to Keynes, is that financial markets are dominated by lack of information about the future and, therefore, by *uncertainty* about future events and not merely quantifiable risks. This means, in turn, that market agents must make their decisions on expectations about a future that is essentially unknown. The second is the fact that under lack of, or incomplete information, it is rational for market agents to base their decisions on the opinions and actions of others. This generates significant externalities and coordination failures in financial markets –i.e., traditional market failures. The third characteristic, which comes in particular from the work of Stiglitz (see, in particular, Stiglitz and Greenwald, 2003), are the additional market imperfections associated with the asymmetric information that characterizes financial markets –particularly the information that creditors vs. debtors have. Its major reflection is the credit rationing that some agents may face, which at the international level, which has been a feature of low-income and some middle-income countries (though less so in recent years) but also many emerging economies during crises.

All this implies that, in contrast to the orthodox view that rational speculation helps stabilize markets, financial markets are dominated by sharp changes in expectations that generate volatility, contagion and herding behavior. The contagion of both optimism and pessimism in different phases of the business cycle tends to generate the alternation of phases of “appetite for risk” and “flight to quality”, to use market terminology. During booms, there is tendency to the underestimation of risks and even to incur in “irrational exuberance”, to use a term that was made famous by Greenspan (1996) and the rigorous academic analysis of Shiller (2000). In turn, during crises, risk aversion will spread and may lead to sharp reductions in lending –“sudden stops”, as they became known in the literature.² This cyclical behavior has been particularly underscored by Minsky (1982), who indicates that it can be understood as the result of an unstable endogenous dynamics that leads to excessive risk-taking during booms, which is stronger the longer the boom lasts, and which eventually leads to crises.³ Herding behavior is an essential feature of this process. It takes place even in normal times but becomes devastating in periods of high uncertainty when “information” becomes unreliable and expectations highly volatile. The frequency of episodes of financial crises, as underscored in the sharp historical analysis by Kindleberger (see Kindleberger and Aliber, 2011), is the best reflection of this fact.

From a welfare economics perspective, the volatility and contagion (and associated herding behavior) can be seen as negative externalities on recipient countries that should be reduced through some form of intervention (Korinek 2011). The externalities result from the fact that individual agents do not take into account the effects of their financial decisions on other

² The term was coined by Rüdiger Dornbusch in a paper on the 1994 Mexican crisis (Dornbusch and Werner 1994), in which he argued that ‘it is not speed that kills, it is the sudden stop’, but its popularization owes equally to the work of Guillermo Calvo (for his early work on the subject, see Calvo 1998).

³ See also White (2005), which underscores how the “search for yield” characteristic of low interest rate environments generates incentives for credit creation, rising leverage, and asset bubbles.

agents and thus on the level of financial stability in a particular country. As a classic market failure, this calls for an imposition of a Pigouvian tax (on cross-border financial activities) or other interventions (e.g., reserve requirements on capital inflows) to restore efficiency.

The basic defense of financial liberalization, including capital account liberalization, was that it would increase economic efficiency and, particularly, would improve the allocation of savings and, therefore, growth.⁴ By allowing agents to diversify their portfolios, it would also reduce risk. In the case of the external accounts, this means that it would allow countries to tap into diversified sources of funds and to allocate their portfolios in a multiplicity of international assets, contributing in both cases to reduce risks. Furthermore, according to this view, liberalization would not only induce financial development, but would also enhance macroeconomic discipline –by punishing risky policies.

The basic problem with this view is that it is predicated on well-functioning capital markets, and ignores all the imperfections that these markets face (Stiglitz 2008). According to the alternative view, a major implication of market imperfections is that capital flows will tend to be strongly pro-cyclical for developing countries, a pattern that we will illustrate in section III below. This pro-cyclical pattern implies that that open capital accounts may lead to *more* rather than *less* macroeconomic volatility, and thus to stronger business cycles –i.e., to *real* macroeconomic instability.⁵ In turn, the “discipline” imposed by capital account liberalization may actually enhance that cyclical pattern, as it limits the space for countercyclical macroeconomic policies (see below). What all this means is that, in contrast with the notion that

⁴ See the early contributions of McKinnon (1973) and Shaw (1973) and the later ones by Mishkin (2006) and Kose et al. (2009).

⁵ This is, of course, one of the elements of macroeconomic instability according to the Keynesian tradition, but it has been blurred by the orthodox emphasis on the nominal dimensions of instability, particularly inflation and fiscal imbalances.

financial liberalization should have a disciplining effect on economic agents, it rather tends to distort the incentives that both private and public-sector agents face through the business cycle, inducing them to behave in a pro-cyclical way. Overall, capital account liberalization –and financial liberalization in general– may result in severe “twin” external and domestic financial crises with high development costs.⁶

There is a fairly general recognition that market failures are stronger in emerging and developing countries, and therefore that capital market liberalization enhances the risks that countries face and has made it more difficult for these countries to achieve real macroeconomic stability (see, for example, Schmukler 2008). A basic reason for this is that their financial markets are thinner –a feature that, is of course, strongest in low-income countries. In particular, there is a short-term bias in the financial assets and liabilities that characterizes financial markets in these countries, which generate significant maturity mismatches, particularly in relation to fixed capital investment, which tends to be financed with relatively short-term loans. During crises, creditors might not allow borrowers to roll over these loans, thus generating a liquidity crunch for investors. This may force domestic firms to use a larger share of equity to finance their investments, in a context in which equity is relatively scarce, even during booms. To overcome this short-term bias of domestic financial markets, firms (generally the larger ones) may prefer to borrow abroad, where they can get access to longer maturities, but if they lack revenues in foreign currencies, they incur in currency mismatches. Furthermore, when domestic financial institutions use foreign funds to finance domestic currency loans, they incur a currency mismatch in their portfolios; if they lend those funds domestically in foreign currencies to avoid this problem, they merely transfer the currency mismatch to other domestic agents, non-financial

⁶ See, among the extensive literature on the subject, the papers collected in Ocampo and Stiglitz (2008), including the overview of that volume by Ocampo, Spiegel and Stiglitz (2008).

corporations and households. Maturity and currency mismatches could, of course, be handled by futures markets, but those markets, when available, tend to have relatively short-term coverage and a strong pro-cyclical performance, which become even shorter-term or entirely shut down during crises. Furthermore, futures markets are particularly underdeveloped for low-income countries; if they exist, they tend to be particularly expensive and short-term.

Furthermore, when capital accounts are liberalized, the scope for countercyclical macroeconomic policy becomes more limited. In particular, during booms, it might be difficult to increase interest rates to cool down demand, as the higher interest rates will attract additional capital. In turn, during crisis, the opposite pattern will apply, and the rising interest rates (among other reasons, to avoid capital flight) and the reduction of financing for countercyclical fiscal policies may accentuate the crisis. Furthermore, large external financing during booms would be reflected in rising current account deficits and real exchange rate appreciation, and sharp corrections of the external accounts and exchange rate depreciation during crises. Real exchange rate appreciation during booms also comes at the cost of deterioration in the competitiveness of tradable sectors –and possibly to a “Dutch disease”— that may have adverse effects on long-term growth. Rising current account deficits have also been widely seen as a phenomenon that increases the risk of crises, as the counterpart external debt which agents incur to finance those deficits may be impossible to pay, particularly if exchange rate depreciation during crises increased their domestic costs and therefore the debt burden of domestic agents. Note also that, if to avoid the “trilemma” of open economies, authorities opt for more exchange rate flexibility, the cycle of real exchange rates and current account imbalances would be sharper, forcing a more difficult trade-off between monetary autonomy and exchange rate stability.

The constraints on countercyclical macroeconomic policies is enhanced by the fact that governments are expected by markets and multilateral financial institutions to behave in ways that generate “credibility” during crises. In the absence of adequate policy space built up by countercyclical macroeconomic policies during booms, this means that “austerity policies” must be adopted during crises. The adoption of such pro-cyclical policies during crises generates, in turn, economic *and* political economy pressures to also adopt pro-cyclical policies during booms. Private agents will then resist the restrictions on their ability to spend, and the political establishment would be only too happy to increase public sector spending after a period of austerity. This helps explain the strong evidence that fiscal policies tend to be pro-cyclical in the developing world (Kaminsky, Reinhart and Bégh 2004).

There are ways to mitigate this behavior. The most important is the accumulation of foreign exchange reserves during booms, which can help both avoid exchange rate appreciation and rising current account deficits and external debts, and increase the policy space that authorities have during the succeeding downturn. Countercyclical foreign exchange reserve management has indeed been a widespread practice in recent decades, together with managed floating exchange rate regimes. In any case, such “self-insurance” is costly: from the point of view of countries, as foreign exchange reserves have lower yields than the costs of external debts, and central banks may be forced to sterilize reserve accumulation, incurring in the losses associated with the difference between interest receipts from the investments of foreign exchange reserves and the lower income from domestic assets they may be forced to sell (generally government bonds) or the costs of the domestic liabilities they issue as sterilization instruments. Such costs are particularly hard to bear by low-income countries, where the alternative benefit of

using the foreign exchange to invest in development or increase consumption of poor people is very high.

Authorities may also counterbalance the rising risks incurred by domestic financial agents with stronger prudential regulations than international (Basel) standards, (as many low-income countries in fact do, especially as regards higher capital adequacy standards for banks than required by Basel regulations), or by domestic macro-prudential policies. This, particularly the former, raises, however, the costs of financial intermediation and may restrict the development of new financial services. It may thus be more desirable to use both domestic and capital account macro-prudential regulatory policies.

The move to a “hard peg” – a currency board regime or dollar/euro-ization – to eliminate currency risks reduces even further or may altogether eliminate the space for countercyclical policies, as the experience of adjustment of the Eurozone and its periphery (the Baltic countries) during the North Atlantic financial crisis indicates. It may also lead to the collapse of the “hard peg”, which was the experience of Argentina in the early years of the current century. There is, therefore, a very profound sense in which the financial and macroeconomic constraints faced by emerging and developing countries that have opened up their capital accounts are inescapable.

A major IMF study, published in 2003 (Prasad et al., 2003), was a turning point in this debate, as it showed that there is strong empirical evidence that capital market liberalization increases real macroeconomic instability in developing countries, and to a lesser extent in developed countries. This was also the major conclusion of the Commission on Financial Stability convened by the Bank of International Settlements after the outbreak of the North Atlantic Financial crisis and chaired by Rakesh Mohan (BIS, 2009). The pro-cyclical pattern of

capital flows towards emerging and developing countries have indeed been at the heart of many of the crises that emerging and developing countries have faced since the 1970s. This includes the financial boom of the second half of the 1970s associated with the recycling of petrodollars, which ended up in the 1980s in the worst debt crisis in Latin American history, and to a lesser extent in other parts of the developing world. The capital account boom and sequence of emerging countries' crises that broke off in East Asia in 1997 and spread to Russia in 1998 and to Latin America in the same year, is a further manifestation of this fact. Balance of Payments crises have tended to be less common in low-income countries, precisely because they have attracted a smaller scale of capital flows in the past, in relation to the scale of their economies. The fact that low-income countries have had somewhat fewer Balance of Payments crises, caused by private capital flows, may make them more complacent about the risks and costs of such crises; for this reason, it is so important that relevant lessons are drawn for them from emerging economies experience, so avoidable mistakes are not repeated.

A major implication of negative effects of capital flows volatility is that the additional financial volatility and real macroeconomic instability generated by capital account liberalization may have adverse long-term effects. Rodrik (1998) was one of the first authors to point out this fact. Strong evidence in this regard have come from later studies that countries that have grown more when they have relied less on net capital flows, as reflected in their stronger current account balances (see Prasad, Rajan and Subramanian 2007, and Gourinchas and Jeanne 2007). The "meta-regression" analysis by Jeanne, Subramanian and Williamson (2012: Ch. 3), which used six measures of financial globalization (three *de jure* and three *de facto* measures), found very limited evidence of a link between financial globalization and growth for the period 1970-

2007 (and several sub-periods within that time span), except partly for developed countries and for portfolio equity flows.

Furthermore, the pro-cyclical fiscal policies induced by capital market liberalization can also have long-term costs. Cuts in social sector spending during crises generate losses in terms of foregone nutrition, education, or healthcare that may have permanent effect on the affected population. Government services may themselves lose human and organizational capital, which generates long-term losses in terms of efficiency and effectiveness. In turn, stop-go public-sector investment policies might leave some projects (e.g., roads) unfinished, at least for several years, increasing the cost and reducing the productivity of public-sector investment (Ocampo 2003b).

The increased financial volatility and real macroeconomic instability associated with capital account liberalization is an essential argument of why it should at best be gradual and should be preceded by the design of strong domestic prudential regulations. This was the basic argument behind the early argument for a “sequencing” of the liberalization of the external sector in developing countries, according to which it was proposed that trade liberalization should precede capital account liberalization (see, for example, Edwards, 1984). In recent times, the most important have been the acceptance by the IMF of an “institutional view” that underscores the prudence that should characterize capital account liberalization (IMF, 2012b). This is also the basic argument why it makes sense to design capital account regulations with any liberalization process, as part of the family of macro-prudential regulations. We will return to this in section V below.

II. TRENDS IN CAPITAL ACCOUNT OPENNESS

As it is well known, with strong support from both Keynes and White, the two chief negotiations at Bretton Woods, the final IMF Articles of Agreement included the provision that “Members may exercise such controls as are necessary to regulate international capital movements, but no member may exercise these controls in a manner which will restrict payments for current transactions” (Article VI-3 of the IMF Articles of Agreement). In fact, capital movements were supposed to be directly managed by countries or with counterpart movements in foreign exchange reserves, as the Agreement also determined that members could “not use the Fund’s general resources to meet a large or sustained outflow of capital” (Article VI-1). It also included some provisions on international cooperation in this area: “Exchange contracts which involve the currency of any member and which are contrary to the exchange control regulations of that member maintained or imposed consistently with this Agreement shall be unenforceable in the territories of any member. In addition, members may, by mutual accord, cooperate in measures for the purpose of making the exchange control regulations of either member” (Article 8-2b).

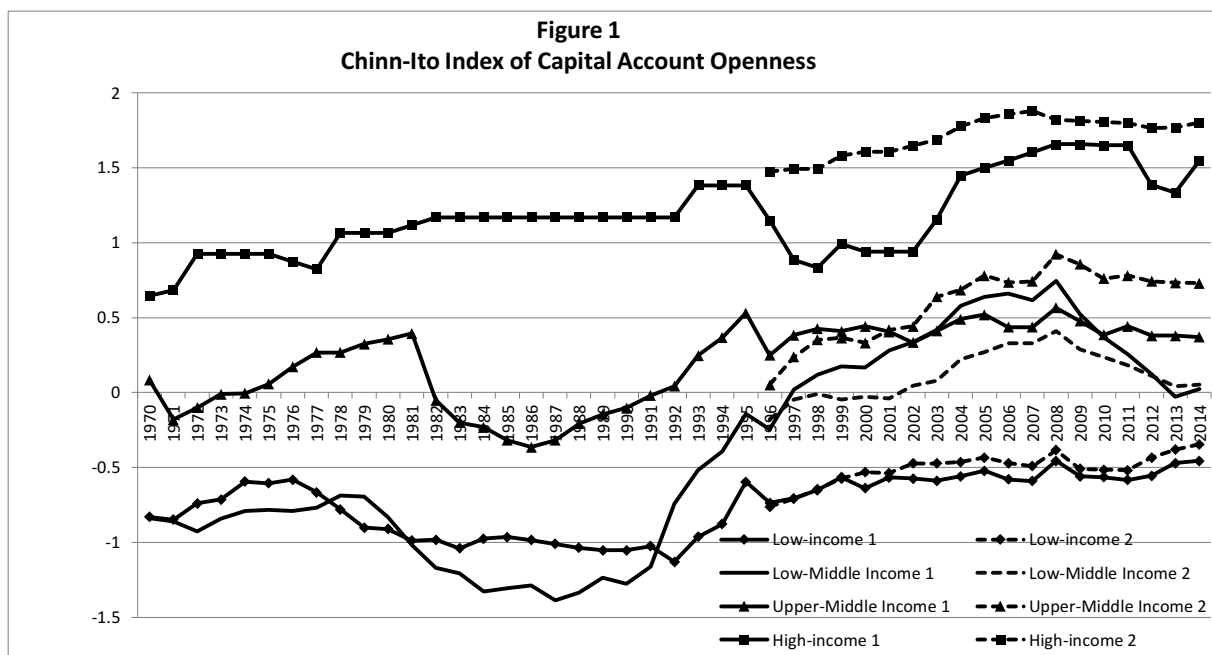
Management of capital flows became the rule until well into the 1970s, even in advanced countries –or, rather, continued to be so, as that pattern had been in place since the Great Depression or before. This included regulations on capital outflows by many countries, including the US in the 1960s and early 1970s, as well as on inflows, notably in this case by Germany. However, the idea that there could be cooperation in this area remained dead letter. Rather, very early on, the US actually pressed the UK to return to capital account convertibility, in an episode

that turned into a disaster⁷ and, therefore, served to avoid repeating such pressures in the following decades. Also, the UK and other European countries asked for cooperation from the US to control capital flight but, in the face of pressures by US financial interests, there was no action in this regard. Current account convertibility was fully restored by major Western European countries in 1958 and, in more administered way, by Japan in 1964, but capital flows continued to be strongly regulated in both cases.

The shift towards the liberalization of capital flows started in the US in 1974 and gradually spread to the rest of the developed world in the second half of the 1970s and through the 1980s, and was essentially completed by the early 1990s. This what the well-known index of capital account liberalization designed by Chinn and Ito (2006 and 2008) indicates –see Figure 1 and Table 1.⁸ The reconstruction of global finance had already started with the development of the Eurodollar market in the late 1950s, with London as its hub. This generated the view that growing capital mobility was eroding the effectiveness of capital account regulations and that more flexible exchange rates had to be introduced, but there was, in any case, no strong movement yet towards liberalization. The beginning of this process in advanced economies coincided with the explosion of global finance that took place with the recycling of petrodollars after the first oil shock. The move towards flexible exchange rates also created a demand for asset diversification and contributed to the growth of global finance.

⁷ The UK did so on July 15, 1946, but was forced to suspend it after losing large amount of reserves slightly over a month later, on August 20 (Steil, 2013, pp. 276-283 and 309-311).

⁸ The index has a minimum value of -1.86 and a maximum value of 2.44.



Note: The series indicated by 1 refer to 104 countries; those indicated by 2 refer to the larger sample of 174 countries.
Source: http://web.pdx.edu/~ito/Chinn-Ito_website.htm. Country classification by level of development according to the World Bank in 2000.

	Smaller sample (104 countries)							Larger sample (174 countries)			
	1970	1980	1990	1997	2007	2011	2014	1997	2007	2011	2014
North America	2.389	2.389	2.389	2.389	2.389	2.389	2.389	2.389	2.389	2.389	2.389
Oceania	-0.658	-0.126	2.389	2.130	1.740	1.740	2.130	0.621	0.227	0.432	0.503
Europe	-0.259	0.059	0.755	2.112	2.308	2.166	2.166	0.973	1.707	1.607	1.587
Asia	-0.561	-0.172	-0.178	-0.133	-0.055	-0.137	-0.101	-0.327	-0.165	-0.236	-0.201
Latin America and Caribbean	0.077	-0.128	-0.950	0.674	1.292	0.982	0.801	0.179	0.683	0.425	0.297
Middle East and North Africa	-0.674	-0.543	-0.496	-0.219	0.260	0.270	0.101	0.354	0.823	0.802	0.834
Sub-Saharan Africa	-0.984	-0.922	-1.062	-0.871	-0.766	-0.730	-0.591	-0.752	-0.563	-0.516	-0.416
Memo: Developed OECD	-0.035	0.316	1.038	1.989	2.271	2.168	2.203				

Source: http://web.pdx.edu/~ito/Chinn-Ito_website.htm.

Capital account liberalization demanded, in turn, new forms of intervention. The most important were more active interventions in foreign exchange markets and liquidity financing through swap arrangements among major developed country, sometimes intermediated through the Bank of International Settlements. On top of that, the Basel Committee on Banking Supervision was created in 1974 to enhance and harmonize prudential regulation of banking systems, but later crises indicated that this process lagged behind financial liberalization and financial development in general.

Capital account liberalization came with a lag in the developing world. After a moderate push in the 1970s, it experienced a reversal in the 1980s, when several middle-income countries actually reinforced their capital account regulations (Figure 1). Both processes were led by decisions taken by Latin American countries, some of which undertook liberalization measures of variable types in the 1970s, only to experience a strong boom-bust cycle that led to one of the worst regional debt crises in history. This was also the first crisis in the developing world in the new era of global finance and led to a temporary reversal of liberalization. This process speeded up again in the 1990s, and continued up to the North Atlantic financial crisis, although at a slower pace since the turn of the century, no doubt due to the busts that many emerging economies experienced after the East Asian crisis broke off in 1997. The liberalization process expanded now to low-middle-income countries, but low-income countries clearly lagged behind. By regions, sub-Saharan Africa and Asia kept relatively closed capital accounts, according to these indicators, whereas Latin America and the Caribbean, and the Middle East and North Africa liberalized the most, but still in a moderate way relative to advanced countries (Table 1).

The North Atlantic crisis represented a new turning point towards a moderate reversal of capital account liberalization in emerging and developing countries. This is particularly noticeable in the two groups of middle-income countries (see again Figure 1). This reversal of liberalization trends is also visible in the evolution of capital account regulations, as we will see in section IV below. However, low-income economies continued the liberalization process, though at slow pace and remained behind the levels achieved by the two categories of middle-income countries. This is reflected in the trends of sub-Saharan Africa. Other regions of the developing world experienced a partial reversal of the capital account liberalization process, though only temporarily in the case of the Middle East (Table 1).

III. THE PROCYCLICAL PATTERN OF CAPITAL FLOWS TOWARDS DEVELOPING COUNTRIES

The major problem faced by emerging and developing countries in capital account management is the particularly strong pro-cyclical swings in external financing and the associated macroeconomic risks they face (Prasad *et al.*, 2003; Ocampo, Kregel and Griffith-Jones, 2007, Ch. 1). In contrast, they lack the “financial safety net” provided by swap arrangements among central banks, which essentially benefits only developed countries until very recently –and lately only for a few emerging economies and in a very partial manner.⁹ What this implies, in Frenkel’s (2008) terms, is that the integration of emerging and developing countries into global financial markets is a *segmented integration*: an integration into a market segmented by risk categories, in which high-risk borrowers are subject to pro-cyclical swings.

These swings are reflected in variations in the *availability* of financing (the presence or absence of credit rationing), in maturities (reduced availability of long-term financing during crises), and in the pro-cyclical pattern of spreads and country risk premiums (which narrow during booms, and widen during crises¹⁰). Different types of capital flows are subject to different volatility patterns. In particular, the strong volatility of short-term capital indicates that reliance on such financing is highly risky (Rodrik and Velasco, 2000), whereas the greater stability of FDI vis-à-vis financial flows is considered a source of strength. Nonetheless, although according to the IMF (2011c, Chapter 4), financial flows have continued to be more unstable, the volatility

⁹ The US Federal Reserve extended the swap credit lines to a few emerging economies (Brazil, Republic of Korea, Mexico, and Singapore) during the peak of the North Atlantic crisis, but only temporarily. There is also a wave of swap arrangements among some emerging economies, with China as the major player, and two multiple-country arrangements: the Chiang Mai Initiative of ASEAN+3 (China, Japan and the Republic of Korea) launched in 2000 and the new BRICS contingency reserve arrangement approved in 2014. Low-income countries seem to lack any such arrangements, either amongst themselves, with emerging economies, or –even less- with developed countries.

¹⁰ Note that some interpret this as countercyclical swings of spreads and yields, but we should interpret them as pro-cyclical, because this is the effect they have.

of FDI has increased because it has become increasingly “financialized” –taking the form of lending by the headquarters of firms to their subsidiaries or, in project financing, of equity investments that are frequently financed by bond issues in international capital markets. The use of derivatives by multinationals, initially to hedge against risks, such as exchange rate risk, but later to take speculative positions, further increases the net effect on volatility of FDI.

There are many market practices that explain this pattern of financial flows. The first is the use of the same sources of information by major market players –investment banks, credit rating agencies, international financial institutions–, the tendency that this generates to reinforce each other’s interpretations of events, and the use of these expectations by other players with less access to relevant information. The tendency of market agents to cluster countries and firms in certain risk categories has a similar effect. Market-sensitive risk management practices, such as benchmarking indices and evaluation of managers against competitors, tend to reinforce such herding behavior (Persaud 2000). The fact that bank regulations require less capital for short-term debt to satisfy capital adequacy standards tends also to reinforce these market patterns.

Aside from the effects that contagion of opinions and expectations have, the financial linkages that characterize globalized financial markets tend to spread both booms and busts from one region to another. So, during periods of euphoria, access to finance in one part of the world economy can facilitate investments in others, and financial gains in one country can lead to investments elsewhere. In turn, financial agents that incur in losses in some markets during crises are often forced to sell their assets in other markets to recover liquidity (or pay off their short-term obligations). Trade linkages can also play an important role in this regard. Given the commodity dependence of several parts of the developing world, the correlation in movements of different commodity prices, which may have been exacerbated by the “financialization” of

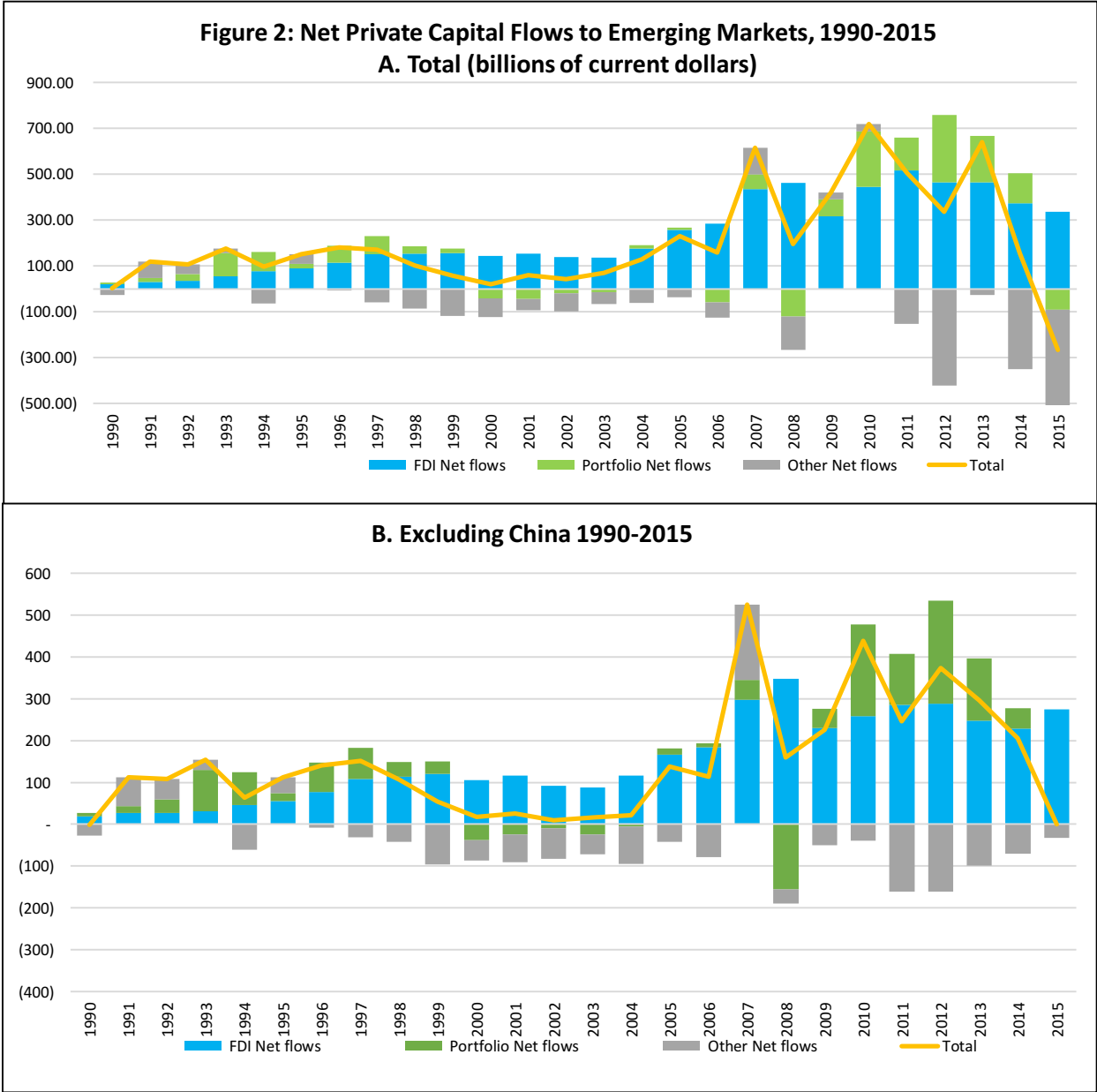
commodity markets, is another source of linkages, that may be especially relevant for low-income countries.

One additional element that makes emerging and developing countries particularly sensitive to disturbances in developed countries' finance is the relatively small share they have in global finance. According to data from the Bank of International Settlements, the share of emerging and developing countries in the global market for bonds and notes actually peaked at 14.8% in December 1997, fell substantially with the crises of several emerging economies in the late twentieth century and shared much less in the succeeding global financial boom, reaching only 6.7% by December 2007. Although this share increased again after the North Atlantic crisis, it remained below the previous boom, at 13.2% in June 2015. What this means is that small ripples in developed countries' financial markets can generate massive disturbances of financial flows towards emerging and low-income countries.

Capital account cycles involve intense short-term reduction or interruptions of financing (in the extreme, sudden stops) as well as sharp movements of spreads and the interruption of financing (rationing), such as those observed after the 1997 East Asian crisis and, particularly, the 1998 Russian default, as well as at the peak of the North Atlantic financial crisis (see below). The interaction of reduced financing, increases in risk premium and adverse short-term macroeconomic expectations during crises can be highly destabilizing, particularly in the presence of high debt ratios. More important, however, are the *medium-term* cycles experienced by emerging and developing countries since the mid-1970s (see Section 2).

As already noticed, the first boom took place with the recycling of petrodollars in the second half of the 1970s, and was followed by a sharp downturn associated with the Latin

American debt crisis of the 1980s. The succeeding three cycles are shown in Figure 2, based on IMF data. A second boom took off in 1991, was temporarily interrupted by the Mexican crisis of December 1994, and finally ended with the series of crises in the emerging world that sparked in Thailand in July 1997 then spread to several East Asian economies, Russia, Latin America (led by Argentina and Brazil) and Turkey.



Source: IMF Balance of Payments Statistics <http://data.imf.org/regular.aspx?key=60979249>

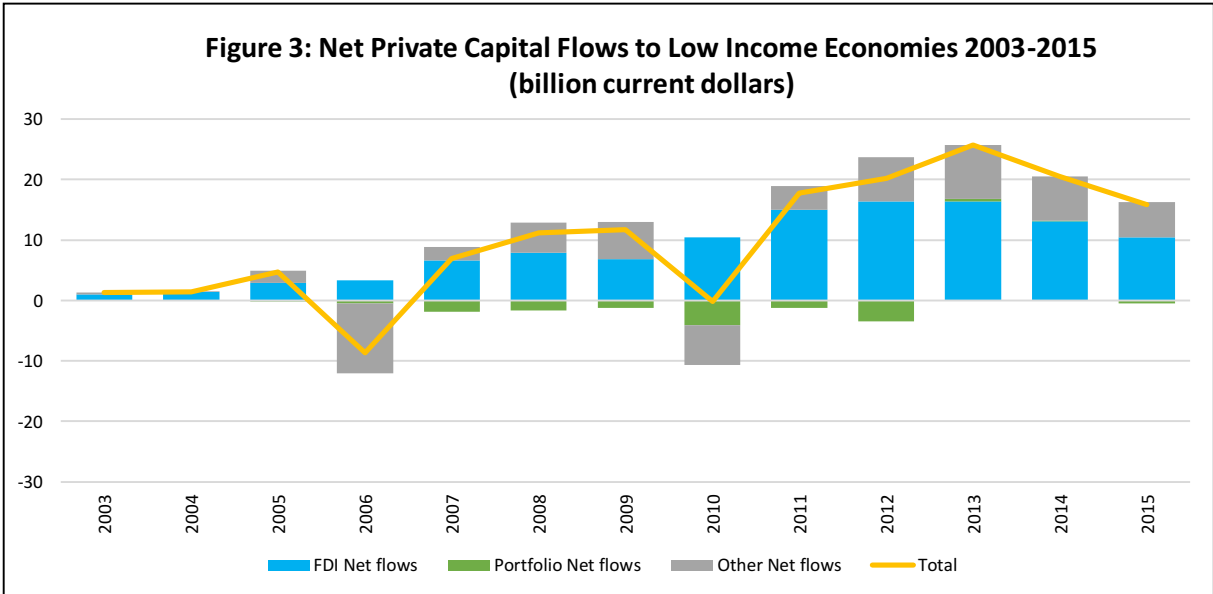
The third boom was part of the broader global financial expansion of 2003-2007. It started to weaken after the crisis of the subprime mortgage market in the US in the (Northern) summer of 2007, and ended with the bankruptcy of Lehman Brothers in September 2008. However, in contrast to the two previous downturns in financial flows, this one was much shorter, thanks to the strong expansion in global liquidity generated by the monetary policies of developed countries and the relative strength of emerging and developing countries, due in particular to the high levels of foreign exchange reserves accumulated by emerging and developing countries during the boom and by high commodity prices (which also recovered very fast, thanks to the renewed expansion of China).

Capital flows towards the developing world started to recover less than a year after the collapse of Lehman Brothers and was followed by a new boom in 2010-2013. This boom weakened with the gradual unwinding of expansionary monetary policies of the US after the announcement of tapering of asset purchases in May 2013, and turn into a new downswing with the end of the “super-cycle” of commodity prices in mid-2014 and the series of turbulences in Chinese financial markets in 2014-15 (indeed, into early 2016). Because of the centrality of capital outflows from China during this recent downswing, Figure 2.B estimates capital flows towards emerging economies excluding China, which indicates that it was less intense if we exclude the Asian giant.

As Figure 2 indicates, the volatility of portfolio flows and other net flows, which include bank lending, has been stronger than that of FDI. This confirms the traditional view that FDI flows are more stable –despite its increasing “financialization”. However, FDI is also pro-cyclical, and it is particularly so for certain activities, notably investments in oil and mining in the emerging and developing world. There is evidence that this “hierarchy of volatility” applies

also to capital flows to LICS, with portfolio and bank flows to them being more reversible and volatile than FDI (see Massa, 2016, Griffith-Jones and Ocampo, 2009, Bhinda and Martin, 2009)

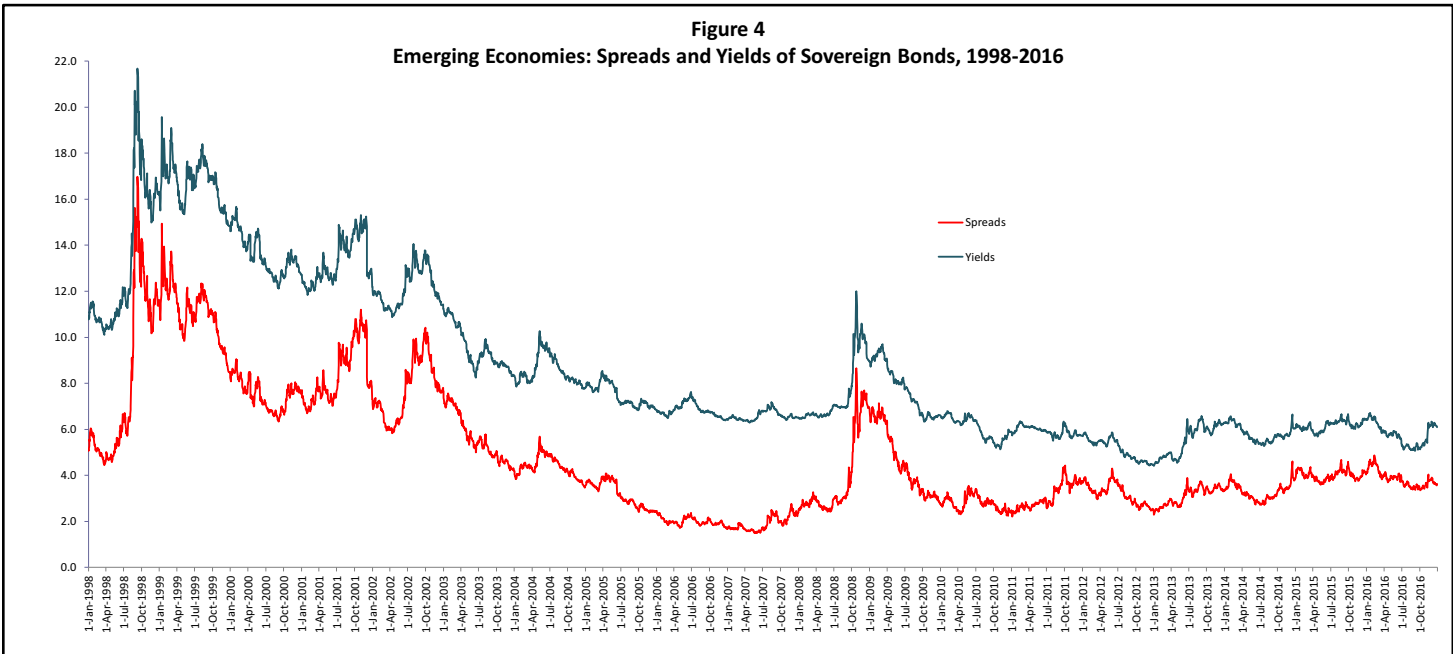
Private capital flows towards low-income countries were very moderate until the early twenty-first century. These countries did participate, but very moderately, in the third cycle, as Figure 3 indicates.¹¹ However, it is during the most recent cycle that they have played a more important role, as part of what have come to be called “frontier” markets, although leaving aside the least developed countries, which have continued to depend on official development assistance and associated multilateral financing. As in the case of emerging economies, the two dominant features of capital flows towards low-income countries are the greater stability of FDI and the pro-cyclical pattern of financial flows, which in this case are dominated by “other flows” rather than by portfolio flows.



Source: see Figure 2

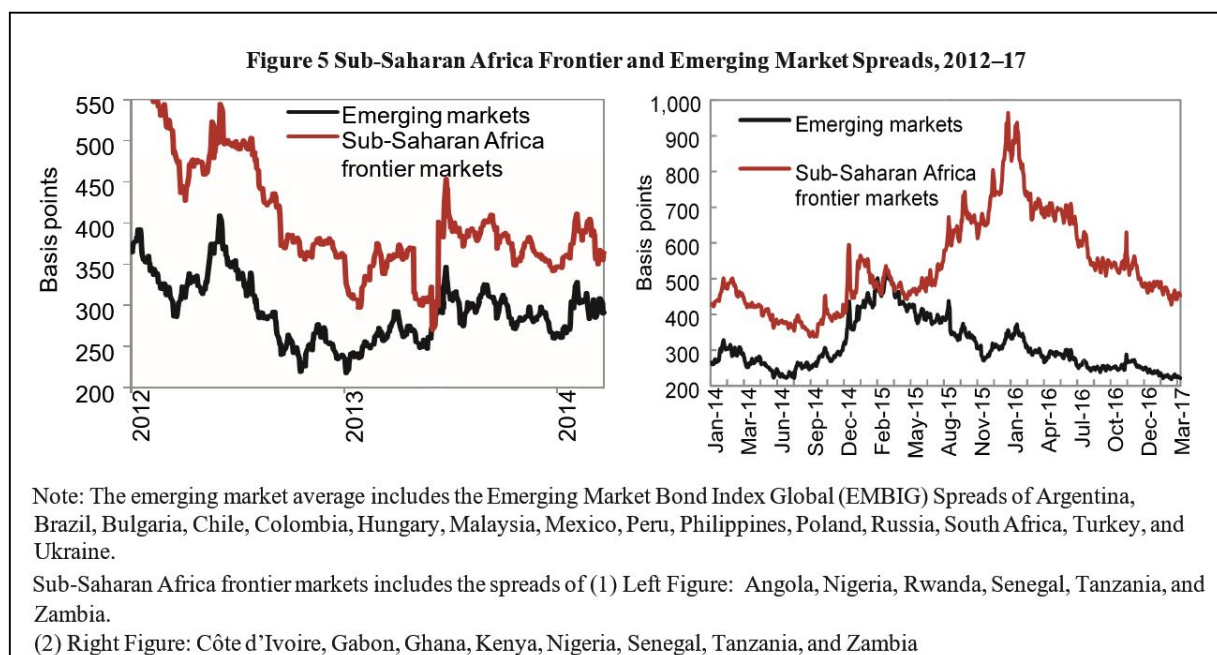
¹¹ We leave aside earlier data, as it is highly fragmented and shows, in any case, very limited private flows.

The intensity of the cycles, and particularly of the downswing, is particularly reflected in the evolution of risk spreads and yields of emerging economies' bonds. Figure 4 reproduces the history of these indicators since 1998. They rose dramatically after the Russian default of August 1998 and remained very high for around four years. Spreads fell substantially during the boom phase of the third cycle, reaching their historical lows prior to the US subprime crisis. They rose sharply after the Lehman Brothers collapse, but actually much less than during the crisis at the turn of the century. Although spreads never returned to previous lows during the upswing of the fourth cycle, yields did, and actually reached a new historical low in early 2013, thanks of course to very low interest rates in advanced countries and the relative strength associated with high foreign exchange reserves and commodity prices. Emerging economies' spreads and yields have increased since the announcements in May 2013, but in a remarkably moderate way relative to all previous downswings. In contrast, spreads for low-income countries have increased significantly since 2015, as commodity prices fell.



This latter development is very clear when looking at frontier markets in Sub-Saharan Africa. As shown in Figure 5 these markets experienced, starting in early 2015, a surge in spreads and yields on sovereign bonds. In fact, there was a sort of scissors movement, since early 2015, as spreads in emerging markets decreased more or less systematically to their earlier levels, whilst SSA frontier markets saw their spreads shoot up till late 2015, though they have decreased somewhat since early 2016. However, the difference between SSA frontier markets spreads and those of emerging markets have remained high, which differs from 2012-2013 period when they were converging.

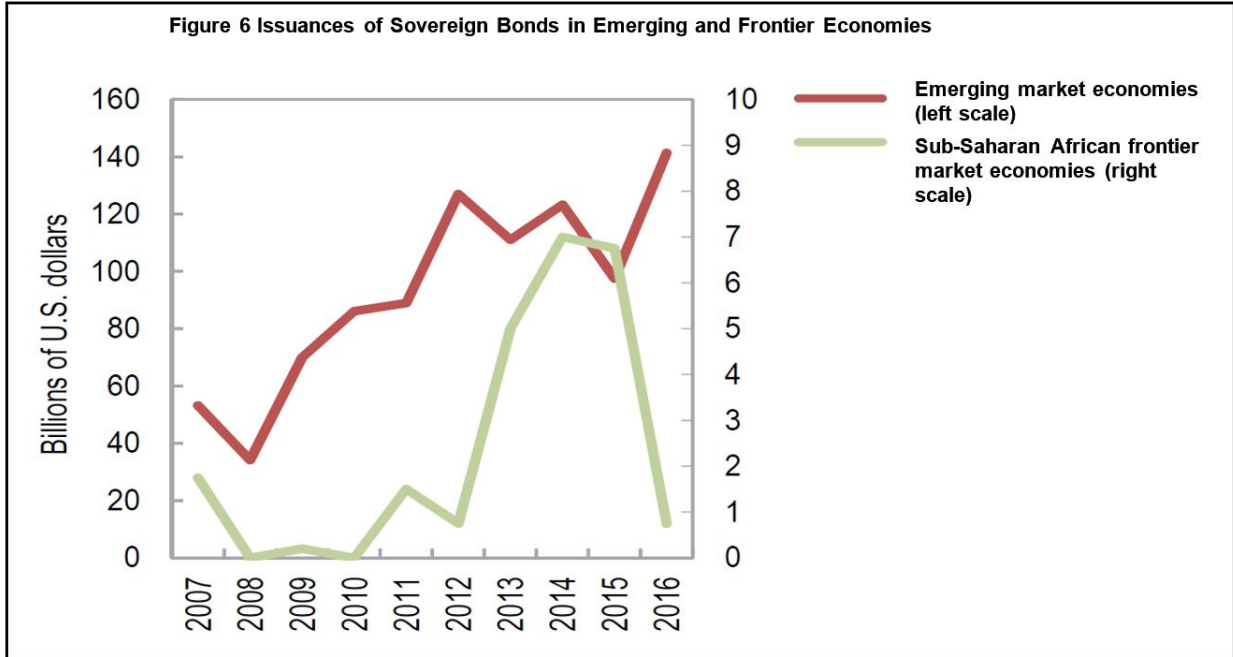
This development can possibly be explained by Sub-Saharan country's larger vulnerabilities, high commodity dependency and the fall in commodity prices, and delayed adjustments to world market developments, such as somewhat more stringent monetary policies in advanced economies (IMF 2014, 2016, 2017; Gevorkyan and Kvangraven 2016). External levels of borrowing in frontier markets fell sharply, and have not recovered as can be seen in Figure 6.



Source: Figures adapted from IMF Regional Economic Outlook Sub-Saharan Africa 2014 & 2017, Data Sources are Bloomberg and L.P

Also, when looking at credit ratings, where increases in ratings are usually negatively correlated with sovereign bond spreads (Jaramillo and Tedaja 2011), debt credit rating averages decreased in the last years (IMF 17, Standard & Poor's 2017). Standard & Poor's currently gives a negative outlook for the performance of most Eurobonds in SSA, in particular for commodity exporters.

It is interesting that the boom of bond issuance by frontier markets in SSA seems to have been very short-lived, as basically lasted from mid-2012 to mid-2014, whilst the bond issuance boom by emerging economies started much earlier, in 2008 and has continued till 2016. (see Figure 6). While South Africa, Nigeria, and Senegal still issued new bonds in 2017 (Standard&Poor's 2017), it seems that the post-crisis boom of sovereign bonds in SSA is over. A main driver of the previous boom was the strong expansionary monetary policies of advanced economies, accompanied by high commodity prices. The record low post-crisis interest rates, caused by quantitative-easing, led to a shift towards bonds with higher-yields, including SSA frontier markets. (Tyson, te Velde, and Griffith-Jones, 2014a; Tyson, te Velde, and Griffith-Jones, 2014b). In addition, macroeconomic outlooks and the perception of non-economic factors in Sub-Saharan Africa had improved and ratings increased (Tyson 2015). This reversed quickly with lower commodity prices and expectations of higher interest rates on developed economies.



Source: IMF 2017, based on data from [Dealogic](#); and Haver Analytics

As has been highlighted in the literature, the mix of larger volatility of finance and the lack of adequate financial safety nets for emerging and developing countries –including the conditionality of IMF lending— has generated a significant amount of “self-insurance” in the form of large accumulation of foreign exchange reserves, especially in emerging economies. As indicated, such “self-insurance” explains in part the reduced intensity of most recent downturns of financial flows towards emerging economies. In turn, the major global disturbances that took place during the North Atlantic financial crises led to a partial reversal of capital account liberalization and a partial return to more intensive capital account management, a topic to which we now turn.

IV. THE NATURE AND EVOLUTION OF CAPITAL ACCOUNT REGULATIONS

There are terminological differences about what we call here capital account regulations (CARs), a term used early on by one of us (see Ocampo, 2003). This term should be preferred to the widely use of “capital controls”, as they belong to the family of prudential regulations, for which the term “controls” is never used. Epstein, Grabel and Jomo (2003) have also suggested the concept of “capital management techniques”, and the IMF (2011b) the term “capital flow management measures”. CARs belong, in turn, to the family of what have come to be called “macro-prudential regulations”, a concept that was proposed before the North Atlantic financial crisis,¹² but has only received widespread acceptance after the crisis. This includes acceptance in the IMF’s “institutional view” of capital flow management measures as part of the macro-prudential family (IMF, 2012b).

Capital account regulations can take different forms. Following previous papers,¹³ four different types of (*de jure*) CARs can be differentiated: (i) capital inflow regulations; (ii) capital outflow regulations; (iii) financial sector restrictions, and (iv) regulations on the domestic use of foreign exchange (FX-related regulations). The first two can affect six different asset categories: money market instruments, bonds, equities, financial credits, collective instruments, and FDI. The third refers to mechanisms that discriminate between residents and non-residents in the use of foreign and domestic-currency denominated instruments, particularly on the capacity of non-residents to borrow and hold accounts in the domestic market, and of residents to borrow and hold accounts abroad. FX-related regulations refer to the restrictions on the domestic use of foreign currencies, particularly on whether it is authorized or not to have deposits and lend in

¹² See, for example, the concept of “countercyclical prudential regulations” in Ocampo (2003), as well as the work of the Bank for International Settlements on what was termed the ‘macro-prudential perspective’.

¹³ See Schindler (2009), Ostry et al. (2012) and Erten and Ocampo (2016).

foreign currency in the domestic market, the capacity to issue and purchase locally issued securities denominated in foreign currencies, and limits on foreign exchange positions of domestic financial intermediaries.

As with prudential regulations, the first two types of CARs can be either administrative (quantitative restrictions) or price-based. The latter include taxes on capital flows as well as (remunerated or unremunerated) reserve requirements on inflows. Administrative restrictions include, in turn: prohibitions or ceilings on certain capital flows, derivative operations or net exposure in foreign currencies; minimum stay periods; and restrictions on foreign investors taking positions in domestic securities or rules on what type of agent can undertake certain capital transactions (e.g. residents versus non-residents, corporate versus non-corporate). Administrative regulations are always in place for the third and fourth types of CARs, but they can be also applied to the first two (indeed, traditional regulations on inflows and outflows were generally of that character).

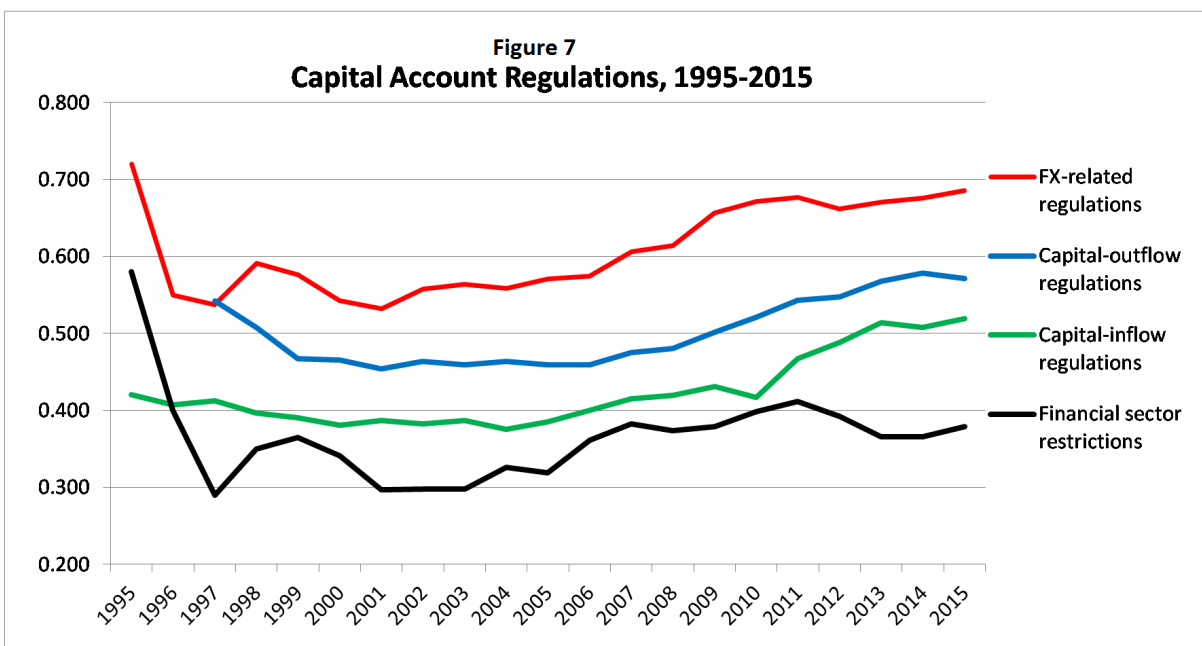
CARs could also be seen as part of a continuum which runs from regulations on financial transactions by domestic residents in the domestic currency (traditional prudential regulation, including countercyclical prudential regulations), to those on domestic residents in foreign currency (FX-related regulations), and finally to those involving domestic agents' transactions with foreign residents. So, they should be complemented by domestic prudential regulations, and in some cases can be substituted by them. For example, a good practice that belongs to the last category but can have effects on external capital flows is that of managing the net foreign exchange exposure of domestic financial institutions –e.g., forbidding banks and other domestic financial intermediaries from holding net liability positions in foreign currency, a traditional Colombian practice that goes back to the pre-liberalization era. If domestic agents can have bank

deposits in foreign currency in the domestic market, differential reserve requirements can be applied to these deposits vs. those in domestic currency, a Peruvian practice in a country that has a semi-dollarized financial system. However, a major advantage of capital account vs. domestic regulations when external transactions are involved is that the former apply also to direct borrowing abroad by non-financial agents, whereas the latter apply only to domestic financial intermediaries. An alternative, suggested by Stiglitz and Bhattacharya (2000), which applies to both types of transactions is the use of tax provisions for foreign-currency liabilities.

It should also be pointed out that trade financing and FDI are generally exempted from CARs. In the case of trade financing, it generates a loophole, as trade financing is generally a short-term flow. In that of FDI, the exemption recognizes the fact that they are more stable long-term flows, which also made non-financial contributions to the domestic economy (e.g., technological transfer and external market connections). However, it may become a loophole if FDI is financialized. For this reason, Chilean capital account regulations restricted at one point FDI into financial services, when they became a vehicle for such a loophole.

Figure 7 plots the intensity with which different CARs were used by 51 emerging and developing economies from 1995 to 2015, measured as the percentage of countries using them at a point in time. There are interesting patterns, both in terms of which types of regulations are used more frequently, as well as the intensity of their use during the period analyzed. As it indicates, the most frequently used are FX-related regulations, followed by capital outflow restrictions. Financial sector regulations are the least used, indicating limited desire to discriminate between residents and non-residents. Inflow regulations fit somewhere in between. In terms of patterns, there was a downward trend in the use of regulations up to East Asian crisis, particularly FX-related and financial sector regulations; in fact, the latter became the least used

form of regulation during these years. However, emerging economies responded to that crisis by strengthening regulations, particularly FX-related and inflow regulations. Outflow regulations joined the trend after the North Atlantic crisis. Indeed, there was a general move to strengthen most CARs after this crisis –the exception being financial sector restrictions. This is consistent with the evolution of the Chinn-Ito index of capital account liberalization that we analyzed in section II.



Source: Erten and Ocampo (2016) and updates for recent years according to the same methodology.

Table 2 shows, in turn, the frequency in the use of regulations by countries’ level of development and geographical region in 2015. The most remarkable features are the stronger use of all CARs by low-income countries (for detailed analysis of CARs for low-income countries in Sub-Saharan Africa, see Murinde, 2009) but also the broader use of FX-related regulations in all countries. The first of these coincides again with what the previous analysis of liberalization portrays. In turn, in geographical terms, the ranking is the same for all CARs: stronger use of

them by South and East Asia, followed by Middle East and North Africa, Latin America and Eastern Europe. A big difference is the very limited use of financial sector restrictions in Eastern Europe; in contrast, there is no significant difference between Latin America and Eastern Europe in the use of inflow and outflow regulations.

	Capital-inflow retrictions	Capital-outflow retrictions	Financial sector restrictions	FX-related regulations
A. By income level				
Upper Middle Income	0.509	0.574	0.278	0.694
Lower Middle Income	0.458	0.521	0.403	0.656
Low Income	0.722	0.778	0.611	0.833
B. By geographical area				
Eastern Europe	0.439	0.461	0.178	0.517
Latin America	0.450	0.467	0.444	0.667
Middle East and North Africa	0.548	0.643	0.571	0.786
South and East Asia	0.792	0.833	0.467	0.875

Source: Based on the methodology and sources indicated in Erten and Ocampo (2016).

V. THE EFFECTIVENESS OF CAPITAL ACCOUNT REGULATIONS

The case for regulating cross-border capital flows rests, therefore, on the need to correct financial market failures and to increase the policy space for countercyclical macroeconomic policies. CARs thus play a dual role: as a *financial stability* instrument and a *macroeconomic* policy tool. As a financial stability instrument, they recognize the fact that volatility varies significantly according to the nature of capital flows, and particularly that bank lending and portfolio (notably debt portfolio) flows are particularly volatile. As a macroeconomic policy tool, they can provide greater room for countercyclical monetary policies. During booms, they can increase the policy space to increase domestic interest rates while mitigating the exchange rate appreciation pressures and avoiding the additional capital flows that higher domestic interest

rates would attract, which would counteract the effects of contractionary monetary policies. By mitigating exchange rate appreciation, they also reduce the risks of future balance of payments crises that rising current account deficits would generate, as well as possible Dutch disease effects with adverse long-term effects on growth. In turn, during crises, they could create some room for expansionary monetary policies while containing both capital flight and excessive exchange rate depreciation that would lead to a significant increase in external debt to GDP ratios; depreciation could be partly transferred onto domestic inflation, constraining the capacity to persist in expansionary monetary policies.

There is an extensive literature on the effects of CARs, which has been surveyed in different papers.¹⁴ Most of the literature comes from the analysis of individual countries' experience with regulation, which allows a deep examination of their individual experiences as well as the use of higher-frequency data, but limits the comparability of results. Multi-country studies, including cross-country regression analysis, facilitate such comparisons. However, this literature uses a diversity of indicators of the use of CARs (many times just dummy variables) and measures of capital flows, which lead to different conclusions about the effectiveness of these regulations.

The broadest-based consensus in the literature is on the effectiveness of CARs in reducing the share of short-term debt in capital inflows and thus in improving or maintaining good external debt profiles (see Ostry *et al.*, 2012, for a review). As such, they have proven to be a useful crisis preventive, financial stability tool. In contrast, there are heated controversies on the effectiveness of CARs as a macroeconomic policy tool. The central focus of these studies is

¹⁴ See, among others, several IMF papers (2011a, 2011b and 2012a) and papers by IMF experts (Ariyoshi *et al.* 2000; Ostry *et al.* 2010, 2011 and 2012; and the literature reviews of Forbes *et al.* (2012), Kawai and Lamberte (2010), Magud and Reinhart (2007), Magud, Reinhart and Rogoff (2011) and Ocampo (2008).

primarily to assess: (a) whether these regulation reduce the volume of cross-border flows (and, particularly, inflows, as they largely concentrate on interventions during booms); (b) whether they affect the exchange rate and its volatility; and (c) whether they provide some space for countercyclical monetary policies, and in this sense increase monetary policy autonomy.

On the first of these issues, several studies have analyzed whether regulations affect the magnitude of flows in different periods. This includes the effect on inflows associated with the higher domestic/external interest rates spreads generated by taxes on external capital flows or of unremunerated reserve requirements (URRs). The evidence is mixed: some find effects of CARs on flows but others fail to find significant effects.¹⁵ In some cases, the use of dummy variables to identify the use of CARs rather than the interest rate differentials that they generate , may be a source of the results.¹⁶

For this reason, there is some skepticism in the literature on the capacity of CARs to reduce inflows. The effect may depend on the type and strength of the regulations. In particular, traditional quantitative regulations may be better at reducing inflows than price-based ones (taxes or URRs). In turn, in a comparative study of the effects of CARs on inflows in Chile, Colombia and Malaysia in the 1990s, Ocampo and Palma (2008) concluded that the harsher 1994 Malaysian regulations had a stronger effect than those of Chile or Colombia, and that, among the latter, Colombia's were more effective because they were also stronger, as measured by the tax equivalent of the URR. In any case, some of the effects may be temporary, and in this sense

¹⁵ There is, in particular, abundance of analysis of the Latin American experiences. See David (2007) and Forbes *et al.* (2012) for Brazil; De Gregorio *et al.* (2000), Gallego *et al.* (2002), Ffrench-Davis (2013, ch. VIII) and Edwards and Rigobón (2009) for Chile; and Cárdenas and Barrera (1997), Ocampo and Tovar (2003) and Rincón and Toro (2010) for Colombia. Clements and Kamil (2009) also find an effect on debt and portfolio inflows from non-residents in Colombia but no effect on those from residents (which include pension funds, which have been exempted from URRs).

¹⁶ See, for example, the criticism by Ocampo and Tovar (2003) on the interpretation of the results of Cárdenas and Barrera (1997), according to whose interpretation there were no effects of CARs on total inflows.

CARs operate as “speed bumps” (Palma, 2002) rather than permanent restrictions. This means, in turn, that they must be dynamically adjusted to take into account the response of the private sector, including “innovations” to circumvent regulations.

There is much less research on the effects of outflows. This reflects the bias in the current debate against such regulations. But the empirical evidence indicates that regulations on outflows are more effective than regulations on inflows. This is the conclusion of older research from the IMF on this topic (Ariyoshi *et al.*, 2000) as well as of recent cross-country analysis by Erten and Ocampo (2016). Similarly, the strong tax on outflows introduced by Malaysia in 1998 is generally considered to have been very effective (Kaplan and Rodrik, 2002).

There is also conflicting evidence in relation to effects on exchange rates, and some authors also conclude that CARs may increase the exchange rate volatility. Exchange rate effects are generally found to be temporary or statistically insignificant. For example, while Baba and Kokenyne (2011) and IMF (2011a) found no evidence that CARs reduced real appreciation in Brazil, Baumann and Gallagher (2012) found that Brazil’s regulations had a lasting impact on the level and reduced volatility of the exchange rate during the same time period, the 2000s. In turn, Edwards and Rigobón (2009) found that tightening of URRs generated an exchange rate depreciation in Chile in the 1990s, though they also increased the volatility of the exchange rate, making it less sensitive to external shocks.

There is also conflictive evidence in cross-country analysis. Klein (2012) tested their effects of CARs in a sample of 23 advanced and 21 emerging market economies, and estimated that they have no significant effect on real exchange rates. However, when Erten and Ocampo (2016) replicated the exercise for only emerging economies, they found statistically significant

effects. Furthermore, when they controlled for the endogeneity bias, they found even stronger effects in the case of emerging economies. This recent evidence is in line with the results of Rodrik (2008), who showed that reducing capital account restrictions was associated with a decline in the undervaluation of the real exchange rate.

Even if CARs have limited or only temporary effects on capital inflows, they may influence spreads between domestic and external interest rates, thus increasing the space for autonomous monetary policy. Thus, although De Gregorio *et al.* (2000) did not find any effect of Chilean URRs on total volume of inflows during the 1990s, they found that they increased interest rate spreads. This is also the interpretation of the Chilean experience provided by Williamson (2000, ch. 4). Indeed, according to this interpretation, the conflicting evidence on the Chilean system largely disappears, with positive effects of URR on increased space for monetary policy. Villar and Rincón (2003) also found this effect for Colombia in the 1990s, and Baba and Kokenyne (2011) indicated that regulations in Brazil in 2000-08 were effective in providing policy space to raise interest rates.

Most papers look at the effects of CARs on capital inflows and exchange rates as separate phenomena, but they are in fact two manifestations of the same effect. Erten and Ocampo (2016) corrected this problem by creating an overall index of the “foreign exchange pressure” generated by capital flows, which combines reserve accumulation (or de-accumulation) and exchange rate movements. Using this methodology, they found that CARs reduce foreign exchange pressures in emerging and developing countries though not in developed countries. They also found that CARs provide enhanced monetary policy autonomy in the terms previously mentioned.

Using two instruments simultaneously may also enhance their effectiveness. So, exchange rate interventions may have stronger effects on exchange rates if accompanied by CARs. In this regard, a very interesting result by Rincón and Toro (2010) for Colombia is that central bank interventions and URRs had no effect on exchange rates when adopted independently of each other, but had a strong depreciation pressure when adopted simultaneously.

Overall, therefore, there is significant evidence that CARs improve the composition of capital flows towards less reversible flows and increase monetary independence without sacrificing exchange rate objectives. They may also have the desirable effect on the magnitude of capital flows and exchange rates, but this effect is contested by some authors.

CARs also have interesting real effects. In this regard, Ostry *et al.* (2011) found evidence that countries that used CARs before the North Atlantic financial crisis were able to mitigate the contraction of GDP during the crisis. Erten and Ocampo (2016) explored this same issue with a dataset covering more years, and found that CARs helped countries avoid both a stronger impact of the crisis and overheating during the later recovery, indicating that CARs worked overall as a good countercyclical instrument.

The literature has also discussed the advantages and disadvantages of different forms of regulations, some of which have been mentioned above. The first issue relates to the effects of regulation on inflows versus outflows, with revealed preference for regulation of inflows by most analysts. The second relates to the advantages of price- versus administrative-based regulations. In this regard, it has been generally argued that price-based regulations, in particular URRs, are more market-friendly. But again, the evidence in the literature, including IMF research, is that

administrative-based regulations are generally more effective. In fact, simple administrative regulations, such as prohibiting certain financial agents from undertaking certain transactions, are also used in domestic prudential regulation, with no associated stigma. A third issue relates to whether countries should adopt temporary vs. permanent regulations. In this regard, the major issue is whether countries have the administrative capacity in place to utilize them when needed, a topic to which we refer below.

In terms of a fourth issue, which has to do with whether regulations should discriminate between residents and non-residents, the tendency has been towards no discrimination, as reflected in the more limited use of financial sector restrictions. The view of the IMF and most analysts is that there should be no discrimination of this sort. However, there would always be differential effects of any regulation, as residents and non-resident behave in significantly different ways in their demand for money and financial assets denominated in the currency of the recipient countries: non-residents obviously demand less than residents and possibly in a more unstable way. Thus, although countries focus their regulations on currencies rather than residency, there would be a *de facto* discrimination between residents and non-residents.

The basic disadvantage of capital market regulations is, of course, that they *segment* domestic from international markets. It can be argued, however, that this recognizes the fact that markets are already segmented,-this is particularly true for low-income countries- and therefore CARs can be understood as “second-best” interventions under these conditions. Indeed, the flaw of arguments in favor of capital market liberalization is that they do not recognize the implications of segmentation. CARs is also a “second-best” instrument in the sense that they can generate negative externalities on other countries, which may start receiving increased capital inflows when other countries begin imposing restrictions on such flows. There is, however,

conflictive evidence in this regard. So, whereas Baumann and Gallagher (2012) found that Brazil's regulations caused a temporary increase in capital flows into Chile, Forbes *et al.* (2012) found that in response to Brazil's implementation of taxes on portfolio inflows between 2006 and 2011, investors reduced their exposure to other Latin American countries, which were perceived as likely to follow the example of Brazil in imposing restrictions.

In policy terms, the major alternative to CARs is, of course, active interventions in foreign exchange markets and associated countercyclical management of foreign exchange reserves. In terms of the strong constraints that emerging and developing countries face in the current globalized financial world to adopt countercyclical macroeconomic policies, these two forms of interventions should be seen as complements and not as substitutes. In a nutshell, this means that CARs should thus be seen as an *integral* component of the policy package to be adopted in order to guarantee macroeconomic stability in a broad sense (Ocampo, 2008). There is also a strong complementarity between CARs and other macro-prudential regulations. For example, Ostry *et al.*, (2011) suggest that there is some substitutability between regulation on cross-border flows and foreign exchange-related prudential measures on domestic intermediation, as well as between the former and other prudential tools in enhancing growth resilience in the face of boom-bust cycles.

Finally, as already noticed, it is essential to build the capacity to administer regulations, while avoiding loopholes and, particularly, corruption. In this regard, older research by the IMF indicated that simple traditional quantitative restrictions that prohibit certain forms of indebtedness may be easier to administer than price-based controls (Ariyoshi, *et al.*, 2000) and may thus be preferable for countries with weaker administrative capacity. This seems relevant for many low-income countries (Gottschalk, 2016). Klein (2012) also showed that long-term and

widespread capital account regulations (“walls”) are more effective than those that are viewed as temporary (“gates”) in reducing financial vulnerabilities. In countries characterized by deeper domestic financial development, it may be easier to circumvent controls, but some tools may work even under those conditions. A good administration requires, however, dynamic adjustment to close loopholes and, generally, to respond to changing market conditions. For this reason, maintaining *permanent* regulatory regimes that are used in a countercyclical way (including phasing out regulations temporarily during periods where there are no balance of payments pressures) is better than improvising institutions to manage either booms or crises, which tend to generate poor results. Again, this is particularly relevant for low-income countries, many of which have weaker, and above all scarcer, administrative resources.

One final policy consideration is important for the case of low-income countries, especially in Sub-Saharan Africa (SSA). CARs have typically been applied to private flows going to private actors, though it is interesting that Colombia’s unremunerated reserve requirements (URR) have also been applied to public borrowing. However, much of the recent surge of private capital flows to SSA has been international bond issuance by national governments, surge which seems to be coming to an end, as issuance has fallen sharply and spreads are higher than in the short boom(see above). Therefore, there is the issue of how to curb excessive international borrowing by governments in SSA in periods of boom. For this purpose, there may be a need to define limits on such borrowing, especially if it is not linked to funding increased productive investment. Of course, a more long-term key policy measure is to develop and deepen long-term domestic currency bond markets, so governments can fund a higher proportion of their debt from domestic resources, and avoid currency mismatches.

VI. CONCLUSIONS

This paper argues forcefully that capital account liberalization involves significant risks in the face of the segmentation in global financial markets that implies that developing countries, and especially low-income ones, are subject to strongly pro-cyclical capital flows. The financial instability, real macroeconomic instability and limited policy space for countercyclical policies that capital flows generate is a strong argument of why low-income countries should be very cautious in the capital account liberalization process. So, their lag in this regard should be seen as an advantage rather than a disadvantage. If they decide to liberalize, they must previously put in place strong domestic financial and capital account regulations, including of a macro-prudential type.

The analysis of experiences with the use of capital account regulations in emerging economies indicates that they are a good financial stability tool, and can also serve as useful macroeconomic policy instruments. In terms of financial stability, they help improve debt profiles and reduce the vulnerability associated with dependence on reversible capital flows. This may be particularly relevant for low-income countries, as their macro-prudential domestic regulation seems to be fairly limited in scope. In terms of macroeconomic policy, they enhance monetary policy autonomy in terms of the policy space to manage interest rates in a countercyclical fashion, and may affect capital inflows and exchange rates, but there is skepticism on the latter effects by some authors. The particular policy mix will depend on other macroeconomic conditions and policy choices. There is also evidence that countries using regulations on capital inflows fared better during the recent global financial crisis.

More specifically, the experience with CARs indicate that regulations on either inflow or outflows can work (though there is strong skepticism on the virtues of the latter), but the authorities must have administrative capacity to manage them, which includes acting on time to close loopholes and respond to “innovations” by private agents aimed at circumventing regulations. As a result of the link with administrative capacity, permanent regulatory regimes that tighten or loosen CARs in a countercyclical way is the best alternative. This seems of particular relevance to low-income countries, with more limited administrative capacity.

More generally, there is an important case for low-income countries to maintain or establish CARs, as crises can be so fiscally and developmentally costly, and as such costs are so unacceptable for poor countries, with large numbers of poor people, many of whom can be hurt by crises. CARs on private flows should be complemented by careful limits on foreign private debt incurred by the public sectors in low-income countries, to avoid crises originating in those flows. Deepening domestic capital markets, to provide local currency debt, thus avoiding foreign currency mismatches is key for low-income countries. It is significant that low income countries have fortunately not recently had many Balance of Payments or banking crises caused by private capital flows, but it is key to avoid complacency, given the risks and costs of such crises.

There are alternative ways to mitigate the risks of excessive and reversible private capital flows. The most important is the accumulation of foreign exchange reserves during booms, which can help both avoid exchange rate appreciation and rising current account deficits and external debts, and increase the policy space that authorities have during the succeeding downturn, as well as make crises less likely. Countercyclical foreign exchange reserve management was widespread in recent years, especially in emerging countries. But such “self-insurance” is costly, as discussed above such insurance is costly. Such costs are particularly hard

to bear by low-income countries, where the alternative benefit of using the foreign exchange to invest in development or increase consumption of poor people is very high. An alternative measure would be if Central Banks of developed countries and/or those with large foreign exchange reserves provided swap arrangements, as developed countries provide to each other, and occasionally to some emerging economies. However, no such swap arrangements exist for low-income countries. For these reasons, CARs and prudent management of public external debt remain important for all developing countries, but especially for low income countries.

Finally, and perhaps most importantly, CARs are a complement to sound countercyclical macroeconomic policies, and not a substitute for them. Therefore, they must be part of an *integral* component of a policy package aimed at guaranteeing macroeconomic stability in a broad sense.

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