

# Capital Controls and Implications for Surveillance and Coordination

Brazil and Latin America





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Márcio Garcia



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## About the New Thinking and the New G20 Project

The project aims to promote policy and institutional innovation in global economic governance in two key areas: governance of international monetary and financial relations and international collaboration in financial regulation. Sponsored by CIGI and the Institute for New Economic Thinking, the project taps new research and next-generation scholars in the emerging economies, linking them to established networks of researchers in the industrialized world. The objective over the longer run is to create a more permanent and self-sustaining research network that will provide a continuing stream of new ideas, sustain international collaboration and integrate researchers from the emerging economies into global policy discussions.

Miles Kahler and Barry Eichengreen (principals in the original project) recruited C. Randall Henning (new principal, American University) and Andrew Walter (University of Melbourne) to lead two research teams devoted to macroeconomic and financial cooperation and to international financial regulation. Gathering authors from eight countries, the project consists of 11 CIGI papers that add to existing knowledge and offer original recommendations for international policy cooperation and institutional innovation. CIGI will also publish the final papers as an edited volume that addresses the global agenda in these issue-areas.

## About the Author



Márcio Garcia is associate professor at the Pontifical Catholic University of Rio de Janeiro, Brazil, since 1991, having previously served as department chairman and director of both graduate and undergraduate studies. He holds a Ph.D. from Stanford University Economics department. His areas of research are international finance and monetary economics. Márcio has been visiting professor and scholar at the economics departments of Stanford, Chicago, the Massachusetts Institute of Technology (MIT) and MIT/Sloan in the United States, and at the Paris School of Economics (then, DELTA) and Université D'Evry-Val-D'Essone in France. He has consulted for international and Brazilian institutions, such as the World Bank, the International Monetary Fund, the Inter-American Development Bank, the United Nations Economic Commission for Latin America and the Caribbean, BM&F Bovespa, the Brazilian Development Bank, Icatu, Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais (Brazilian Association of Financial and Capital Markets), NEO Investimentos and Fininvest, among others. His academic papers and op-ed articles may be found at [www.economia.puc-rio.br/Mgarcia/](http://www.economia.puc-rio.br/Mgarcia/). He is a member of the Bellagio Group.

## Acronyms

ADR	American depository receipt
BCB	Brazilian Central Bank
BRL	Brazilian real
FX	foreign exchange
FDI	foreign direct investment
IMF	International Monetary Fund
REER	real effective exchange rate
URR	unremunerated reserve requirements

## Executive Summary

Brazil has been one of the most active countries intervening in foreign exchange (FX) markets through several means: sterilized interventions and foreign reserves accumulation; controls on capital inflows; and FX interventions through domestic derivatives markets. Between 2003 and 2011, during the golden phase of the commodity super-boom generated by China, the goal of the FX interventions was to deter real exchange rate appreciation. This paper makes recommendations for capital control surveillance and coordination, using the Brazilian experience as an example. In Brazil, from 2009 to 2011, capital controls were not a useful tool to deter real exchange rate appreciation, and their use might have obstructed necessary changes in the fiscal policy stance. The situation in Chile, in which the country employed capital controls heavily in the 1990s and then decided not to use them again during the commodity super-boom, suggests that an adequate fiscal policy stance provides better results than the use of capital controls. In addition, the recent experiences of Colombia and Peru demonstrate capital controls are not always necessary. Therefore, when analyzing the implications for surveillance and coordination, international institutions, such as the International Monetary Fund (IMF), should take into consideration that, no matter how many caveats are listed before its guidelines, capital controls mainly serve to bypass needed changes in macroeconomic policy, thereby jeopardizing economic performance.

## Introduction

Recently, capital controls<sup>1</sup> have been lauded, with several papers demonstrating they may play a useful role in managing the macroeconomic and prudential risks associated with capital

flows (Engel 2013; Korinek 2011; Rey 2013). Even the IMF has praised their use (Ostry et al. 2010; 2012).

The Brazilian experience from 2009 to 2012 provides an unprecedented context to study capital controls. Never before has a country as open as contemporary Brazil so actively experimented with capital controls or restrictions (Chamon and Garcia 2014). Brazil has arguably the most sophisticated capital markets in the emerging markets, with deep and liquid financial and capital markets, allowing researchers to use the country's financial assets to gauge the effectiveness of capital controls in segmenting markets. There is no significant credit risk (as measured at the time), and, since April 30, 2008, Brazil has been an investment-grade country (Smith 2008).

Because of exchange rate appreciation that threatened the Brazilian manufacturing sector, Brazil was one of the leading countries in the effort to manage inflows, and one of the most vocal against the loose monetary policy in advanced economy policies that are pushing capital toward emerging markets (the former Brazilian finance minister [2006–2015], Guido Mantega, coined the term “currency wars” [Wheatley 2010]). Brazil sought to limit inflows in the aftermath of the crisis, adopting taxes on portfolio inflows starting in October 2009. Over the following two years, Brazil adopted a series of other measures to discourage inflows, starting gradually to dismantle them in 2012.

An important question is what drove Brazil to implement hyperactive capital controls. Examining how other countries in Latin America regulated their capital accounts is illuminating. Chile probably had the most successful experience with capital controls in the 1990s during the cycle of capital inflows at that time (De Gregorio 2014; De Gregorio, Edwards and Valdés 2000; Forbes 2007). Nevertheless, after the 2008 global financial crisis, during which Chile experienced pressure from exchange rate appreciation due to higher commodity prices coupled with capital inflows, the authorities there opted not to resort to capital controls. There are several reasons why this decision may have been made, including: the smaller industrial base of the Chilean economy, with fewer and less vocal losers from exchange rate appreciation; the much stronger Chilean fiscal stance, which avoided much of the real appreciation<sup>2</sup>; or simply as an attempt to differentiate itself from other emerging markets. On the other hand, in the second quarter of 2007 Colombia returned to capital controls, in the form of unremunerated

<sup>1</sup> According to Ostry et al. (2012), capital controls are measures that discriminate based on the residency of the parties involved in the capital transaction.

<sup>2</sup> This is somewhat ironic, as fiscal stance is one of the IMF and G20's preconditions for the use of capital controls, as stated by the G20 (2011, 1 [emphasis mine]), “Capital flow management measures may constitute part of a broader approach to protect economies from shocks. In circumstances of high and volatile capital flows, capital flow management measures can complement and be employed *alongside, rather than substitute for*, appropriate monetary, exchange rate, foreign reserve management and prudential policies.”

reserve requirements (URR), with mixed results.<sup>3</sup> In the same year, Peru, with its heavily dollarized financial system, adopted measures pertaining to FX management, not necessarily classified as capital controls.<sup>4</sup>

A thorough analysis of the effectiveness of Brazilian controls on capital inflows has been conducted by Chamon and Garcia (2014).<sup>5</sup> They demonstrated that the capital controls affected markets, creating wedges between onshore and offshore prices of similar assets (which is what occurs when foreign investors create buying pressure). However, these controls and measures did not significantly affect the exchange rate (at least not on impact or in the immediate aftermath). Under the most generous interpretation (treating all estimated effects on the exchange rate as permanent), the 12 measures considered would have depreciated the currency, the Brazilian real (BRL), by about 10 percent. Capital controls likely brought prudential benefits, moderating credit growth (Forbes, Kostka and Straub 2012), alongside a substantial increase in the maturity of external debt flows, although it is hard to assess how much of this increase would remain true if a crisis hit.<sup>6</sup> On the downside, one should take into account that, given the low savings rate of Brazil (around a meagre 16 percent of GDP), discouraging external savings generally may not be the best way to increase investment and to achieve growth in the long term. In addition, during the whole period, from 2009 to 2012, when capital controls were in place, fiscal policy remained expansionary, and so did parafiscal policy, i.e., credit was subsidized via federal banks, even after the effects of the 2008 crisis were over. Capital controls acted, in large measure, as a substitute to fiscal and parafiscal policies, however they should have been a temporary measure until a more adequate fiscal policy stance was put in place. These lessons must be taken into account when advising

3 Clements and Kamil's (2009, 1) results "...suggest that the controls were successful in reducing external borrowing, but had no statistically significant impact on the volume of non-FDI [foreign direct investment] as a whole." They also did not find any evidence that the controls "...moderated the appreciation of Colombia's currency, or increased the degree of independence of monetary policy" (*ibid.*). However, they found that the controls increased the volatility of the exchange rate. Other studies found different results, as will be analyzed later in this paper.

4 According to Rossini, Quispe and Serrano (2013), the Peruvian response to the perceived appreciation of the currency involved the increase of sterilized interventions, as well as the use of reserve requirements on local banks' foreign currency liabilities. These measures do not discriminate based on the residency of the parties involved in the capital transaction; therefore, they do not constitute capital controls, as defined by Ostry et al. (2012).

5 See also Forbes, Fratzscher and Straub (2012) and Jinjarak Noy and Zheng (2013).

6 Financial institutions often make use of hidden clauses that may significantly change contracts. For example, a long maturity loan may be subject to margin calls if certain events take place, requiring early repayment of the loan. For example, in Mexico, the Tequila crisis of 1994 revealed a much more fragile structure than Mexican policy makers envisaged before the crisis (Garber and Lall 2011). Therefore, without a crisis, one may be misled by the lengthening of maturities of fixed income capital inflows, undertaken to avoid the controls on capital inflows.

countries about the potential benefits of capital controls, as will be discussed later in the paper.

When Brazil experienced a period of large capital inflows between 2003 and 2012, the country voiced its increasing frustration, with former Finance Minister Mantega coining the expression "currency wars" (Wheatley 2010). Brazil and other emerging markets' discontent with the lack of international monetary policy coordination reached its peak during the taper tantrum in May 2013. Indications that quantitative easing by the US Federal Reserve threatened to cause large-scale capital outflows from emerging markets resulted in calls for increased coordination, especially by India's central bank governor Raghuram Rajan. Nevertheless, Brazilian capital controls were never coordinated with Brazil's local partners, such as the Mercosur participants or other Latin American countries. In any case, the episodes raise pertinent issues regarding international macro policy coordination and surveillance.

This paper examines the Brazilian experience with capital controls, contrasting it with other Latin American countries — Chile, Colombia and Peru — to answer the following questions:

- What does the Brazilian experience teach us about the effects of capital controls?
- Why did Brazil's and Chile's use of capital controls deviate after 2008?
- What can other experiences in Latin America, such as in Colombia and Peru, bring to bear regarding the desirability of capital controls?
- Does the use of capital controls constitute a diversion from sound macroeconomic policy making?
- Is the current thinking about capital controls, as expressed in the guidelines set out by Ostry et al. (2012), adequate?

In addition, this paper reviews the Brazilian experimentation with controls on capital inflows and massive sterilized intervention cum foreign reserves accumulation, during the high-tide period of capital inflows, from 2009 to 2011 (Rey 2013). The significant FX interventions in the other direction, during the low-tide period of capital inflows, after the taper tantrum are also examined. The Brazilian and Chilean reactions to capital inflows are compared, and the Colombian and Peruvian experiences with capital controls are explored. The adequacy of the current thinking about capital controls, as expressed in the guidelines put forward by Ostry et al. (2012), is discussed and finally policy conclusions are presented.

## Brazilian Activism in FX Markets

Brazil has a long history of intervention in FX markets. Until the late 1980s, the capital account (and the current account) was closed to international parties. In the 1990s, Brazil began to liberalize as it fought hyperinflation. High interest rates together with inflation stabilization (the Real Plan of July 1994) brought capital inflows, which helped to accumulate foreign reserves, an important element to build the anti-inflation Real Plan credibility. It also caused the real exchange rate to appreciate, which served as an important anchor to low inflation. However, short-term capital inflows were deemed excessive, to the point that controls on capital inflows were put in place (Cardoso and Goldfajn 1998; Carvalho and Garcia 2008).

At the same time, other Latin American countries were also experimenting with controls on capital inflows, including the Chilean URR adopted between 1991 and 1998 (De Gregorio 2014; De Gregorio, Edwards and Valdés 2000; Forbes 2007), and the Colombian URR adopted between 1993 and 1998 (Cardenas and Barrera 1997; Ocampo and Tovar 2003). Analyses of the Latin American experimentation with controls on capital inflows indicate, although not unanimously, that these controls were not effective to substantially depreciate the exchange rate, or to significantly decrease capital inflows (De Gregorio 2014). However, they were able to increase the maturity of debt flows.

The improved prospects of Latin American countries in the early 2000s, aided by the increase in commodities prices, and buttressed by a stronger macroeconomic policy stance, once again attracted large capital inflows. However, this time, Chile decided not to resort to capital controls, while Brazil and Colombia did.<sup>78</sup>

## Brazilian FX Interventions When Capital Is Flowing In

No country has gone to greater lengths than Brazil, among financially open emerging markets, in experimenting with controls on capital inflows. On October 20, 2009, Brazil introduced what would become an extensive set of controls on inflows of foreign capital (Chamon and Garcia 2014). The series of measures started with a two percent tax on financial transactions on foreign investments in portfolio debt and equity, collected at the initial currency conversion, similar to a Tobin tax. Eleven more measures followed. Since 2012, most of the

controls have been relaxed or eliminated, as the cycle of capital inflows ended with the European debt crisis, and, later, with the taper tantrum.

Brazilian experimentation during the commodity super-boom, from 2003 to 2011, has differed from the previous one. From 1993 to 1998, carry trade was the main pull factor, due to the combination of high domestic interest rate and predetermined exchange rate (crawling peg). The carry trade involved borrowing in strong currencies with low interest rates (such as Japan or the United States) and investing those funds in Brazil, at much higher interest rates. In contrast with the earlier experience, the capital flows that resumed after the recovery from the 2008 crisis were much more diversified. Since Brazilian interest rates were not as high as in the past,<sup>9</sup> the Brazilian economy was more developed, had investment-grade status and the exchange rate was floating.

Chamon and Garcia (2014) analyzed the recent Brazilian experience with controls on capital inflows. They compared prices for similar financial assets available in Brazil and in the United States. The shares traded in Brazil were compared with their respective American depositary receipts (ADRs), which were based on the same underlying shares, but traded in the US market. If the controls had been effective, a premium as large as the magnitude of the tax on financial transactions (two percent) should have appeared. They found such a premium, but only at times of positive net foreign demand for Brazilian shares. They also demonstrated that the size of the premium between the underlying share and the ADRs is associated with the issuance of new ADRs. In the fixed-income market, the spread between the interest rate in dollars in Brazil (known as *cupom cambial*) and in the United States was lower than the tax rate on financial transactions (six percent), and temporary spikes following some of the controls tended to be short lived. They concluded that capital controls produced a partial segmentation between the Brazilian and international financial markets.

However, according to Brazilian senior economic authorities at the time, the main objective of the controls on capital inflows was to deter the appreciation of the BRL (Ministério da Fazenda 2009). Therefore, the exchange rate can be used as the main criteria to evaluate the effectiveness of the controls. Chamon and Garcia (2014) constructed counterfactuals for the exchange rate, based on econometric models without capital controls, and compared the results with those that occurred from 2009 to 2012 (Figure 1). They also compared the real exchange rate with currencies of similar countries (Figure 2), and performed event study analyses. All the methodologies suggest that the first measures (from late 2009 to mid-2011) had limited success in containing the appreciation of the BRL. However, the exchange rate seemed to respond strongly after August 2011, with several different specifications pointing to an effect of 10 percent or

<sup>7</sup> The Colombian experience is reviewed in Clements and Kamil (2009), among others, discussed later in this paper in the section entitled “Different Reactions to Capital Inflows.”

<sup>8</sup> As mentioned in Footnote 4, the interventions in foreign exchange markets in Peru do not constitute capital controls, because they do not discriminate based on investors’ residency.

<sup>9</sup> Nevertheless, as shown in Table 5, the real interest rate in Brazil is still much larger than in most other countries, even in Latin America.

more. It is not likely that those last measures would have been so effective if taken in isolation. Such a strong response may reflect a combined effect: the last measures complemented previous ones, shutting down the remaining channels to avoid the initial taxes on inflows. The response of the exchange rate was also supported by the beginning of a monetary policy easing cycle, which reduced the Brazilian interest rate by 525 basis points, from 12.5 percent to 7.25 percent. That is, portfolio flows may have abated both because, eventually, it became too cumbersome and expensive to bypass the controls and because the interest rate differential fell substantially.

## Brazilian FX Interventions When Capital Is Flowing Out

The taper tantrum of May 2013 caused massive turbulence in global markets. Risky assets suffered greatly and many emerging markets' currencies depreciated heavily, including the BRL. To mitigate the inflationary impact of exchange rate depreciation, the Brazilian Central Bank (BCB) decided to intervene in the FX markets in a different manner than it had in the previous cycle of capital inflows. That is, the BCB started to sell exchange rates. After an ad hoc beginning, from August 2013 on, the BCB announced a program of sales of US\$2 billion of exchange rate swaps every week, and a weekly auction of US\$1 billion in short-term dollar credit lines to the banks.

Figure 3, from Garcia and Volpon (2014), demonstrates that the announcement of intervention was accompanied by a strong appreciation of the exchange rate (that is, a sharp fall in the rate of BRL\$ per US\$). In December, the BCB extended its program to 2014, with a substantial reduction in the weekly sales of swaps to US\$1 billion. Yet, this second announcement, as the figure indicates, seems not to have had the same effect as the first one. In mid-2014, the BCB again announced a further extension of the program until the end of 2014, at which point it was extended for another quarter, while reducing the speed of new net placements.

The amount of the FX sales by the BCB is the largest among emerging markets, as shown in Table 1, from Garcia and Volpon (2014). The overall assessment of the program is that, at its inception, after the taper tantrum, it was important to restore liquidity to the FX markets in Brazil. However, as seems to happen often with FX interventions, they tend to outlive their usefulness, at least regarding their original purpose. The renewals in 2014, already in a context of low FX volatility, seemed to have been associated with the fear that the end of the program could cause a large devaluation of the BRL, with deleterious inflationary impact, even possibly upsetting the incumbents' position in the Brazilian presidential and legislative elections in October 2014.

## Different Reactions to Capital Inflows

With China's recuperation from the 2008 crisis, commodity prices increased, and, with them, the prospects for Latin American commodity exporters. This scenario prompted the return of large capital inflows, starting in 2009. It is puzzling that Chile did not resort to capital controls when similar circumstances materialized after recovering from the financial crisis sparked by the bankruptcy of the Lehman Brothers financial services firm in the United States in 2008.

José de Gregorio, governor of the Central Bank of Chile from 2007 until 2011 offers an answer: "The reason [why Chile has not used capital controls for 15 years] is that they have not been needed in the current macroeconomic framework. Indeed, progress in macroeconomic and financial management can dispense with the need for capital controls. However, they are a valid tool, and for this reason Chile's central bank and the government have intentionally maintained the bank's legal authority to impose controls in free trade agreements" (De Gregorio 2014, 121-122).

In other words, the economic policy stance was so strong that capital controls were not needed. Indeed, if one examines the relative appreciation of the real effective exchange rate (REER) in Brazil and in Chile, as displayed in Figure 4, it is clear that the real exchange rate appreciation was much larger in Brazil than in Chile, during the period when Brazil deployed capital controls.<sup>10</sup> In principle, this could be a result of the better fiscal and monetary stances of the Chilean economy.

It is also possible that the decision not to use capital controls in Chile was caused by political economy reasons. Perhaps, given the smaller industrial base of the Chilean economy, with fewer entities vulnerable to exchange rate appreciation, real exchange rate appreciation did not hurt as badly as in Brazil. Another possibility is that Chile tried to differentiate itself from other Latin American countries.

In any case, it is puzzling that precisely when both academic and multilateral institutions supported the idea of adopting capital controls, Chile, whose previous experience with those controls was deemed the most successful, decided not to make use of them in a new episode of excessive real appreciation. The most likely reason is that, based on a solid fiscal stance, Chile was able to do away with capital controls. Therefore, the current fad favouring the use of capital controls as a prudential policy should take into account that emerging market countries, particularly in Latin America, have, for a long time, made widespread use

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<sup>10</sup> Exchange rates in Latin America are quoted in domestic currency per unit of foreign currency. Therefore, an appreciation means a fall in the REER indices displayed in Figure 4. The comparison with Colombia and Peru also shows that the Brazilian real exchange rate was the one that suffered the largest appreciation.

of interventionist policies, such as capital controls, high reserve requirements and all sorts of financial market interventions, now called macroprudential policies. These policies have not produced overall positive results for most of these countries.

For Brazil, the use of capital controls to deter real exchange rate appreciation during the high-tide phase of the cycle was a poor substitute for proper fiscal policy. As Figure 5 makes clear, since the stabilization from hyperinflation in 1994, Brazil has followed a relentless path of primary expenditure increases financed by rising tax burden. This ultimately unsustainable fiscal policy created all sorts of distortions, including excessive real exchange rate appreciation. Trying to tackle this distortion with capital controls alone was not the proper policy response and may have impeded the economic policy consequences that conceivably could have contributed to correct the distorted fiscal policy in the first place.

This differs from the developed countries' perspective, where the lack of proper financial regulations engendered the conditions for the financial crisis of 2008. Without considering the different regulatory frameworks in which developed and Latin American emerging market countries faced the 2008 crisis, many analysts praised capital controls and macroprudential policies for Latin American countries, as though they had the same lack of regulation and intervention as developed countries. Thus, the Chilean example demonstrates that if proper macroeconomic and regulatory policies are followed, capital controls may not be needed.

The experiences of two other successful Latin American countries, Colombia and Peru, seem to corroborate the rather limited usefulness of capital controls. Unlike Chile, Colombia has, once again, made use of the URR that it used in the 1990s. There is scant evidence, however, that those controls reduced the total amount of flows, or prevented overvaluation of the Colombian peso in any significant manner. Nevertheless, similar to what occurred in the 1990s, when there were both negative (Cardenas and Barrera 1997) and positive (Ocampo and Tovar 2003) results, the literature regarding the more recent use of controls is not unanimous in determining the impact of the Colombian capital controls. Clements and Kamil (2009) found that the new round of capital controls in the twenty-first century has been successful in reducing external borrowing, but these researchers did not see a statistically significant impact on the volume of non-FDI as a whole. They also did not find any evidence that the controls "...moderated the appreciation of Colombia's currency, or increased the degree of independence of monetary policy" (Clements and Kamil 2009, 1). However, they found that the controls increased the volatility of the exchange rate. Concha and Galindo (2008) observed, "...capital controls used since 1998 have been ineffective in reducing capital flows and the trend of the Colombian peso to appreciate. In addition there is no evidence suggesting a change in the composition of capital flows induced by capital controls" (ibid., 1). They identified, however, "...some

evidence in favor of capital controls reducing nominal exchange rate volatility at high frequencies" (ibid.). Rincón and Toro (2010, 1), on the other hand, found that capital controls were able to enhance the effectiveness of sterilized FX purchases "... during the period 2008–2010 when both policies were used simultaneously, a statistically significant effect was obtained by which the interaction of capital control and intervention in the FX market were effective to produce a daily average depreciation of the exchange rate, without increasing its volatility" (ibid.). The few favourable empirical results found for Colombia may be related to its renewed use of capital controls.

As previously mentioned, Peru intervened in its own FX markets, but did not utilize capital controls. The Peruvian response to the perceived appreciation of the currency involved the increase of sterilized interventions, as well as the use of reserve requirements on local banks' foreign currency liabilities (Rossini, Quispe and Serrano 2013).

Tables 2 to 8 display a series of comparative macroeconomic indicators of Brazil, Chile, Colombia and Peru. Table 2 shows that Brazil's GDP is much larger than that of the other three countries. Table 3 demonstrates that in terms of GDP growth, since 2011 Brazil has lagged behind the other three. Notwithstanding its poor growth performance, since 2010 Brazil has also exhibited the larger inflation rate of the group, as shown in Table 4. The previously mentioned high real rates in Brazil are displayed in Table 5. With high real interest rates and low growth, the dismal Brazilian inflation performance is certainly an indication that other factors, probably related to the uncertainty created by economic policy gyrations, are jeopardizing the country's economic performance. Table 6 shows that the poor growth performance in Brazil is most likely associated with the Brazilian low investment to GDP ratio, which has lagged consistently behind the other countries'. More directly related to the issues addressed in this paper, tables 7 and 8 demonstrate that these four countries have significantly expanded their use of external savings, financed by capital inflows. Despite the end of massive capital inflows, these tables show that the four South American countries are still able to finance large current account deficits. The end of quantitative easing in the United States may prove to be a challenge, especially for Brazil, which has used foreign savings to finance consumption and government expenditures rather than to increase investment and growth.

Capital flows to Brazil, Chile, Colombia and Peru are detailed in Figures 6 to 21. Both annual and quarterly data are displayed, comparing the main components of capital flows, as well as the total levels, among the four countries. Brazil, as per its size, dominates the picture. However, as already noted, in percentage of GDP, all four countries have developed large current account deficits in recent years.

As shown in Table 7, with the exception of Colombia, the other three countries exhibited current account surpluses until and

including 2007. After the 2008 crisis, only Chile continued with a surplus, but only until 2010. Starting in 2011, all countries had current account deficits. When it had current account surpluses, Chile was able to diversify its macroeconomic risk by conducting net positive portfolio investment abroad, another sign of its more robust policy stance. Figures 8 and 9 document the sizeable Chilean portfolio investment abroad, until 2009. FDI had been strong in all four countries (Figures 14 and 15), with Brazil receiving the bulk of it. This is even more true with portfolio investment (Figures 16 and 17).

## Is the New Thinking and Acting about Capital Controls Adequate?

The new wisdom regarding capital controls is described by Ostry et al. (2011, 4). They state, “For countries whose currencies were on the strong side, where reserves were adequate, where overheating concerns precluded easier monetary policy, and where the fiscal balance was consistent with macroeconomic and public debt considerations, capital controls were a useful part of the policy toolkit to address inflow surges.”

The list of caveats is long and leaves little room for criticism. Indeed, if a country fulfills all these prerequisites and still exhibits overvalued exchange rates due to temporary excessive capital inflows, capital controls will be in order. However, as this paper argues, at least in the case of Brazil, capital controls acted as a substitute, not as a complement, to the proper macroeconomic policy, especially fiscal policy. In the Brazilian case, precisely the wrong combination of fiscal and monetary policy was adopted for too many years. In lieu of a contractionary fiscal policy that would have left room to lower interest rates, and which would have abated capital inflows, Brazil resorted to a non-sustainable combination of expansionary fiscal policy with extremely high real interest rates. This perverse combination, together with large and liquid financial and capital markets, increased the country’s sensitivity to capital flow gyrations.

Therefore, despite the caveats, the IMF policy change had the practical effect of serving as a support to Brazil’s bad

macroeconomic policies.<sup>11</sup> Brazilian policy makers tended to enjoy the apparent support provided by the IMF’s policy change, while lambasting any code of conduct that could restrict their ability to expand fiscal policy even further.<sup>12</sup>

Issues pertaining to international policy coordination are tough, as the IMF duly recognizes (Ostry and Ghosh 2013). Nevertheless, the Brazilian example shows that a change in policy, however so abundantly supported by high-level academic research (Jeanne, Subramanian and Williamson 2012; Korinek 2011; Ostry et al. 2010), may, instead, open more room for policy slippages.

## Conclusion

Brazil has been one of the most active countries intervening in FX markets through several means, including sterilized interventions and foreign reserves accumulation, controls on capital inflows and FX interventions through domestic derivatives markets. With the Brazilian experience in mind, lessons for surveillance and coordination have been extracted.

Drawing on Chamon and Garcia (2014), the arguments presented here show that capital controls do not seem to be a useful tool to deter real exchange rate appreciation. The comparison between Brazil and Chile is quite telling. Despite utilizing capital controls in the 1990s, Chile decided against using them during the capital inflow surge that followed the 2008 international financial crisis in conditions similar to those prevailing in Brazil, specifically regarding real exchange rate appreciation. This is likely due to Chile’s fiscal stance, which is much stronger than Brazil’s. The experience of Colombia and Peru, two other commodity-exporter South American countries,

<sup>11</sup> In its 2010 and 2011 annual policy evaluations of Brazil, under Article IV, the IMF statements regarding Brazilian capital controls were as follows:

- “While recognizing the need for a temporary tax on portfolio capital inflows, Directors suggested that consideration be given to a long-term response that combines a tightening of fiscal policy, a lower interest rate, and prudential measures” (IMF 2010, paragraph 9); and
- “Directors took note of the authorities’ pragmatic use of the policy toolkit for managing capital inflows. Macroeconomic policies have been appropriately tightened, the exchange rate has appreciated substantially and official FX reserves have increased. Directors considered that the authorities’ use of capital flow management measures has been appropriate. However, a number of Directors cautioned that these measures are prone to circumvention, while many Directors noted that attendant costs should also be taken into account and pointed to their distortionary effects. Many Directors recommended that further macroeconomic policy adjustment be part of the response to large capital inflows” (IMF 2011a, paragraph 11).

<sup>12</sup> In an official statement, former Finance Minister Mantega declared, “We oppose any guidelines, frameworks or ‘codes of conduct’ that attempt to constrain, directly or indirectly, policy responses of countries facing surges in volatile capital inflows. Governments must have flexibility and discretion to adopt policies that they consider appropriate, including macroeconomic, prudential measures and capital controls” (Mantega 2011, 2).

also do not support the use of capital controls. Colombia decided to make use of the URR on capital inflows, as it had done in the 1990s, with mixed results. Peru, on the other hand, kept its intervention in FX markets away from capital controls, using only prudential policies that did not discriminate on the basis of investors' residency. It is not clear that in practice capital controls bring the benefits that the academic literature suggests, while serving as an escape to the implementation of politically unpleasant macroeconomic adjustment.

Therefore, when analyzing the implications for surveillance and coordination, international institutions such as the IMF should take into consideration that, no matter how many caveats are listed before its guidelines, capital controls may serve mainly to bypass needed changes in macroeconomic policy, thereby jeopardizing better economic performance.

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## Works Cited

- Bloomberg. 2015. US Dollar Foreign Exchange Rate.
- Cardenas, Mauricio and Felipe Barrera. 1997. "On the Effectiveness of Capital Controls: The Experience of Colombia during the 1990s." *Journal of Development Economics* 54 (1): 27–57.
- Cardoso, Eliana and Ilan Goldfajn. 1998. "Capital Flows to Brazil: The Endogeneity of Capital Controls." *IMF Staff Papers* 45 (1): 161–202.
- Carvalho, Bernardo S. de M. and Márcio G. P. Garcia. 2008. "Ineffective Controls on Capital Inflows under Sophisticated Financial Markets: Brazil in the Nineties." In *Financial Markets Volatility and Performance in Emerging Markets*, edited by S. Edwards and M. Garcia, 29–96. Cambridge, Massachusetts: National Bureau of Economic Research.
- Central Bank of Chile. 2015. Indicadores Macroeconómicos Cuarto trimestre del 2014. [www.bcentral.cl/publicaciones/estadisticas/informacion-integrada/pdf/im\\_cuarto2014.pdf](http://www.bcentral.cl/publicaciones/estadisticas/informacion-integrada/pdf/im_cuarto2014.pdf).
- Chamon, Marcos and Márcio Garcia. 2014. "Capital Controls in Brazil: Effective." PUC-Rio Working Paper #606. [www.economia.puc-rio.br/mgarcia/Papers/Chamon%20Garcia%20v66.pdf](http://www.economia.puc-rio.br/mgarcia/Papers/Chamon%20Garcia%20v66.pdf).
- Clements, Benedict and Herman Kamil. 2009. "Are Capital Controls Effective in the 21st Century? The Recent Experience of Colombia." *IMF Working Paper* 09/30. [www.imf.org/external/pubs/ft/wp/2009/wp0930.pdf](http://www.imf.org/external/pubs/ft/wp/2009/wp0930.pdf).
- Concha, Alvaro and Arturo José Galindo. 2008. "An Assessment of Another Decade of Capital Controls in Colombia: 1998–2008." Paper presented at the Latin American and Caribbean Economic Association Annual Meeting, Rio de Janeiro, Brazil, November 21. [www.webmeets.com/files/papers/LACEA-LAMES/2008/384/galindo.pdf](http://www.webmeets.com/files/papers/LACEA-LAMES/2008/384/galindo.pdf).
- De Gregorio, José, Sebastian Edwards and Rodrigo Valdés. 2000. "Controls on Capital Inflows: Do They Work?" *Journal of Development Economics* 63 (1): 59–83.
- De Gregorio, José. 2014. *How Latin America Weathered the Global Financial Crisis*. Washington, DC: Peterson Institute for International Economics.
- Engel, Charles. 2013. "Exchange Rates and Interest Parity." National Bureau of Economic Research Discussion Paper No. 19336.
- Forbes, Kristin. 2007. "One cost of the Chilean capital controls: increased financial constraints for smaller traded firms." *Journal of International Economics* 71 (2): 294–323.
- Forbes, K., M. Fratzscher, T. Kostka and R. Straub. 2012. "Bubble Thy Neighbor: Portfolio Effects and Externalities from Capital Controls." National Bureau of Economic Research Working Paper No. 18052.
- G20. 2011. "G20 Coherent Conclusions for the Management of Capital Flows Drawing on Country Experiences." October 15. [www.g20ys.org/upload/files/2011-finance-capital-flows-111015-en.pdf](http://www.g20ys.org/upload/files/2011-finance-capital-flows-111015-en.pdf).
- Garber, P. and Subir Lall. 2011. "Derivative products in exchange rate crisis." In *Managing Capital Flows and Exchange Rates Perspectives from the Pacific Basin*, edited by Reuven Glick, 206–31. Cambridge: Cambridge University Press.
- Garcia, Márcio and Tony Volpon. 2014. "DNDFs: A more efficient way to intervene in foreign exchange markets?" PUC-Rio Working Paper No. 621. [www.economia.puc-rio.br/mgarcia/140514%20Garcia\\_Volpon%20v26.pdf](http://www.economia.puc-rio.br/mgarcia/140514%20Garcia_Volpon%20v26.pdf).

- IMF. 2010. *IMF Executive Board Concludes 2010 Article IV Consultation with Brazil*. IMF Public Information Notice No. 10/111. August 5. [www.imf.org/external/np/sec/pn/2010/pn10111.htm](http://www.imf.org/external/np/sec/pn/2010/pn10111.htm).
- . 2011a. *IMF Executive Board Concludes 2011 Article IV Consultation with Brazil*. IMF Public Information Notice No. 11/108. August 3. [www.imf.org/external/np/sec/pn/2011/pn11108.htm](http://www.imf.org/external/np/sec/pn/2011/pn11108.htm).
- . 2011b. International Financial Statistics. <http://elibrary-data.imf.org/QueryBuilder.aspx?s=322&key=1445284>.
- . 2014. *World Economic Outlook Database*. October. [www.imf.org/external/pubs/ft/weo/2014/02/weodata/weoselco.aspx?g=205&srg>All+countries+%2f+Emerging+market+and+developing+economies+%2f+Latin+America+and+the+Caribbean](http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/weoselco.aspx?g=205&srg>All+countries+%2f+Emerging+market+and+developing+economies+%2f+Latin+America+and+the+Caribbean).
- Jeanne, Olivier, Arvind Subramanian and John Williamson. 2012. *Who Needs to Open the Capital Account?* Washington, DC: Peterson Institute for International Economics.
- Jinjarak, Yothin, Ilan Noy and Huanhuan Zheng. 2013. "Capital Controls in Brazil — Stemming a Tide with a Signal?" *Journal of Banking & Finance* 37: 2938–952.
- Korinek, Anton. 2011. "The Economics of Prudential Capital Controls: A Research Agenda." *IMF Economic Review* (59) 3: 523–61.
- Mantega, Guido. 2011. Statement made at the Twenty-Third Meeting of the International Monetary and Financial Committee, April 16.
- Ministério da Fazenda. 2009. "Mantega: Investimento Estrangeiro em Renda Fixa e Variável Terá iof de 2%." October 10. [www.fazenda.gov.br/divulgacao/noticias/2009/outubro/a191009](http://www.fazenda.gov.br/divulgacao/noticias/2009/outubro/a191009).
- Nomura Securities. 2015. Private conversation, January.
- Ocampo, José Antonio and Camilo E. Tovar. 2003. "Colombia's Experience with Reserve Requirements on Capital Inflows." *CEPAL Review* 81 (12): 7–31.
- Ostry, Jonathan D., Atish Ghosh, Karl Habermeier, Marcos Chamon, Mahvash Qureshi and Dennis Reinhart. 2010. "Capital Inflows: The Role of Controls." IMF Staff Position Note No. 2010/04.
- Ostry, Jonathan D., Atish Ghosh, Karl Habermeier, Luc Laeven, Marcos Chamon, Mahvash Qureshi and Annamaria Kokenyne. 2011. "Managing Capital Inflows: What Tools to Use?" IMF Staff Discussion Note No. SDN/11/06.
- Ostry, Jonathan D., Atish Ghosh, Marcos Chamon and Mahvash Qureshi. 2012. "Tools for Managing Financial-Stability Risks from Capital Inflows." *Journal of International Economics* 88 (2): 407–21.
- Ostry, Jonathan D. and Atish Ghosh. 2013. "Obstacles for International Policy Coordination, and How to Overcome Them." IMF Staff Discussion Note No. 2011/13.
- Rey, Hélène. 2013. "Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence." Paper presented at the Kansas FED Conference, Global Dimensions of Unconventional Monetary Policy, Jackson Hole, August 23.
- Rincón, Hernán and Jorge Toro. 2010. "Are Capital Controls and Central Bank Intervention Effective?" Banco de la República Colombia No. 625. [www.banrep.gov.co/sites/default/files/publicaciones/archivos/borra625.pdf](http://www.banrep.gov.co/sites/default/files/publicaciones/archivos/borra625.pdf).
- Rossini, Renzo, Zenón Quispe and Enrique Serrano. 2013. "Foreign Exchange Intervention in Peru." Central Reserve Bank of Peru Working Paper No. 16.
- Schwartsman, Alexandre. 2014. Private conversation.
- Smith, Geri. 2008. "Brazil Goes Investment-Grade." *Bloomberg Business*, May 1. [www.bloomberg.com/bw/stories/2008-05-01/brazil-goes-investment-grade](http://www.bloomberg.com/bw/stories/2008-05-01/brazil-goes-investment-grade)
- Wheatley, J. 2010. "Brazil in 'Currency War' Alert." *Financial Times*, September 27. [www.ft.com/cms/s/0/33ff9624-ca48-11df-a860-00144feab49a.html#axzz3UlzGILW2](http://www.ft.com/cms/s/0/33ff9624-ca48-11df-a860-00144feab49a.html#axzz3UlzGILW2).
- World Bank. 2015a. World Development Indicators: GDP (Current US\$). <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.
- . 2015b. World Development Indicators: GDP Growth (Annual %). <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>.
- . 2015c. World Development Indicators: Inflation, Consumer Prices (Annual %) <http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG>.
- . 2015d. World Development Indicators: Gross Capital Formation (% of GDP). <http://data.worldbank.org/indicator/NE.GDI.TOTL.ZS>.
- . 2015e. World Development Indicators: Current Account (% of GDP). <http://data.worldbank.org/indicator/BN.CAB.XOKA.GD.ZS>.
- . 2015f. World Development Indicators: Financial Account (% of GDP). <http://data.worldbank.org/indicator/BN.FIN.TOTL.CD>.

**Table 1: FX Intervention by Major Emerging Market Countries (May 2013 to June 2014)**

	US\$BN	% of 2013 GDP
Turkey	-24.2	-3.1
Singapore	-27.1	-9.4
Brazil	-92.1	-4.1
Russia	-68.2	-3.4
Philippines	-4.6	-1.9
Malaysia	-17.2	-5.6
Indonesia	-9.9	-1.1
India	15.6	0.9
Taiwan	7	1.5
Thailand	-12.9	-3.5
South Korea	43.6	3.6
Israel	9.4	3.6
Colombia	5.5	1.5
Czech Republic	11.5	5.9
China	345.2	4.2
South Africa	-0.7	-0.2

*Source:* Bloomberg (2015), Nomura Securities (2015).

*Note:* Mexico, Poland, Chile and Turkey did not intervene in the market.

**Table 2: GDP in US\$ Billions for Brazil, Chile, Colombia and Peru for 2005–2013**

Date	GDP in US\$ billions			
	Brazil	Chile	Colombia	Peru
2005	882.19	124.40	146.52	74.96
2006	1,088.91	154.67	162.77	87.99
2007	1,355.82	173.01	207.52	102.17
2008	1,653.82	179.86	244.06	121.57
2009	1,620.19	172.32	233.82	121.20
2010	2,143.07	217.50	287.02	148.52
2011	2,476.69	251.16	335.42	170.56
2012	2,248.78	266.26	370.33	192.63
2013	2,245.67	277.20	378.42	202.35

*Source:* World Bank (2015a).

**Table 3: GDP Growth (percent change) for Brazil, Chile, Colombia and Peru for 2005–2013**

Date	GDP growth (%)			
	Brazil	Chile	Colombia	Peru
2005	3,16	5,56	4,71	6,29
2006	3,96	4,40	6,70	7,53
2007	6,10	5,16	6,90	8,52
2008	5,17	3,29	3,55	9,14
2009	-0,33	-1,04	1,65	1,05
2010	7,53	5,76	3,97	8,45
2011	2,73	5,84	6,59	6,45
2012	1,03	5,38	4,05	5,95
2013	2,49	4,07	4,68	5,79

*Source:* World Bank (2015b).

**Table 4: Inflation (percent change) for Brazil, Chile, Colombia and Peru for 2005–2014**

Date	Inflation (%)			
	Brazil	Chile	Colombia	Peru
2005	5,69	3,70	5,05	1,62
2006	3,14	2,60	4,30	2,00
2007	4,46	7,80	5,54	1,78
2008	5,90	7,10	7,00	5,79
2009	4,31	-1,40	4,20	2,94
2010	5,91	3,00	2,28	1,53
2011	6,50	4,40	3,41	3,37
2012	5,84	1,50	3,18	3,65
2013	5,91	3,00	2,02	2,82
2014	6,41	4,6	3,66	3,29

*Source:* World Bank (2015c), Central Bank of Chile (2015) and IMF (2014).

**Table 5: Real Monetary Policy Related Interest (%) for Brazil, Chile, Colombia and Peru for 2005–2014**

Real Monetary Policy-related Interest Rate				
Date	Brazil	Chile	Colombia	Peru
2005	11,65	0,77	0,91	1,61
2006	9,80	2,58	3,07	2,45
2007	6,50	-1,67	3,75	3,16
2008	7,41	1,07	2,34	0,68
2009	4,26	1,93	-0,67	-1,64
2010	4,57	0,12	0,71	1,45
2011	4,23	0,81	1,29	0,85
2012	1,33	3,45	1,04	0,58
2013	3,86	1,46	1,20	1,15
2014	5,02	-0,81	0,81	0,20

*Source:* IMF (2011b).

*Note:* The real monetary policy rate was calculated from data at source.

**Table 6: Gross Capital Formation (% of GDP) for Brazil, Chile, Colombia and Peru for 2005–2013**

Gross Capital Formation (% of GDP)				
Date	Brazil	Chile	Colombia	Peru
2005	16,21	23,30	20,22	16,22
2006	16,76	21,11	22,40	19,19
2007	18,33	21,23	23,03	22,27
2008	20,69	25,96	23,49	27,47
2009	17,84	20,28	22,44	20,86
2010	20,24	22,38	22,13	25,17
2011	19,73	23,71	23,88	25,73
2012	17,52	25,09	23,92	26,71
2013	17,89	23,92	24,64	28,29

*Source:* World Bank (2015d).

**Table 7: Current Account (% of GDP) for Brazil, Chile, Colombia and Peru for 2005–2013**

Current Account (% of GDP) Chile				
Date	Brazil	Chile	Colombia	Peru
2005	1,59	1,16	-1,29	1,53
2006	1,25	4,63	-1,79	3,26
2007	0,11	4,31	-2,90	1,43
2008	-1,70	-1,84	-2,65	-4,37
2009	-1,50	2,04	-1,99	-0,60
2010	-2,21	1,65	-3,02	-2,55
2011	-2,12	-1,22	-2,90	-1,86
2012	-2,41	-3,41	-3,05	-3,26
2013	-3,61	-3,42	-3,24	-4,51

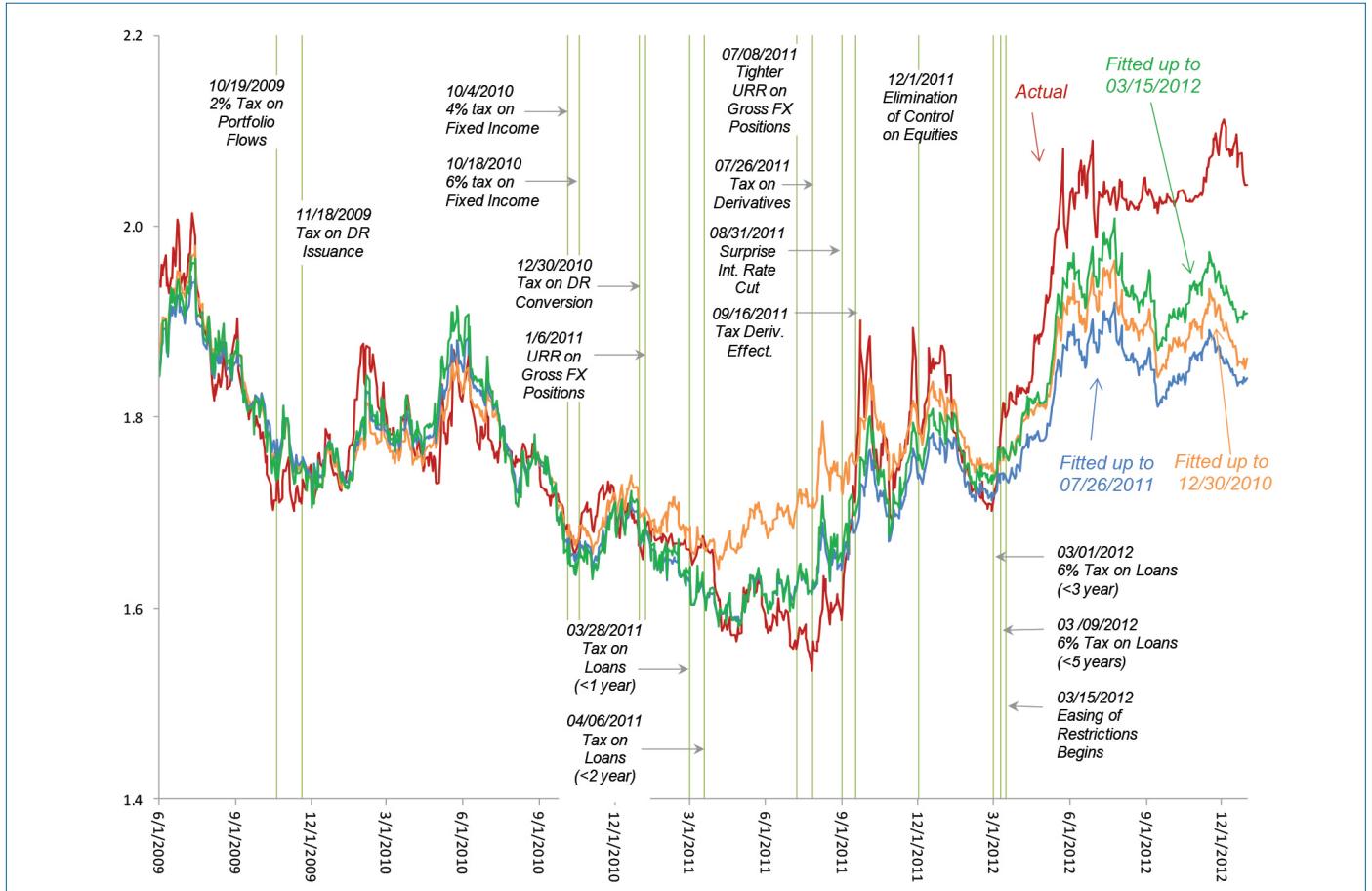
*Source:* World Bank (2015e).

**Table 8: Financial Account (% of GDP) for Brazil, Chile, Colombia and Peru for 2005–2013**

Financial Account (% of GDP)				
Date	Brazil	Chile	Colombia	Peru
2005	1,64%	0,13%	-1,03%	1,93%
2006	1,42%	3,65%	-1,76%	2,69%
2007	-0,06%	4,06%	-2,73%	1,23%
2008	-1,53%	-1,20%	-2,80%	-4,53%
2009	-1,45%	2,42%	-2,20%	-1,12%
2010	-2,32%	4,12%	-3,11%	-1,63%
2011	-2,11%	-1,45%	-2,64%	-2,36%
2012	-2,48%	-3,53%	-3,07%	-2,60%
2013	-3,51%	-3,96%	-3,10%	-4,20%

*Source:* World Bank (2015f).

Figure 1: Real-dollar Exchange Rate and Counterfactual from Regressions 2009–2012.



Source: Author's own calculations.

Notes:

<sup>1</sup> Red line corresponds to the actual real-dollar exchange rate (an increase denotes a depreciation of the real);

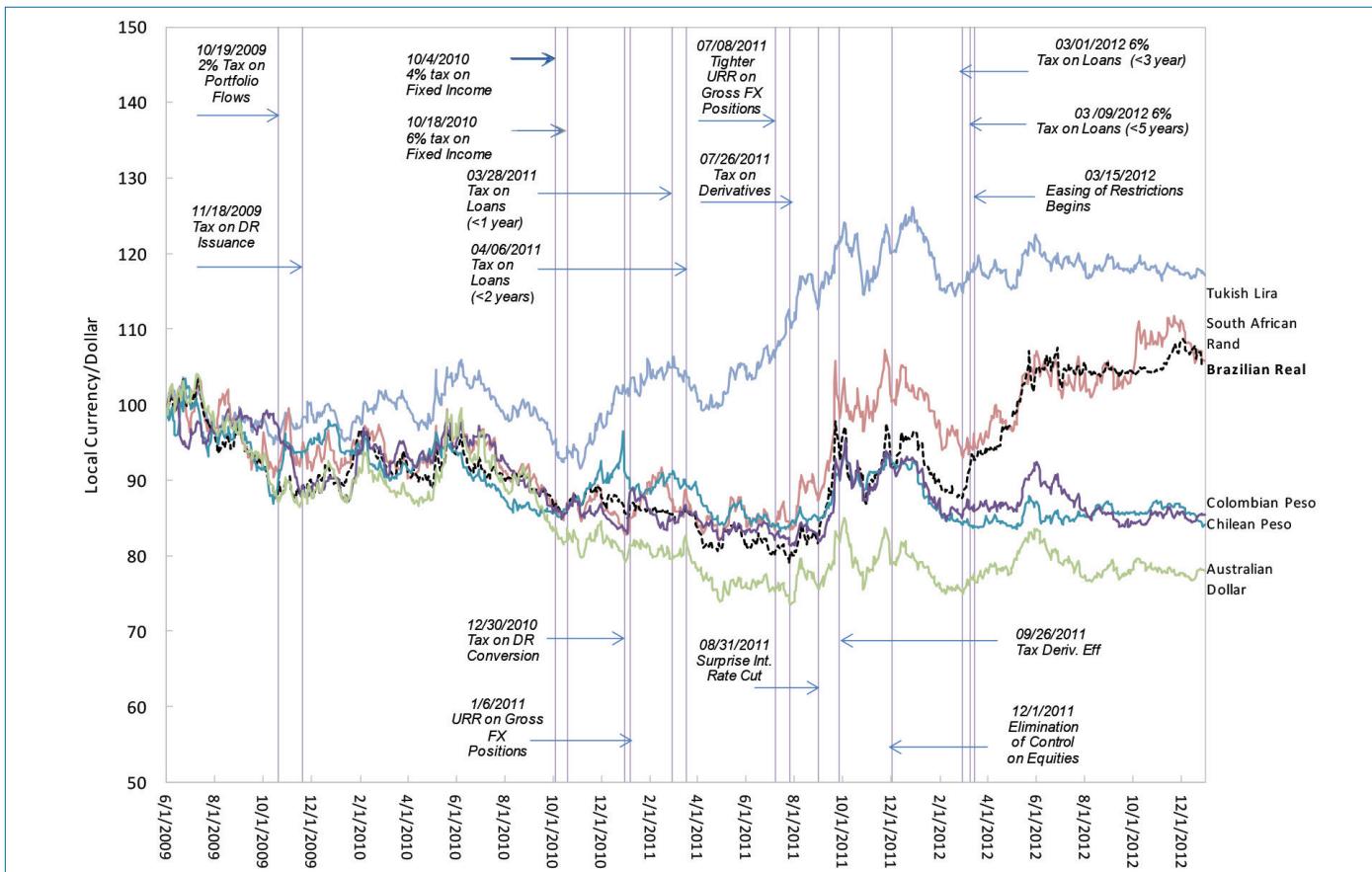
<sup>2</sup> Remaining lines plot the results of a regression of the log of the exchange rate on the log of the interest rate differential, onshore dollar rate, local stock market, commodity prices, dollar currency index and VIX (the index that measures the hedging against S&P 500 fall);

<sup>3</sup> Orange line is based on a regression sample up to the last tightening of controls on portfolio inflows (Tax on Depository Receipts Conversion on 12/30/2010);

<sup>4</sup> Blue line on a regression up to the announcement of the tax on the notional amount of derivatives (07/26/2011);

<sup>5</sup> Green line on a regression up to the end of our sample in Table 2 (when the restrictions began to be eased on 03/15/2012).

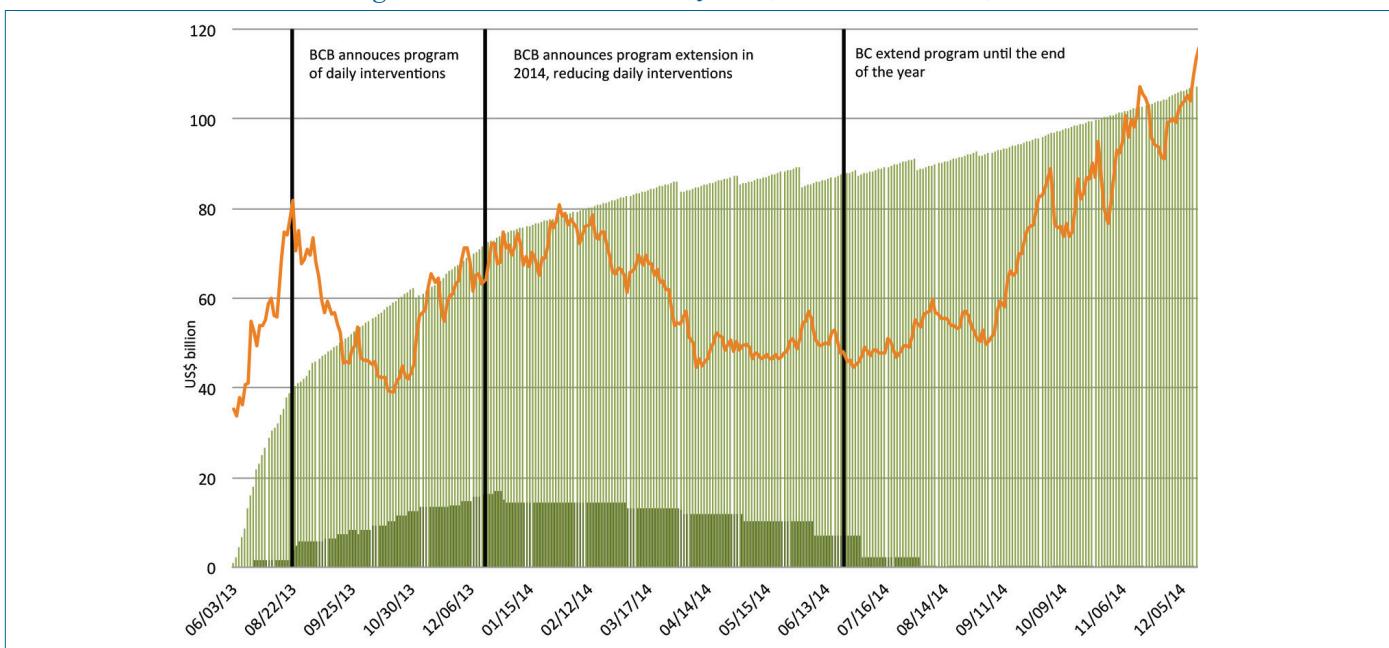
Figure 2: Real-dollar Exchange Rate and Other Currencies 2009–2012.



Source: Bloomberg (2015) BCB.

Note: Increase in the exchange rate (June 1, 2009 = 100) denotes a depreciation of the respective currency.

Figure 3: CB FX Interventions, June 3, 2013–November 6, 2014



Source: Garcia and Volpon (2014).

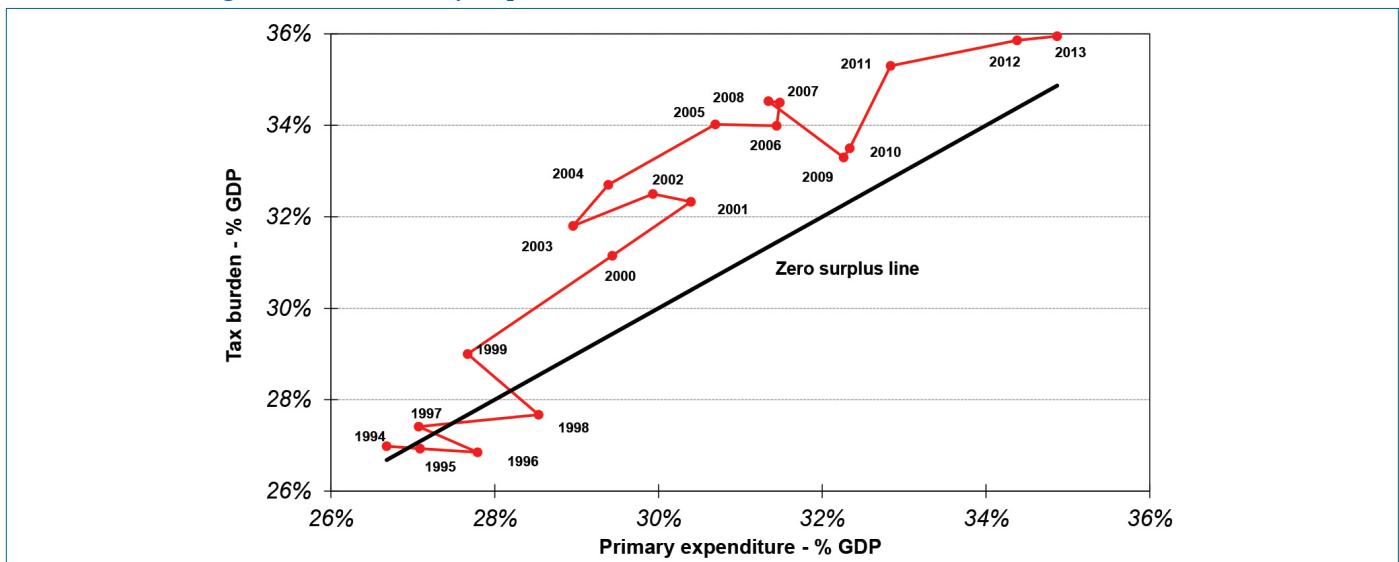
Figure 4: CB FX Interventions, June 3, 2013–November 6, 2014



Source: Federal Reserve Economic Data and BCB (2009–2014).

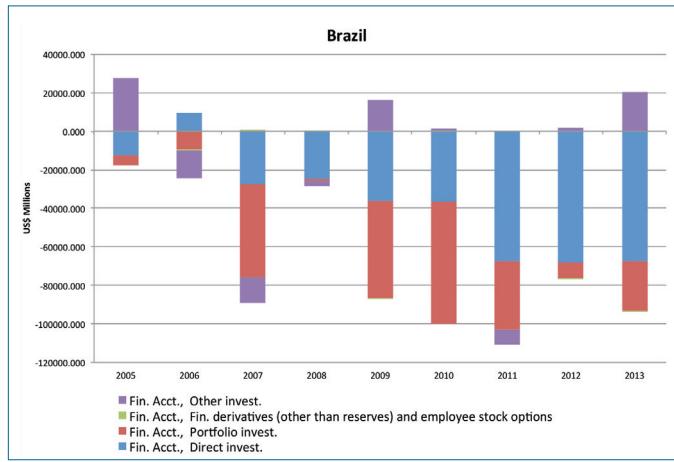
Note: Exchange rates in Latin America are quoted in domestic currency per unit of foreign currency. Therefore, an appreciation means a fall in the REER indices.

Figure 5: Brazil: Primary Expenditures and Total Tax Burden (Percent of GDP), 1993–2013



Source: Schwartzman (2014) estimates based on BCB data.

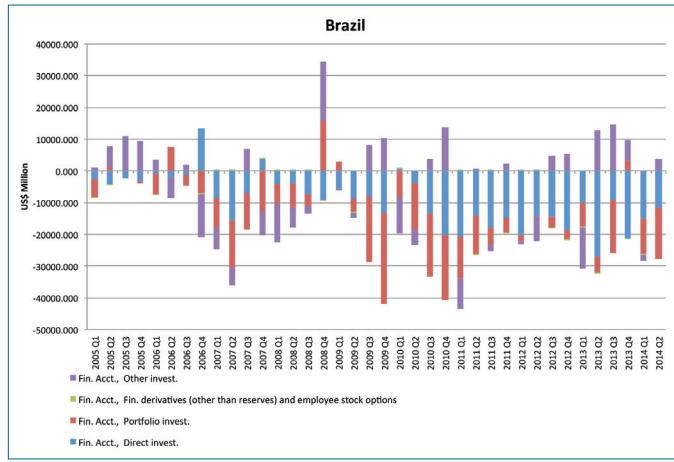
Figure 6: Brazil's Financial Account Composition (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

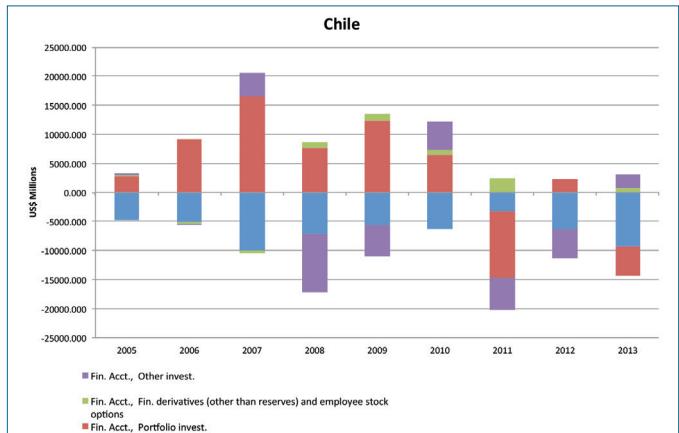
Figure 7: Brazil's Financial Account Composition (Quarterly), 2005–2014



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

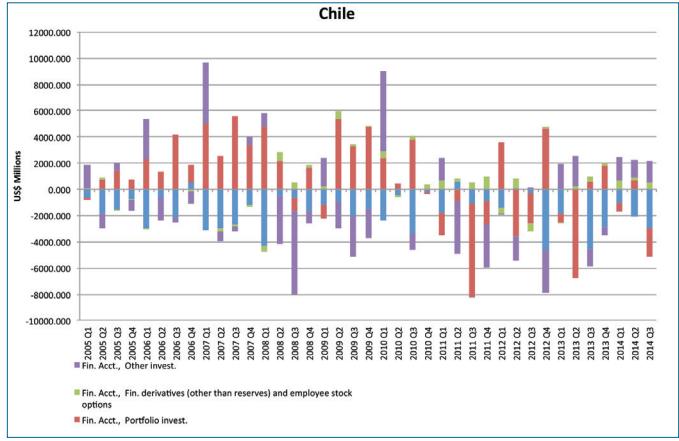
Figure 8: Chile's Financial Account Composition (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

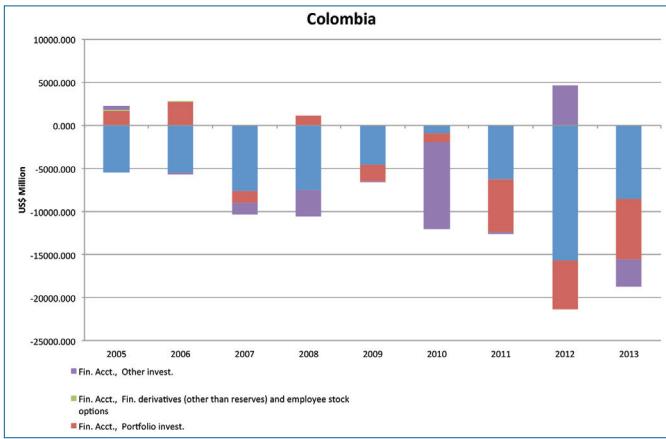
Figure 9: Chile's Financial Account Composition (Quarterly), 2005–2014



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

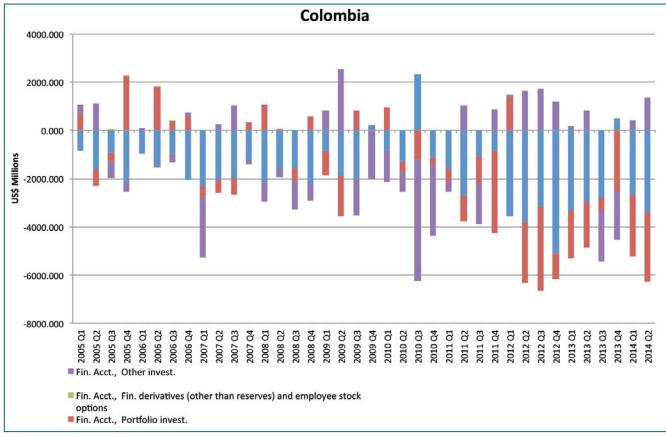
Figure 10: Colombia's Financial Account Composition (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

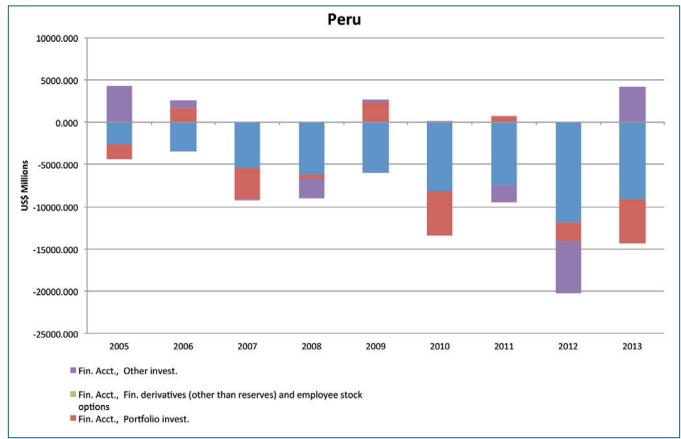
Figure 11: Colombia's Financial Account Composition (Quarterly), 2005–2014



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

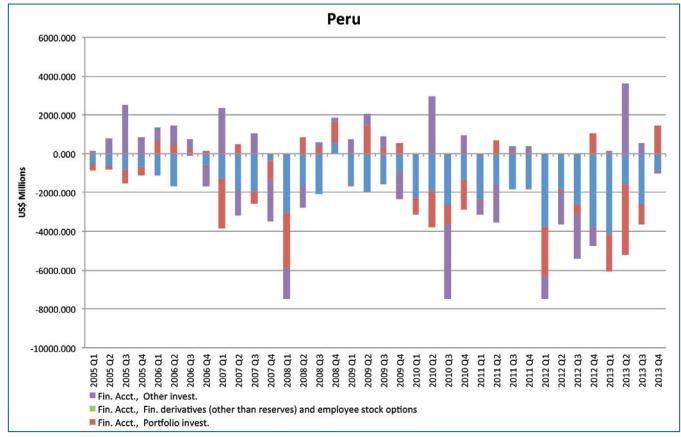
Figure 12: Peru's Financial Account Composition (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

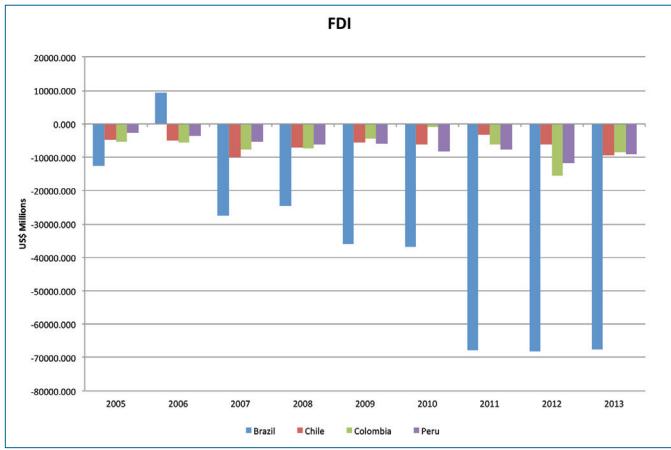
Figure 13: Peru's Financial Account Composition (Composition), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

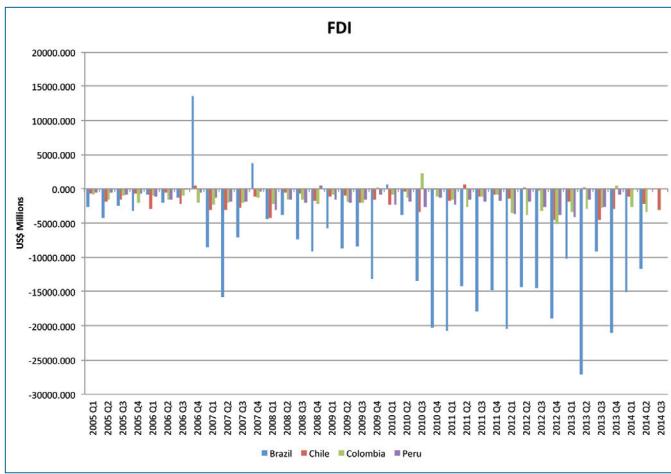
Figure 14: FDI per Country (Annual), 2005–2013



*Source:* IMF (2011b).

*Note:* A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

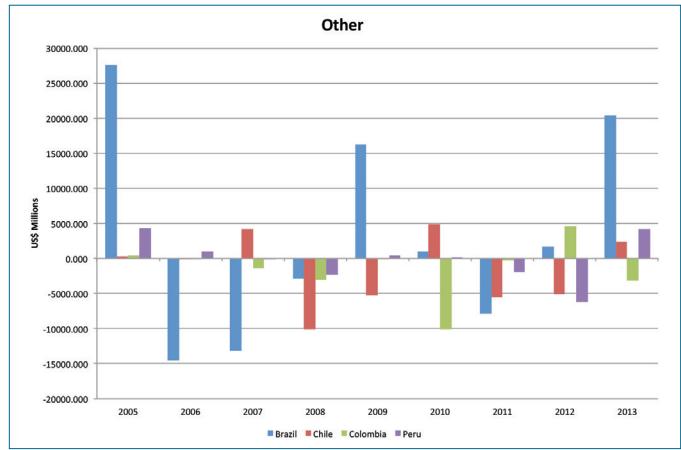
Figure 15: FDI per Country (Quarterly), 2005–2014



*Source:* IMF (2011b).

*Note:* A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

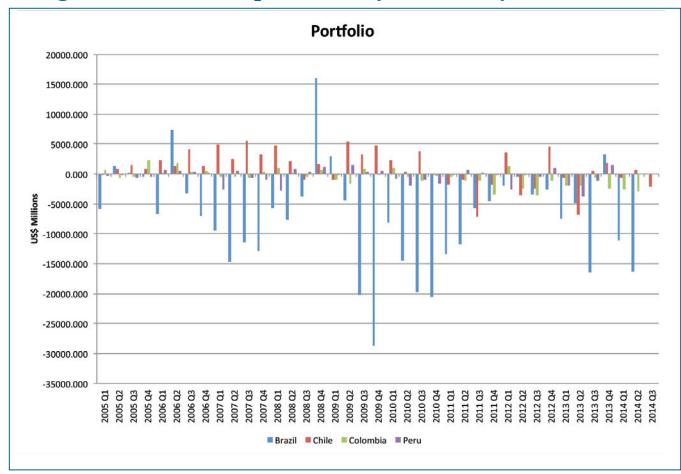
Figure 16: Portfolio per Country (Annual), 2005–2013



*Source:* IMF (2011b).

*Note:* A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

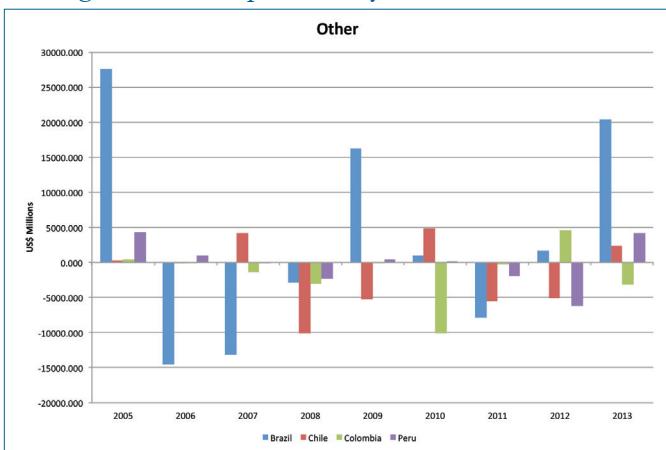
Figure 17: Portfolio per Country (Quarterly), 2005–2014



*Source:* IMF (2011b).

*Note:* A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

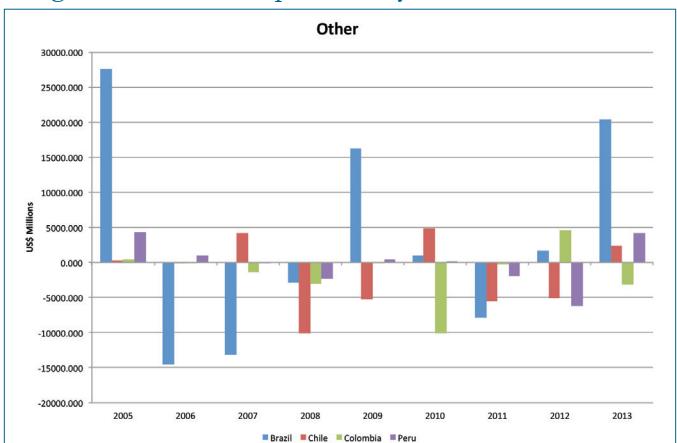
Figure 18: Other per Country (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

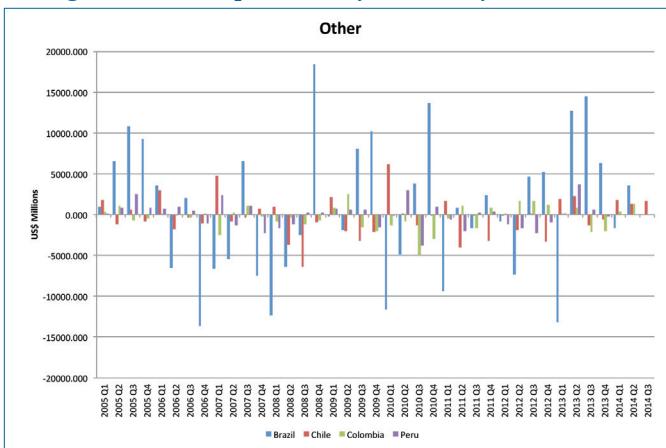
Figure 20: Derivatives per Country (Annual), 2005–2013



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

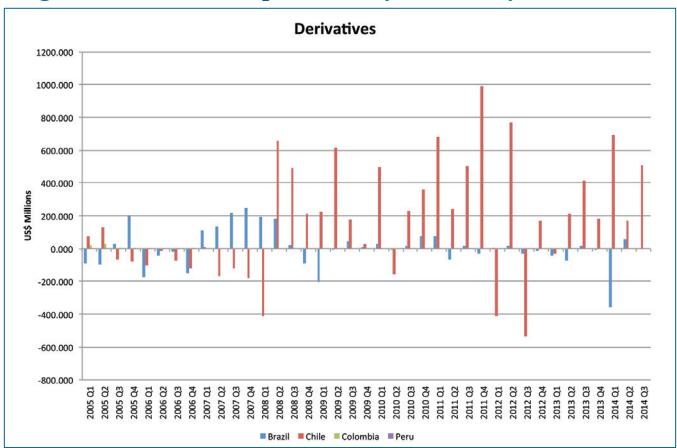
Figure 19: Other per Country (Quarterly), 2005–2014



Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

Figure 21: Derivatives per Country (Quarterly), 2005–2014



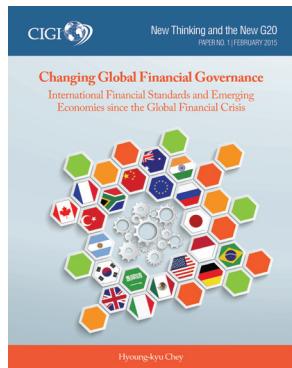
Source: IMF (2011b).

Note: A negative sign represents a positive influx of capital, i.e., a reduction in net assets owned by residents.

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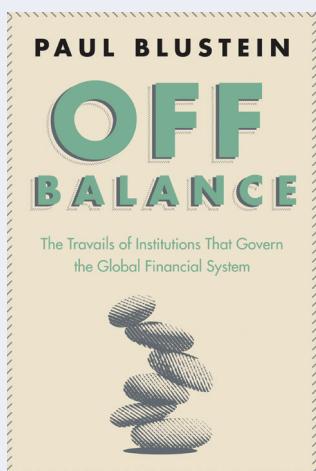
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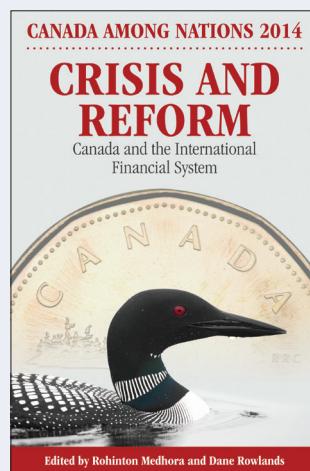
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**Off Balance: The Travails of Institutions That Govern the Global Financial System**  
*Paul Blustein*

Paperback: \$28.00;  
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The latest book from award-winning journalist and author Paul Blustein is a detailed account of the failings of international institutions in the global financial crisis.



**Crisis and Reform: Canada and the International Financial System**  
*Edited by Rohinton Medhora and Dane Rowlands*

Paperback: \$32.00;  
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The 28th edition of the Canada Among Nations series is an examination of Canada and the global financial crisis, and the country's historic and current role in the international financial system.

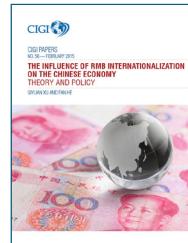
# CIGI Papers



## Laid Low: The IMF, The Euro Zone and the First Rescue of Greece

*CIGI Papers No. 61*  
Paul Blustein

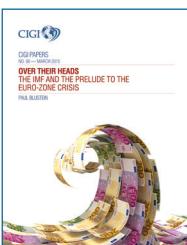
This paper tells the story of the first Greek rescue, focusing on the role played by the International Monetary Fund (IMF), and based on interviews with dozens of key participants as well as both public and private IMF documents. A detailed look back at this drama elucidates significant concerns about the Fund's governance and its management of future crises.



## The Influence of RMB Internationalization on the Chinese Economy

*CIGI Papers No. 58*  
Qiyuan Xu and Fan He

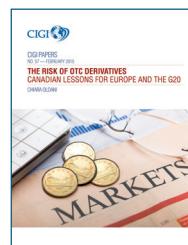
Since China's pilot scheme for RMB cross-border settlement was launched in 2009, it has become increasingly important for monetary authorities in terms of macroeconomic policy frameworks. The authors use an analytical model that includes monetary supply and demand to examine the influences of RMB cross-border settlement on China's domestic interest rate, asset price and foreign exchange reserves. They also look at how RMB settlement behaves in different ways with the various items in China's balance of payments.



## Over Their Heads: The IMF and the Prelude to the Euro-zone Crisis

*CIGI Papers No. 60*  
Paul Blustein

The years prior to the global financial crisis were a peculiar period for the International Monetary Fund (IMF). It was struggling to define its role and justify its existence even as trouble was brewing in countries it would later help to rescue. To understand the Fund's current strengths and weaknesses, a look back at this era is highly illuminating. Three major developments for the IMF, spanning the years 2005–2009, are chronicled.



## The Risk of OTC Derivatives: Canadian Lessons for Europe and the G20

*CIGI Papers No. 57*  
Chiara Oldani

Over-the-counter (OTC) derivatives played an important role in the buildup of systemic risk in financial markets before 2007 and in spreading volatility throughout global financial markets during the crisis. In recognition of the financial and economic benefits of derivatives products, the Group of Twenty (G20) moved to regulate the use of OTC derivatives. Attention has been drawn to the detrimental effects of the United States and the European Union to coordinate OTC reform, but this overlooks an important aspect of the post-crisis process: the exemption of non-financial operators from OTC derivative regulatory requirements.



## The China (Shanghai) Pilot Free Trade Zone: Backgrounds, Developments and Preliminary Assessment of Initial Impacts

*CIGI Papers No. 59*  
John Whalley

The China (Shanghai) Pilot Free Trade Zone (SPFTZ) was founded in September 2013, and up until now relatively little has been written in English about this unique initiative. This paper reviews the background and reasons for the SPFTZ, how it has developed and the impact it has had since its opening.



## Sovereign Bond Contract Reform: Implementing the New ICMA Pari Passu and Collective Action Clauses

*CIGI Papers No. 56*  
Gregory Makoff and Robert Kahn

The International Capital Market Association (ICMA) has recently published proposed standard terms for new, aggregated collective action clauses. Concurrently, the ICMA released new model wording for the pari passu clause typically included in international sovereign bond contracts. These announcements and the commencement of issuance of bonds with these clauses are an important turning point in the evolution of sovereign bond markets.



## About CIGI

The Centre for International Governance Innovation is an independent, non-partisan think tank on international governance. Led by experienced practitioners and distinguished academics, CIGI supports research, forms networks, advances policy debate and generates ideas for multilateral governance improvements. Conducting an active agenda of research, events and publications, CIGI's interdisciplinary work includes collaboration with policy, business and academic communities around the world.

CIGI's current research programs focus on three themes: the global economy; global security & politics; and international law.

CIGI was founded in 2001 by Jim Balsillie, then co-CEO of Research In Motion (BlackBerry), and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario.

Le CIGI a été fondé en 2001 par Jim Balsillie, qui était alors co-chef de la direction de Research In Motion (BlackBerry). Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l'appui reçu du gouvernement du Canada et de celui du gouvernement de l'Ontario.

For more information, please visit [www.cigionline.org](http://www.cigionline.org).

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