

# What makes capital account regulation effective? Comparing the experiences of Brazil, Peru and Iceland

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## **Abstract**

Empirical studies confirm that the impact of capital account regulation (CAR) is highly case-specific, which underlines the need to identify the determinants of CAR effectiveness in greater depth. Coming from a political economy perspective, this article aims to contribute to this subject by comparing three experiences of intense regulation: Brazil (2008-2013), Peru (2008-2013), and Iceland (2008-2017). The main result encountered is that the bargaining power of the different sectors involved in regulation represents a crucial factor in explaining the impact of this policy. Furthermore, domestic banks play an important role in the effectiveness of capital account regulation.

**Key words:** capital account regulation, capital controls, Brazil, Peru, Iceland

**JEL codes:** F38; F650; P16

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## **What makes capital account regulation effective? Comparing the experiences of Brazil, Peru, and Iceland**

### **1. Introduction**

Capital account regulation (CAR) refers to the measures aimed at influencing those international transactions that generate changes in the financial position (assets/liabilities) of an economy versus the rest of the world. It includes different types of measures (affecting both prices and quantities), applied by Governments, Central Banks or Banking Supervisors, that have one or more of the following effects: i) restriction of capital inflows or outflows; ii) regulation of the domestic financial sector in a way that has consequences for capital flows; and iii) regulation of the domestic use of foreign exchange.<sup>1</sup>

Over the past two decades, CAR has received serious attention from policy-makers, international institutions, and academics. This is hardly surprising, as unregulated international financial flows have fostered most episodes of economic instability in the world economy for half a century.<sup>2</sup> However, interesting questions persist: should capital flows be regulated? And if yes, how can they be regulated in an effective way?

Debates on these topics have been frequent and passionate, with three main positions on the table. Firstly, some argue that CAR is undesirable, because it distorts markets, increases inefficiencies, and encourages rent-seeking activities.<sup>3</sup> Second, others admit that CAR is potentially useful but generally inadvisable, because it tends to be

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<sup>1</sup> Ocampo, 'Capital Account Liberalization and Management'.

<sup>2</sup> Jeanne, Subramanian, and Williamson, *Who Needs to Open the Capital Account?*; Reinhart and Rogoff, *This time is different: Eight centuries of financial folly*, pp. 79, 94, 158, 205, 217, 271; Eichengreen, *Capital Flows and Crises*; Cardarelli, Elekdag, and Kose, 'Capital inflows: Macroeconomic implications and policy responses'; Ostry et al., 'Capital inflows: the role of controls'.

<sup>3</sup> Henry, 'Capital Account Liberalization: Theory, Evidence, and Speculation'; Caballero, 'Notes on capital-account management'.

ineffective and/or create more problems than it solves.<sup>4</sup> Finally, there are those who contend that under appropriate conditions, CAR measures can be an effective macro-prudential mechanism for reducing risk and widening the space for economic policy, including counter-cyclical and/or pro-export policies.<sup>5</sup> Since 2012, the IMF has somehow located itself between the second and third positions, accepting the usefulness of CAR – and the right of countries to resort to it – but only after having exhausted other policy measures.<sup>6</sup>

Empirical works have been unable to resolve the debate. Everything seems to underline that the effectiveness<sup>7</sup> of CAR is a highly case-specific phenomenon.<sup>8</sup> Therefore, a first question would be under which conditions is CAR more effective? And secondly, why?

However, knowledge around these aspects remains rather limited. Gallagher et al. underline that “there is to date a lack of research regarding how nations administratively have designed and fine-tuned such regulations to make them successful”.<sup>9</sup> The IMF concurs: “for reasons that are not yet fully understood, capital

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<sup>4</sup> Forbes et al., ‘Bubble thy neighbor: direct and spillover effects of capital controls’; De Gregorio, Edwards, and Valdés, ‘Controls on Capital Inflows’.

<sup>5</sup> Gallagher, Griffith-Jones, and Ocampo, ‘Capital Account Regulations for stability and development: a new approach’; Stiglitz et al., *Stability with Growth: Macroeconomics, Liberalization and Development*.

<sup>6</sup> International Monetary Fund, ‘The Liberalization and Management of Capital Flows: An Institutional View’.

<sup>7</sup> We take “effectiveness” here in the sense of “the extent to which CAR meets its goals”. We do not deal with cost-effectiveness or cost-benefit analysis. This is not about whether CAR is worthwhile overall, but whether it achieves what it sets out to do.

<sup>8</sup> Magud and Reinhart, ‘Capital controls: an evaluation’; Ariyoshi et al., ‘Capital controls: country experiences with their use and liberalization’; Baba and Kokenyne, ‘Effectiveness of Capital Controls in Selected Emerging Markets in the 2000s’.

<sup>9</sup> Gallagher, Griffith-Jones, and Ocampo, ‘Capital Account Regulations for stability and development: a new approach’, p. 8.

controls and related prudential measures achieve their stated objectives in some cases but not in others, and it is not possible to draw definitive conclusions”.<sup>10</sup>

Nevertheless, three general insights can be drawn from the diverse literature on this subject that includes cross-country analysis,<sup>11</sup> case studies,<sup>12</sup> policy recommendation reports,<sup>13</sup> and literature reviews.<sup>14</sup> First, the amount of legal space available to countries matters,<sup>15</sup> being conditioned by rules derived from the IMF, the OECD, the European Union, or from international bilateral and multilateral investment and trade treaties.<sup>16</sup> The wider the policy space, the more CAR tools become available.

Secondly, the effect of financial development on CAR effectiveness is ambiguous.<sup>17</sup> The more organized the financial markets are, the more options authorities have to properly monitor them, but also the more challenging the task becomes, as the complexity of transactions increases.<sup>18</sup> Additionally, some analyses have stressed that domestic banks, if strongly connected to capital flows, might represent a difficulty for regulators because of their potential implication in the circumvention of regulation.<sup>19</sup>

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<sup>10</sup> Habermeier, Kokenyne, and Baba, ‘The Effectiveness of Capital Controls and Prudential Policies in Managing Large Inflows’, p. 4.

<sup>11</sup> Erten and Ocampo, ‘Capital Account Regulations, Foreign Exchange Pressure, and Crisis Resilience’.

<sup>12</sup> Paula and Prates, ‘Capital Account and Foreign Exchange Derivatives Regulation: The Recent Experience in Brazil’.

<sup>13</sup> Ghosh et al., ‘Capital Inflows and Balance of Payments Pressures: Tailoring Policy Responses in Emerging Market Economies’.

<sup>14</sup> Epstein, Grabel, and Jomo, ‘Capital Management Techniques in Developing Countries’.

<sup>15</sup> Ostry et al., ‘Managing Capital Inflows: What tools to use?’; Pasini, ‘The International Regulatory Regime on Capital Flows’.

<sup>16</sup> Gallagher, *Ruling Capital*, ch. 2,6,8; Gallagher and Stanley, *Capital Account Regulations and the Trading System: A Compatibility Review*; Ocampo, ‘Capital Account Liberalization and Management’.

<sup>17</sup> Ghosh et al., ‘Capital Inflows and Balance of Payments Pressures: Tailoring Policy Responses in Emerging Market Economies’.

<sup>18</sup> Carvalho and Garcia, ‘Ineffective controls on capital inflows under sophisticated financial markets: Brazil in the nineties’; Prates and Fritz, ‘Beyond Capital Controls: Regulation of Foreign Currency Derivatives Markets in the Republic of Korea and Brazil after the Global Financial Crisis’.

<sup>19</sup> Spiegel, ‘How to Evade Capital Controls...and Why They Can Still Be Effective’.

Finally, policy options are crucial for CAR effectiveness. Wide-coverage measures that affect many different transactions, leaving few or no financial transactions out of focus, would presumably augment effectiveness as they would give investors fewer opportunities for circumvention.<sup>20</sup> Also, the capacity for adapting regulations over time is unanimously identified as the key factor in deterring attempts by agents to circumvent the measures applied, and thus in ensuring their effectiveness.

If policy options about the design and implementation of CAR are so important, how can those decisions be explained? A political economy approach can be very useful in answering this question, as policy decisions are conditioned by the bargaining power of the different groups involved in or affected by regulation.<sup>21</sup> But to our knowledge, there are no prior works explicitly linking the effectiveness of CAR with conflicts among the various interest groups affected by such policy.

This is precisely the field where this article seeks to make its contribution. We base our analysis on three different experiences with CAR: Brazil (2008-2013), Peru (2008-2013), and Iceland (2008-2017). The paper analyses the proximate causes of CAR effectiveness in these cases. Our exploration confirms many of the insights already mentioned, although with complementary remarks. We seek to integrate these factors into an analytic framework.

Additionally, we explore the deep causes of CAR effectiveness, locating the most important of them in conflicts that emerge among different interest groups. Here we

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<sup>20</sup> "Circumvention" means that agents substitute the old transaction affected by regulation for a new one that is legal, unaffected by regulation, but still worrying to authorities for whatever reason. A circumvented regulation is deemed ineffective: it affects the transactions originally targeted but fails to meet its ultimate goal. Very different is "evasion", which is an illegal behaviour aimed at avoiding costs imposed by regulation.

<sup>21</sup> Gallagher, *Ruling Capital*, ch. 5; Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

take advantage of works by Wade and Sigurgeirsdottir on Iceland<sup>22</sup> and by Gallagher and Prates on Brazil.<sup>23</sup>

The cases under analysis have been selected as three distinct examples of intense regulation. In terms of its intensity and duration (2008-2017), the Icelandic regulation had no precedent in developed economies. In 2011, the IMF<sup>24</sup> considered the capital account regulation applied in Brazil and Peru to be the strictest ever among emerging countries that had already attained a high degree of financial openness. And yet the three case studies are quite varied. Both Brazil and Peru are emerging economies that have been targeted by international investors; both regulated capital inflows between 2008 and 2013 to prevent adverse financial and macroeconomic effects, employing different mixes of price and administrative measures. Iceland, on the other hand, is a rich economy that regulated capital outflows and inflows as a reaction to the financial collapse of 2008, using mainly administrative measures.

As we explain later, the effectiveness of CAR proved total in Iceland, partial in Brazil, and negligible in Peru. In accordance with our hypothesis, these results are congruent with the fact that support for CAR measures was almost unanimous in Iceland, partial in Brazil, and very limited in Peru.<sup>25</sup>

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<sup>22</sup> Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

<sup>23</sup> Gallagher, *Ruling Capital*, ch. 5; Gallagher and Prates, 'The Political Economy of New Developmentalism: The Challenge of Exchange Rate Management in Brazil'.

<sup>24</sup> 'Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework', p. 41.

<sup>25</sup> In methodological terms, the goal is to analyse the link between two variables: the domestic conflict around CAR and the effectiveness of this policy. Both variables are relevant and take diverse "values" in the three experiences selected, so this set of case studies seems adequate for the research purpose (on case studies methodology see, for example: George et al., *Case Studies and Theory Development in the Social Sciences*).

This research has been fed by field interviews in Brazil and Peru with monetary authorities, banking regulators, and workers from Government and academia, held between February and April of 2014. The interviews allow better understanding of the decisions adopted by authorities. No interviews took place regarding Iceland, as the case was simpler than in Brazil and Peru and has already been extensively analysed.<sup>26</sup>

Through this comparative analysis, we show that domestic conflict among agents with different interests and levels of bargaining power is the deepest determinant of CAR effectiveness, as this factor reflects the resolve with which authorities implemented CAR in these cases. More precisely, support for CAR conditions both: i) institutional commitment and coordination efforts for the regulation of capital flows; and ii) the quality of the information-collection systems implemented for monitoring financial markets. These two elements influence the adaptability of the regulation, that is, its capacity to evolve over time, maintaining its effectiveness despite attempts by agents at circumvention.

The other determinant of CAR effectiveness is in its design, particularly in terms of strength and coverage. Beyond the room for manoeuvre that the relevant legal framework permits, the severity of regulatory measures is conditioned by the cost-benefit analysis performed by the regulators during design, which itself depends on the urgency of the need to regulate, as well as the effect of regulation on other flows (such as direct investment) that are considered desirable for the country.

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<sup>26</sup> Wade, 'Iceland as Icarus'; Wade and Sigurgeirsdottir, 'Lessons from Iceland'; Wade and Sigurgeirsdottir, 'Iceland's Rise, Fall, Stabilisation and Beyond'; Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

Beyond this result, the article comes to another interesting conclusion: domestic banks are important to the effectiveness of CAR. If regulation can be seen as a strategic game and the regulator is one player, the second player is not “the investor” (whether domestic or foreign) so much as it is the domestic bank. Though not always noticed by the literature, this consideration serves as the clearest connection to link the three CAR experiences here analysed.

Following this introduction, the document is structured as follows. The second section profiles the three experiences with CAR to be considered. For each case, we briefly describe the context in which this policy was implemented, the measures applied, and the diagnosis of effectiveness as gauged in the literature. The third and fourth sections discuss possible explanations for understanding the relative effectiveness of each experience, ranging from immediate causes to the deepest explanatory factors. The fifth section concludes with some final remarks.

## **2. Capital account regulation in Brazil, Peru, and Iceland: a comparative analysis of effectiveness**

### *2.1. Capital inflows and related problems*

Between 2008 and 2013, Brazil and Peru received intense capital inflows, with an average value per year of 6% and 8.5% of GDP, respectively. This was common among emerging countries,<sup>27</sup> with two particularly intense episodes (in 2008 and from 2009 to 2011) separated by the Lehman Brothers collapse. For its part, Iceland’s gross capital inflows per year during 2003-2008 reached the astonishing average level of 100% of GDP.

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<sup>27</sup> Lund et al., ‘Global Capital Markets 2013’.

In general terms, there are three main routes through which foreign investment enters a country: i) by purchasing domestic currency to invest in domestic assets like equity, debt (public or private), or housing); ii) by purchasing domestic currency to operate in the domestic derivatives market; and iii) by providing funds in foreign currency to domestic banks, thus “entering” without crossing the foreign exchange (FX) market.

In Brazil, even though all three investment routes were very active, the domestic market for exchange rate futures – settled in domestic currency – was particularly remarkable. Foreign currencies could not generally be used inside the country, so the third investment route implied two alternatives for Brazilian banks: either to “recycle” those funds through the FX market to buy domestic currency, or to keep this funding in foreign currency and invest it abroad. In both cases, a relevant role was played by the Brazilian bank’s foreign branches, which intermediate between investors and the bank, but in any case this funding implied a new liability of domestic banks vis-à-vis the rest of the world.

In 2009 capital inflows worried Brazilian Finance Minister Guido Mantega due to their contribution to exchange rate appreciation;<sup>28</sup> as a result, effects were damaging for the Brazilian industrial export sector.<sup>29</sup> The Brazilian Central Bank also identified capital inflows as a problem. Inflows overheated the economy, contributing to inflationary pressures, and they were also associated with the accumulation of macroprudential risks, like excessive credit risk and FX exposure for banks, or over-indebtedness in Brazilian households.<sup>30</sup>

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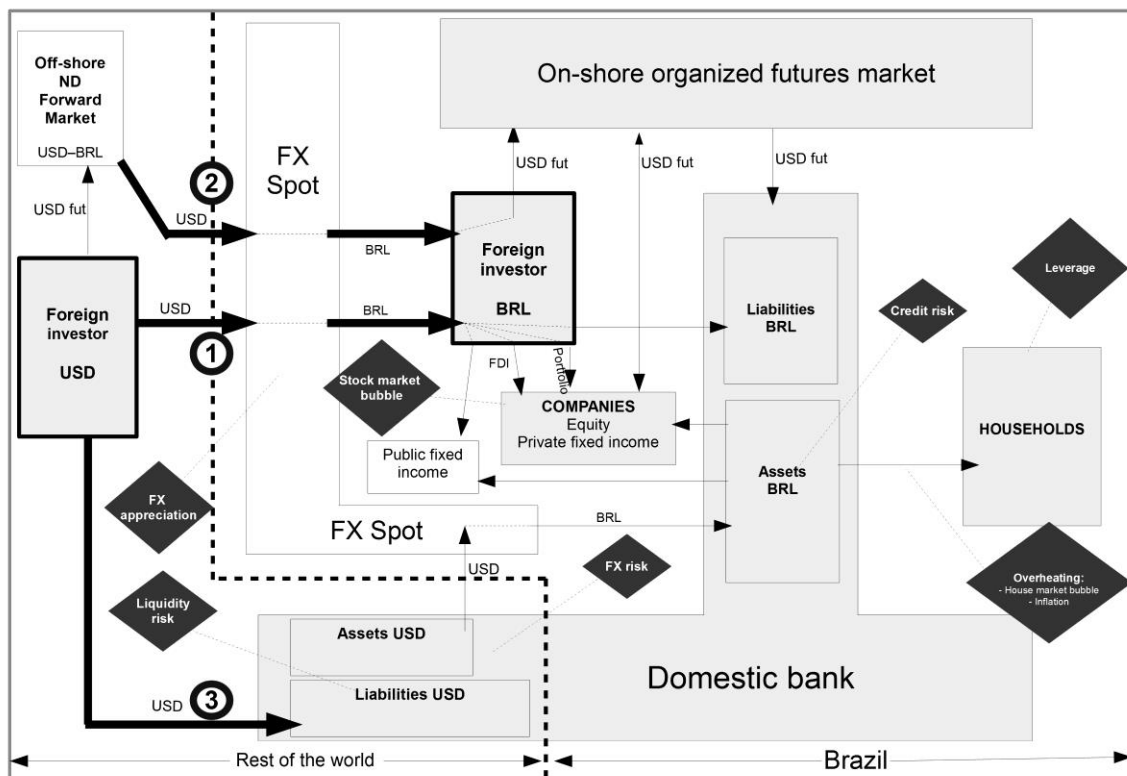
<sup>28</sup> Mantega, ‘*Dólar cai e Mantega não descarta medidas adicionais sobre câmbio*’.

<sup>29</sup> Barbosa, ‘Why is the Exchange Rate Often Appreciated in Brazil?’

<sup>30</sup> Pereira da Silva and Harris, ‘Sailing through the Global Financial Storm: Brazil’s Recent Experience with Monetary and Macroprudential Policies to Lean against the Financial Cycle and Deal with Systemic Risks’.

An overall picture of capital flow dynamics and the associated risks in Brazil is represented in Figure 1. The thick dotted line splits the graphic into two areas. The Brazilian economy is on the right side, where the domestic currency prevails; the rest of the world is on the left side, that of international currencies, mainly US dollars.

**Figure 1: Brazil 2008-2013. Capital inflow dynamics and related risks**



Foreign investors wanting to invest inside Brazil (investment routes 1 and 2) must first go through the foreign exchange spot market (“FX spot”) to sell their USD and buy BRL. The third investment route implies that FX funding arrives to the Brazilian bank thanks to the intermediation of a foreign branch.

Figure 1 also shows how all domestic Brazilian agents (banks, companies, and households) related with one another, and with the organized futures market. The links

among all these agents are strong enough as to provide understand of how incoming investment (by routes 1, 2, and 3) ends up affecting the whole economy.

During the period analyzed, many foreign investors became involved in the domestic futures market, making bets on the future appreciation of the Brazilian currency (route 2). Their counterparties were mostly domestic banks, which combined this activity with coverage consisting of the attraction of FX funding through their foreign branches and subsidiaries (route 3). The overall goal was to close an arbitrage circuit, a combination of different asset/liability operations offering small but certain free-risk profit.<sup>31</sup>

Compared with those in Brazil, the routes for incoming investment in Peru exhibit two main differences (Figure 2). First, Peru is a partially dollarized economy, and external funding may be in USD. Thus, the inside/outside axes and the dollar/domestic currency axes are not equivalent.

Second, domestic banks played a protagonist role in capital inflows. The portfolio equity investment option was almost negligible in Peru, as local companies traditionally resort to domestic banks (and not to equity markets) to raise funds. Thus, apart from FDI, mainly addressed to the mining sector, foreign investors could: i) buy bank deposits or the Central Bank's short-term debt in domestic currency (route 1); ii) go with US dollars to the non-organized OTC exchange rate derivatives market, created by domestic banks (route 2); or iii) provide US funding to the domestic banks, giving credit or buying deposits (route 3).

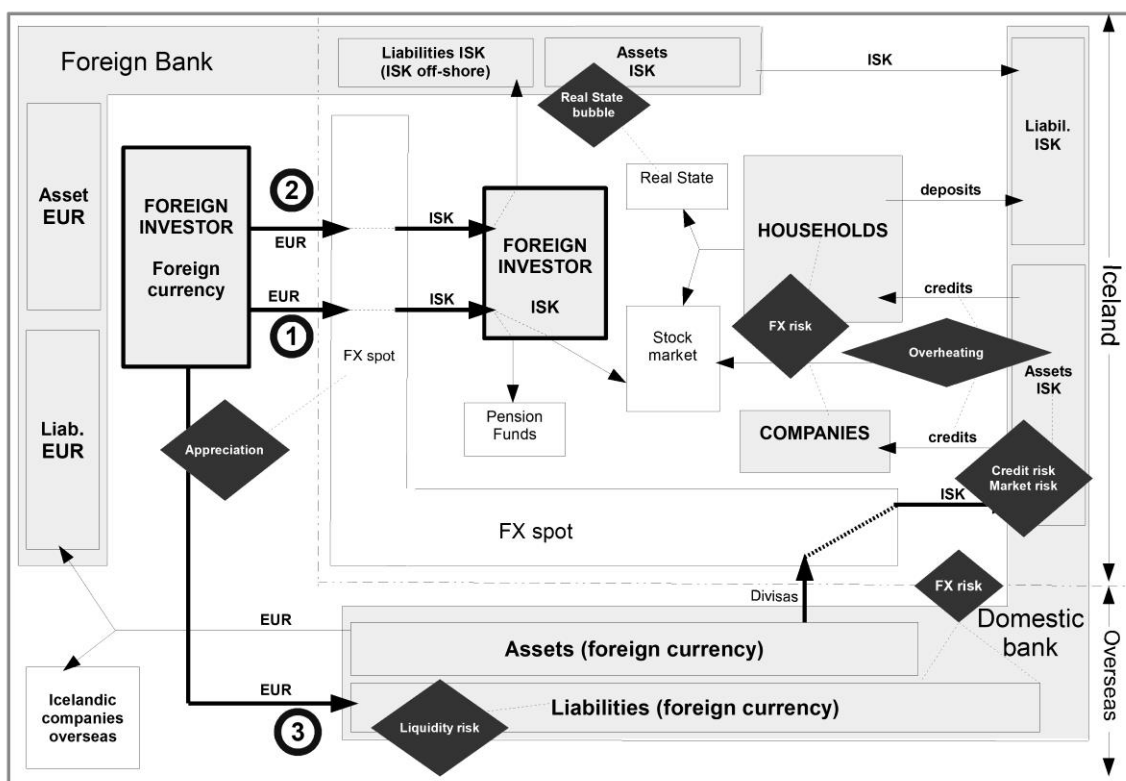
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<sup>31</sup> International Monetary Fund, 'Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework', pp. 63–64.



terms of capital inflows than that of Peru (Figure 3). Banks received almost all incoming funding through Iceland's domestic stock market, including equity and debt investment. They also attracted huge amounts of FX funding thanks to the intermediation role played by their foreign branches, by the same mechanism explained in the case of Brazil. Part of this funding was recycled into the Icelandic economy, passing first through the FX market to buy domestic currency, but most of it remained invested abroad.

**Figure 3: Iceland 2003-2008. Capital inflow dynamics and related risks**



The Icelandic derivatives market was negligible, so in this case we mainly consider the “second route” that of acquiring domestic currency in order to buy ISK-denominated assets issued by non-residents (so-called off-shore ISK, or Glacier

Bonds). These assets appeared from August 2005, issued mainly by banks from Germany and the Netherlands.<sup>33</sup>

During 2003-2008, Iceland provided a textbook example of the “perfect storm” that might affect an economy receiving huge capital inflows<sup>34</sup> – overheating of domestic demand and accelerated growth of the domestic banking system, with the 2008 balance sheets of just three banks totaling as much as eight times the country’s GDP, and with 85% of this activity (or almost seven times Iceland’s GDP) denominated in USD.

In addition to the risks assumed by banks, households and companies became over-indebted, and a significant portion of this debt was FX-denominated, as encouraged by continuous exchange rate appreciation. An enormous stock market bubble completed the picture represented in Figure 3.

No one in Iceland appeared to be seriously concerned about these enormous risks, which were still growing dramatically. When the collapse of Lehman Brothers provoked the liquidity shortage in international markets, Icelandic banks were unable to refinance their huge FX-denominated short-term debts, and the entire banking system failed. Only then did Iceland show concern for the potentially massive capital flows that could, when exiting the country, produce a collapse of the price of the ISK and unleash a never-ending chain of defaults among households, companies, and banks with debts linked to the exchange rate.

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<sup>33</sup> Viterbo, ‘Iceland’s Capital Controls and the Constraints Imposed by the EEA Agreement’; Ólafsson, ‘Króna-Denominated Eurobond Issues’.

<sup>34</sup> Benediktsdottir, Danielsson, and Zoega, ‘Lessons from a Collapse of a Financial System’; McCombie and Spreafico, ‘Capital Controls and the Icelandic Banking Collapse: An Assessment’; Sigurgeirsdottir and Wade, ‘From Control by Capital to Control of Capital: Iceland’s Boom and Bust, and the IMF’s Unorthodox Rescue Package’.

## 2.2. Regulation and its effectiveness

The responses presented by regulators in these three countries were varied. Brazilian regulation aimed at mitigating total gross inflows and changing their composition. Short-term portfolio inflows toward fixed income securities became a main target for regulators, given their relevant contribution to the accumulation of macroprudential risks. The main tool used in Brazil was the Finance Ministry's tax on financial transactions (IOF: *Imposto sobre Operações Financeiras*), affecting mostly foreign investors when acquiring the domestic currency to invest in Brazil, as well as domestic banks when introducing into the country those funds raised abroad in USD.<sup>35</sup>

Some regulatory measures were also applied by Brazil's Central Bank, with two main effects: i) restrict the advance payments that domestic exporters could receive from foreign creditors – a way to circumvent IOF taxes; and ii) slow the ordinary activity of domestic banks in the exchange rate market, due to the link with speculation on derivatives by foreign investors.<sup>36</sup> Finally, the National Monetary Council (the public institution with ultimate responsibility for regulation of Brazilian financial markets) took steps to close off paths for circumventing the regulatory measures (see Annex 1, Box 1).

The Brazilian regulation was not homogeneously implemented throughout the period analyzed. A brief and timid regulatory attempt was made as early as 2008, when the government applied the IOF taxes for some months. One year later, when investors' interest in emerging economies had begun to recover from the Lehman Brothers

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<sup>35</sup> Pereira da Silva and Harris, 'Sailing through the Global Financial Storm: Brazil's Recent Experience with Monetary and Macroprudential Policies to Lean against the Financial Cycle and Deal with Systemic Risks'; Soares Sales and Blanco Barroso, 'Coping with a complex global environment: a Brazilian perspective on emerging market issues'.

<sup>36</sup> International Monetary Fund, 'Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework', pp. 63–64.

collapse, a second regulatory round was launched that was far more resolute than the previous, now with the participation of the Government as well as the Central Bank and National Monetary Council.

Another main target for regulators in this second regulatory period was to curb the aforementioned financial circuit involving foreign investors, the futures market, and domestic banks, seen to be at the root of appreciating exchange rate pressures. Brazilian regulators eventually succeeded in their efforts, resorting to a wide, coordinated, and (to a certain extent) innovative set of regulatory measures<sup>37</sup> that reached maximum intensity in July 2011, when regulators managed to impose the IOF tax to the notional amount of FX-futures contracts.

After this, the regulatory intensity began to decrease through 2012, and all measures had been removed almost completely by the end of 2013. By that time, the pressure from international capital inflows had been reduced.

The literature based on econometric analysis tends to agree on the fact that Brazil succeeded in changing the composition of gross capital inflows toward the longer term, but not so much in curbing the aggregate volume on inflows – or the appreciation to which it contributed.<sup>38</sup> Relevant attempts to (legally) circumvent and (illegally) evade the regulation in Brazil took place in 2010 and 2011, when it became more intense. For example, in order to avoid the 6% IOF tax applied on short-term debt investment, foreign investors opted to enter the country through long-term debt or equity channels

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<sup>37</sup> Prates and Fritz, 'Beyond Capital Controls: The Regulation of Foreign Currency Derivatives Markets in South Korea and Brazil after the Global Financial Crisis'.

<sup>38</sup> Aguirre, Alonso, and Jerez, 'Effectiveness of Capital Account Regulation: Lessons from Brazil and Peru'; Baumann and Gallagher, 'Navigating Capital Flows in Brazil and Chile'; Chamon and Garcia, 'Capital Controls in Brazil: Effective?'; Roure, Furniagiev, and Reitz, 'The Microstructure of Exchange Rate Management: FX Intervention and Capital Controls in Brazil'; Forbes et al., 'Bubble Thy Neighbour: Portfolio Effects and Externalities from Capital Controls'.

(with lower IOF), then changed the allocation of investment toward short-term debt. Evasion was based on funding “fake” exporters, which enjoyed better conditions (almost no taxes) in order to attract foreign investment. These and other similar dynamics faced a rapid response, and the regulatory effectiveness was not compromised.<sup>39</sup>

In Peru, the Central Bank used its reserves requirement to discourage domestic banks from assuming new short-term and/or foreign currency liabilities.<sup>40</sup> The Central Bank also stopped (with ban-equivalent administrative measures) the inflows aimed at its own short-term domestic currency assets issued for purposes of monetary policy. The government introduced a new tax on the capital income of foreign investors and, finally, the Peruvian bank supervisor applied prudential measures affecting domestic agents in the credit and foreign exchange markets. Peru was affected by the same pattern of international capital flows as Brazil, and thus its regulatory cycle also reached maximum intensity around 2011 and ended in 2013 (see Annex 1, Box 2).

The literature has paid scant attention to the Peruvian approach. Some descriptive works suggest that the regulation was effective overall,<sup>41</sup> but the econometric analysis of Aguirre et al. suggests that the reserves requirement was unable to curb the short-term foreign funding received by commercial banks.<sup>42</sup> Additionally, some worrying signals in 2012 seemed to indicate that the strongest measures of regulation (ban-

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<sup>39</sup> Pereira da Silva and Harris, ‘Sailing through the Global Financial Storm: Brazil’s Recent Experience with Monetary and Macroprudential Policies to Lean against the Financial Cycle and Deal with Systemic Risks’.

<sup>40</sup> Choy and Chang, ‘*Medidas macroprudenciales aplicadas en el Perú*’, p. 13.

<sup>41</sup> Choy and Chang, ‘*Medidas macroprudenciales aplicadas en el Perú*’; International Monetary Fund, ‘Peru: Selected Issues Paper’, p. 27; International Monetary Fund, ‘Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework.’, p. 77; Rossini, Quispe, and Serrano, ‘Foreign Exchange Intervention in Peru’; Terrier et al., ‘Policy instruments to lean against the wind in Latin America’, pp. 62-67, 102.

<sup>42</sup> ‘Effectiveness of Capital Account Regulation: Lessons from Brazil and Peru’.

equivalent measures affecting investment in short-term Central Bank debt) might have been eventually circumvented. Foreign investors, through the OTC derivatives markets, managed to provide domestic agents (households and companies) with cheap USD funding, which was precisely what Peru's Central Bank wanted to avoid.<sup>43</sup>

According to some interviewees from the Central Bank, this circumvention circuit did not create problems because the pressure from foreign investors had declined by the beginning of 2013, when the Federal Reserve sent initial signals that the quantitative easing programs in the United States (one of the main factors pushing investors towards emerging economies) might soon be removed.

Summarizing, the reserves requirement was not effective and the strictest bank-equivalent measures were circumvented. Thus, the final determination on CAR effectiveness in Peru cannot be very positive.

If Brazil and Peru sought to avoid “too much of a good thing” by preventive measures, Iceland regulated in a reactive way, attempting to mitigate the disaster after the banking collapse. Iceland's CAR tried to avoid a free fall in the price of the Icelandic currency. The regulation consisted in forbidding, with the support of the IMF, the purchase of foreign currencies except for “current-account” purposes (export-import activities or dividend payments).<sup>44</sup> This measure affected capital outflows, because residents were not allowed to invest their money out, and also capital inflows, as foreign investors present in Iceland were not allowed to withdraw their investment.

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<sup>43</sup> Choy and Cerna, '*Interrelación entre los mercados de derivados y el mercado de bonos soberanos del Perú y su impacto en las tasas de interés*'.

<sup>44</sup> Viterbo, '*Iceland's Capital Controls and the Constraints Imposed by the EEA Agreement*'.

The available indices of CAR intensity suggest that Iceland's regulation between 2008 and 2017 was entirely remarkable in historic terms.<sup>45</sup> It proved completely effective at stabilizing the exchange rate and decreasing the interest rate of public debt between 2008 and 2012.<sup>46</sup> Overall, CAR seems a key element in understanding how Iceland succeeded when facing its particular trilemma: to rebuild its banking sector at the same time that its public budget entered a sustainable route for the medium-term, while the main pillars of its welfare state were maintained<sup>47</sup> (see Annex 1, Box 3).

Circumvention during this period was impossible, as no exceptions were allowed to the ban on FX purchases for financial purposes. However, evasion remained possible, through the disguising of financial FX purchases as if they were related to current account transactions.<sup>48</sup> For example, the purchase of cheap airplane tickets allowed one to gain access to certain amounts of foreign currencies for travelling expenses. The foreign currency could be then sold at the "off-shore" exchange rate – that affecting investors selling off ISK-assets to non-Icelandic banks – thus offering an opportunity to realize profits with no risks. Exporters were an issue as well. The payments they received abroad could be maintained in FX currency, but had to be stored in Icelandic banks. Exporters tried to evade these restrictions hiding their FX income.<sup>49</sup>

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<sup>45</sup> Fernández et al., 'Capital Control Measures: A New Dataset'.

<sup>46</sup> Aguirre and Alonso, '*Islandia: Regulación Financiera y Abaratamiento de La Deuda Pública Tras El Colapso Bancario de 2008*'.

<sup>47</sup> Aguirre, 'Capital Account Regulation in Iceland. Does Anybody Know What Is Going to Happen?'; International Monetary Fund, 'Iceland: 2014 Article IV Consultation and Fifth Post-Program Monitoring Discussions-Staff Report; Press Release; and Statement by the Executive Director for Iceland'; Ólafsdóttir and Ólafsson, 'Economics, Politics and Welfare State in Iceland'.

<sup>48</sup> Gylfason, 'Houston, We Have a Problem: Iceland's Capital Controls'; Viterbo, 'Iceland's Capital Controls and the Constraints Imposed by the EEA Agreement'; International Monetary Fund, 'Liberalizing Capital Flows and Managing Outflows. Background Paper', pp. 29–33; International Monetary Fund, 'Iceland. 2012 Article IV Consultation and First Postprogram Monitoring Discussion', pp. 17–18.

<sup>49</sup> Sigurgeirsdóttir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

As a response to such evasion attempts, regulators modified the rules several times. In addition, the original ban on financial-related FX purchases was extended in 2009 to the repatriation of interest payments by holders of Glacier Bonds, which is actually a current-account transaction, because massive repatriation of interests could compromise exchange rate stability.

The Icelandic regulation was almost completely removed during 2017,<sup>50</sup> after a delicate process by which authorities tried to diminish step by step the volume of investors (both foreign and national) eager to take their assets out of Iceland. The vast and threatening outflow that might have taken place when CAR was lifted, provoking a collapse in the exchange rate, did not in fact occur.

As Table 1 summarizes, different outcomes regarding effectiveness were evidenced in the experiences here analyzed, ranging from complete effectiveness in Iceland to almost no effectiveness in Peru. The Brazilian case falls somewhere in the middle, with a wide and varied regulatory framework that proved partially and homogeneously effective. Circumvention was successfully stopped in Brazil, but not in Peru, and Iceland precluded evasion.

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<sup>50</sup> Minister of Finance and Economic Affairs, 'Progress of the Plan for Removal of Capital Controls'.

**Table 1. Capital account regulation in Brazil, Peru, and Iceland: main features**

		BRAZIL	PERU	ICELAND
Inflows (yearly average, % GDP)		6% (2008-2013)	8.5% (2008-2013)	100% (2003-2008)
<b>CAPITAL ACCOUNT REGULATION</b>	Main problems to address	Exchange rate appreciation Overheating	Overheating Risks	Exchange rate depreciation
	Practical Goals	Inflows: • Volume ↓ • Composition (short-term ↓)	Inflow (composition): • USD ↓ • Short-term ↓	Inflow/outflows (volume): to stop financial account FX purchases
	Measures	<b>PREVENTIVE</b> (2008-2013) Taxes Reserves requirement Administrative measures	<b>PREVENTIVE</b> (2008-2013) Reserves requirement Administrative measures	<b>REACTIVE</b> (2008-2017) Administrative measures
	Effectiveness	<b>PARTIALLY EFFECTIVE</b>  Inflows composition → <b>CHANGED</b>  Inflows volume → <b>PROBABLY NOT CHANGED</b>	<b>Administrative measures = EFFECTIVE BUT ONLY AT THE FIRST STAGE</b>  <b>Price measures = PROBABLY NOT EFFECTIVE</b>	<b>COMPLETELY EFFECTIVE</b>
	Evasion/ Circumvention	<b>Circumvention AVOIDED</b>	<b>Circumvention NOT AVOIDED</b>	<b>Circumvention IMPOSSIBLE</b> <b>Evasion AVOIDED</b>

\* The information comes from different sources cited along the text

### 3. Proximate causes for effectiveness

#### 3.1. Strength

The analysis of the experiences of Brazil, Peru and Iceland suggest that the strength of CAR is relevant to its effectiveness and depends on two basic elements: intensity

(the vigour of incentives/punishments) and coverage (the breadth of range of the transactions affected). A low-coverage measure (a tax affecting only short-term transactions) is easier for agents to circumvent than a high-coverage measure (the same tax affecting a transaction regardless of term). For example, the Brazilian 6% IOF tax on short-term debt investment would have been easily circumvented through alternatives for investors. This low-coverage measure was effective only because it was complemented by additional measures, like the 6% IOF tax on the acquisition of investment fund equities, or the obligation of again paying the IOF for short-term debt investment in case of funds finally reallocated into those assets.

The same applies to intensity: higher taxes or restrictions are expected to be more influential in discouraging agents. Maximum-intensity measures (a complete administrative ban, or a price measure so high that it becomes equivalent to a ban) will be fully effective if properly enforced (such as in Iceland). On the other hand, measures of intermediate intensity may or may not be influential, depending on the alternatives available for investors.

For example, when Brazilian authorities adjusted the IOF tax to discourage short-term debt inflows, they could not be certain of its quantitative effect, or of the minimum tax that would prove influential. But they did know that avoiding potential risks arising from capital flows (excessive FX appreciation, economic overheating and macroprudential risks) is just one of many goals for authorities, and that strong regulation can harm other priorities such as receiving foreign investments.

Therefore, authorities have to balance the potential benefits of CAR (risks or problems to be tackled) with its costs (how much foreign investment will be lost).<sup>51</sup> Benefits and costs are uncertain, but both are expected to rise with stronger regulations. The decision taken in terms of intensity in Iceland, Brazil, and Peru can be understood by observing: a) how threatening/dangerous capital flows were, as perceived by the authorities; and b) how dependent the economy was on those flows that would be lost if regulation was effective.

In 2008, Iceland chose to apply the strongest measure, and the costs were huge for the country. Nevertheless, the Icelandic approach was understandable considering that: i) in October 2008, the country faced a systemic financial and economic collapse, making stabilisation of the exchange rate an absolutely critical goal, achievable only with very strict regulation; and ii) the scarcity of FX funding was overcome thanks to credits totalling 5 billion USD (28% of Iceland's GDP), provided by the IMF and other countries within the Stand-by Agreement signed in 2008.<sup>52</sup>

The situation in Brazil and Peru was completely different. As they attempted to prevent financial and economic turmoil, the regulation goals were not so imperative, and the costs in terms of discouraged incoming investment were indeed relevant, as both countries wanted to maintain good standing among international investors. Under radical uncertainty, Brazilian and Peruvian regulators followed the "do no harm" principle: a soft measure that could be strengthened in the future. Therefore, Brazil and Peru chose complex regulation schemes, mostly characterized by moderate

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<sup>51</sup> We consider only the cost of discouraged investment because it is the only cost inherent to the policy. We do not consider potential costs from implementation or distortions introduced, among others, present or not. Nevertheless, this simple description is adequate to discuss political economy insights around effectiveness.

<sup>52</sup> Central Bank of Iceland, 'Economy of Iceland 2010'.

intensity and partial coverage. The potential problem with such schemes was twofold: insufficient intensity to be effective, and openness to circumvention.

Despite these similarities, the two experiences were quite different. Brazil received a very diversified investment portfolio and, overall, the regulatory package was acceptably effective in changing the composition of capital inflows. Brazil did not go a step further in order to decrease the aggregate inflow, probably because the cost of doing so would have been excessive in terms of reduced aggregated incoming investment.

By contrast, Peru was strongly dependent on the inflows received by domestic banks. This helps explain the extreme prudence by the Central Bank in use of the banking reserve requirement, to the extent that this measure would have been ineffective.<sup>53</sup>

The legal space available for regulating capital flows was not a relevant factor in our case studies. Brazil moved comfortably, thanks to a wide policy space with no restrictions coming from trade or investment treaties.<sup>54</sup> Iceland apparently exceeded its legal space when the regulation affected the interest payment repatriation of Glacier Bond maintained by foreign holders, but the IMF backed this measure, probably due to the exceptional conditions in the country.<sup>55</sup> Finally, the available legal space in Peru did not seem to be a key issue, either. The free-trade agreement with U.S. was not an impediment in terms of the adopted regulation.

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<sup>53</sup> Aguirre, Alonso, and Jerez, 'Effectiveness of Capital Account Regulation: Lessons from Brazil and Peru'.

<sup>54</sup> Gomes, 'Capital Account Regulations and the Trading System. Brazilian Experience at GATS and IIAs with Capital Flows Regulation'; Paula and Prates, 'Capital Account Regulation, Trade and Investment Treaties, and Policy Space in Brazil'.

<sup>55</sup> Viterbo, 'Iceland's Capital Controls and the Constraints Imposed by the EEA Agreement'.

### *3.2. Ability to adapt regulation*

Intensity does not completely explain effectiveness: both Brazil and Peru chose subtle measures, but circumvention became a real problem only in Peru. An additional explanatory factor seems to be related to the ability of regulators to properly adapt the regulation over time, forestalling attempts by agents to circumvent it. Brazilian authorities applied rapid and coherent regulatory changes in many different areas to avoid this problem. Particularly remarkable was the activity focused on discouraging massive betting on derivatives markets between 2010 and 2011, which included: a) a legal innovation for taxing future contracts through the notional amounts that a future contract refers to (and not the amount eventually exchanged by the counterparts, which is the traditional “taxable event”); and b) regulation of the intense banking activity acquiring USD funds from abroad, closely related to the FX futures markets.

To the contrary, Peru did not have an adequate response when regulatory measures applied in 2010 were circumvented. The authorities adopted taxes on foreign investors’ profits coming from short-term exchange rate derivatives (less than 60 days) and the limitation on domestic bank activities in FX markets using reserves requirements. But these measures were not sufficiently resolute to make a difference.

Adaptation was not as critical in Iceland, because the applied regulation was so strict that it could not be circumvented. Still, the authorities responded to threats of evasion by increasing penalties and adapting the original regulation. There were also some changes in the institutional design for applying CAR. The supervisory function of compliance with CAR was initially carried out by the Banking Supervisor (FME), but it was moved in 2009 to a special new CAR unit at the Central Bank, following the

mandate by Parliament.<sup>56</sup> CAR's coverage was also extended when the repatriation of interest payments to foreign owners of Glacier Bonds threatened the exchange rate stability.

Thus, it seems clear that adaptation does matter. But what does it depend on? Two institutional elements appear to be critical. The first is implication and coordination in the regulatory responses by relevant public institutions. In Brazil, since 2009 both the Government and the Central Bank – which is also the Banking Supervisor – shared the view that capital flows should be carefully monitored and regulated. All authorities took part in the regulatory response: Government (via taxes), the Central Bank (via reserve requirements), and the National Monetary Council (via administrative measures). They worked together to weave a coherent, wide-reaching, and varied regulatory net.

In the case of Iceland there was also strong coordination between the Parliament, the Government, the Central Bank, and the Banking Supervisor. The Central Bank was the key player in the design and enforcement of CAR, but this was only true thanks to the powerful responsibilities awarded by Parliament, including the assumption of all CAR-related duties previously managed by the Banking Supervisor. The mandate and authorization to restrict FX transactions, which had to be renewed periodically, also emerged from the legislature.

In Peru, on the other hand, only the Central Bank was committed to regulating capital flows, whereas the involvement of Government and the bank supervisor (through taxes on profits from derivatives, and through prudential banking regulation,

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<sup>56</sup> Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

respectively) was insufficient. Nor were these institutions formally coordinated. Hence, the regulatory net was based almost entirely on Central Bank measures, which reduced the capacity of authorities to properly respond when agents attempted to circumvent regulation.

The second determinant of policy adaptation is the capacity for monitoring domestic financial markets. Brazil had an exhaustive collection system: monthly balance-of-payments data, compulsory records of all FX transactions -both spot and forward- and a wide range of IOF-taxed transactions, which affected agents were compelled to report to the tax administration.

Iceland also presented favourable conditions for good information recording, with a very rich economy, healthy institutions, and easy access to technically prepared experts. Moreover, the country's small size helped: there were few relevant financial agents to follow, making this a manageable task for the 16 staff members within the CAR unit of the Central Bank.<sup>57</sup>

Peru was not so well equipped, with only quarterly balance-of-payments data and no compulsory record of FX spot transactions. Regarding derivatives, there were no organized markets, and information on transactions was in the hands of domestic banks. The Central Bank had no direct access to these data, but only through the Banking Supervisor, which was apparently not much concerned with CAR measures. Nor was the Government very involved in the process. There was a tax applied to all financial transactions – with very low rates – created by the Government in order to track all financial movements and to fight against the informal 'black' economy. The information registered thanks to this tax could have been used for monitoring capital

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<sup>57</sup> Sigurgeirsdottir and Wade.

flows, but it was not. Thus, the information in Peru was poorer than in Brazil, and it was spread out among various authorities unequally committed and not explicitly coordinated to address capital flows issues.

### *3.3. Behind strength and adaptation: political will*

The institutional elements that condition the adaptability of regulation are a consequence of the political commitment around CAR by authorities. That commitment was very high in the case of Iceland, acceptably high from 2010 in the case of Brazil, and clearly lower in the case of Peru.

Some aspects can be very symptomatic of the strength or weakness of political will. The first is the intensity of the measures implemented: political will is stronger when regulation includes taxes or measures that explicitly distinguish between residents and non-residents, since such measures imply greater political costs for government.<sup>58</sup> The policy mix in Peru does not suggest a strong political will behind CAR, with taxes practically excluded and with regulatory measures mainly targeting the short-term funding of banks. Markedly different was the case in Brazil, with the intensive use of taxes, often explicitly targeting foreign investors. Icelandic regulation was by far the most interventionist, suggesting very strong political will.

A second symptom of the presence or absence of political will is the fact that regulation can influence derivative markets. Only a powerful and flexible regulation can do so. Brazil managed to affect transactions in derivatives, whereas Peru did not.

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<sup>58</sup> Regardless of how indicative taxes may be of political will, they also contribute to effectiveness. Firstly, if taxes are present, the tax administration (one of the more experienced and solvent bureaucratic structures in any country) becomes involved in capital account regulation; secondly, a tax means that a mechanism is also being launched to exhaustively record every targeted transaction, providing a valuable source of information to regulators.

The third aspect is the language used to explain the regulation. Strong political will might lead regulators to explicitly recognize that capital flows are the regulatory target. After 2008, Iceland constantly employed the term “capital control”, ostensibly to send a clear message of “active government involvement” in managing the financial crisis, and placing as many of the costs as possible on the shoulders of financial agents – generally perceived as connected with the causes of the crisis.

In Brazil the language was more nuanced, criticizing “capital speculation or gambling”<sup>59</sup> but speaking also of “macroprudential tools” instead of “capital controls” – a term that could frighten some agents. Peru also avoided the term “capital control”, going so far as to deny any connection between the regulation and foreign investors.

#### **4. Deep roots: the political economy of capital account regulation**

##### *4.1. A political economy approach*

Several theoretical contributions have modelled the fact that capital account regulation can alter the arithmetic of social interests. In imperfect-competition models, free capital movements are distortive, because the owners of capital can disproportionately influence fiscal policy; and CAR represents the right tool to reach a second-best scenario, equalizing the power of social groups.<sup>60</sup> On the opposite side, neoclassical political economy suggests that free capital movements are optimal because they can punish bad governmental behavior.<sup>61</sup>

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<sup>59</sup> Gomes, ‘Capital Account Regulations and the Trading System. Brazilian Experience at GATS and IIAs with Capital Flows Regulation’.

<sup>60</sup> Alesina and Tabellini, ‘External Debt, Capital Flight and Political Risk’; Keen and Marchand, ‘Fiscal Competition and the Pattern of Public Spending’; Schulze and Ursprung, ‘Globalisation of the Economy and the Nation State’.

<sup>61</sup> Milne, ‘The Control and Management of International Capital Flows: A Review of the Literature’; Schulze, *The Political Economy of Capital Controls*, ch. 3,4.

Given that social agents can be differently affected by capital account regulation, the political economy approach seems to be useful for analyzing these measures.<sup>62</sup> In particular, some theoretical and empirical contributions have given attention to how governments can use CAR to benefit a specific agent, for example the government (by lowering the cost of the public debt),<sup>63</sup> the bureaucracy in charge of implementing the policy (by giving it more resources to manage), or certain domestic investors.<sup>64</sup>

Political economy is also useful in understanding why some governments implement CAR, while others do not. Gallagher<sup>65</sup> and also Gallagher and Prates<sup>66</sup> offer some insights on this when describing the different regulatory responses of Chile, South Korea, Brazil, and South Africa when facing intense capital inflows during the early 2000s. Their research suggests that some elements make it easier for governments to opt for regulating capital: the presence of strong institutions, support of the exports sector, a social memory of past episodes of financial instability, and smart pedagogy when explaining to society what CAR is supposed to achieve. In this same regard, Sigurgeirsdottir and Wade give interesting insights regarding the political economy situation in Iceland, useful to understand the context in which CAR was implemented.<sup>67</sup>

Let us go a step further. If we accept the existence of a conflict of interest among affected groups in applying CAR (as the aforementioned literature has pointed out), it

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<sup>62</sup> Crotty and Epstein, 'A Defense of Capital Controls in Light of the Asian Financial Crisis'.

<sup>63</sup> Aguirre, 'Capital Account Regulation in Iceland. Does Anybody Know What Is Going to Happen?'; Aguirre and Alonso, '*Islandia: Regulación Financiera y Abaratamiento de La Deuda Pública Tras El Colapso Bancario de 2008*'; Dooley, 'A Survey of Academic Literature on Controls over International Capital Transactions'; Giovannini and De Melo, 'Government Revenue from Financial Repression'.

<sup>64</sup> Aizenman, 'Capital controls and financial crises'; Johnson et al., 'Malaysian capital controls: macroeconomics and institutions'; Johnson and Mitton, 'Cronyism and Capital Controls: Evidence from Malaysia'.

<sup>65</sup> *Ruling Capital*, ch. 1,9; 'Countervailing Monetary Power: Re-Regulating Capital Flows in Brazil and South Korea'.

<sup>66</sup> Gallagher and Prates, 'The Political Economy of New Developmentalism: The Challenge of Exchange Rate Management in Brazil'.

<sup>67</sup> Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'.

is reasonable that this conflict may explain not only why a policy is implemented, but also the effectiveness of the regulation when it is adopted. However, to the best of our knowledge, this important aspect has received very little attention in previous studies.

#### *4.2. The use of political economy to explain CAR effectiveness*

At any time, in any country, the political will for regulating capital flows comes as the result of an internal conflict among agents occupying different positions.<sup>68</sup> The relative strength of each position will be constantly evolving, always influenced by the context.

This is well exemplified by the three experiences here analyzed. Brazil between 2008 and 2013 faced a relatively mundane context in which preventive CAR was just one among many policy tools under debate. Some actors backed this option, and others did not, but the scenario vis-à-vis CAR was relatively balanced, as Gallagher<sup>69</sup> has noted.

The political debate around this issue was lively and explicit throughout the whole period. Certain strong parties backed liberal economic policies, including free capital flows. But during the period under analysis, the *Partido dos Trabalhadores* (PT: Workers' Party) held power, which meant the Government took active involvement in the economy. This was reinforced by the generation of Keynesian and Developmentalist economists brought into government by Guido Mantega when he was appointed Finance Minister in 2006.

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<sup>68</sup> Crotty and Epstein, 'A Defense of Capital Controls in Light of the Asian Financial Crisis'; Gallagher, *Ruling Capital*.

<sup>69</sup> 'Countervailing Monetary Power: Re-Regulating Capital Flows in Brazil and South Korea'.

Mantega was already concerned about the effects of capital flows appreciating the domestic currency in 2008,<sup>70</sup> and the Government decided to raise IOF taxes in hopes of discouraging shortest-term flows. The financial sector was unanimously against these measures, as they discouraged certain funds from entering the country. Within a very active debate around CAR in academia and even in the media, the Central Bank was the key player.

But within the Central Bank concerns about inflation seemed to be dominant over macroprudential issues during the mandates of Lula da Silva (2002-2010), and controlling inflation was easier when capital inflows were appreciating the exchange rate and making imports cheaper. Thus, in 2008 the Central Bank did nothing to help Government's IOF.

In September of 2008 the Lehman Brothers collapse raised panic among international investors, who lost interest in emerging economies. Thus, it is not possible to assess whether this first regulatory attempt would have been effective if investor appetite had continued unchecked. But all the proximate causes cited in this paper to explain the effectiveness achieved in 2010-2011 (mainly coordination and complementarity of distinct measures) were completely absent in 2008.

In 2009, pressure from capital inflows was stronger than even before, along with the appreciating pressures on the exchange rate and the potential accumulation of macroprudential risks. This helps to explain the change in the regulatory response in 2010. Additionally, on the politics side, Dilma Rouseff, in power since the end of 2010, had assumed an explicit compromise with the export sector to fight against currency

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<sup>70</sup> Paula and Prates, 'Capital Account and Foreign Exchange Derivatives Regulation: The Recent Experience En Brazil'; Gallagher, *Ruling Capital*.

appreciation. On the Central Bank side, after the Lehman Brothers collapse, financial risks became a main issue and Alexandre Tombini, the new governor of the Central Bank designated by Rouseff, seemed far more sensitive to the Government's concern over exchange rate appreciation. Finally, the export sector (in which the pro-PT unions were very strong) clearly backed the regulatory response.

Therefore, due to particular political and economic circumstances, the minority position in favour of CAR in 2008 (only the Government wanted to regulate inflows then) became dominant after 2010, incorporating the Central Bank. This seems to be the deep explanation of the effectiveness that this regulation showed in 2010-2011.

The situation in Peru between 2008 and 2013 was quite different, and it has not been so carefully analyzed to date. A few insights from field interviews may be sufficient to draw a useful comparison with Brazil. Most political parties in Peru were favourable to the free movement of capital, and CAR was completely outside the political debate. The Banking Supervisor was not concerned over capital inflows from a macroprudential perspective, and so the Central Bank was the only public authority in favour of some kind of CAR.

Nor was there support for regulating capital flows from the economic sectors. Export sectors (chiefly mining and agro-industries) were not particularly damaged by gradual exchange rate appreciation thanks to their "natural" competitive advantages. Domestic banks were clearly against CAR, and their position was powerful because, apart from FDI to the mining sector, almost all foreign funding entered Peru through the banks.

The Central Bank was given the policy space to treat foreign investors in an (indirectly) discriminatory way.<sup>71</sup> This was accepted for purposes of monetary policy. Still, the Central Bank was always very cautious with its policy responses. No one within the Central Bank openly recognized that the institution was “regulating capital flows”: it was merely implementing “extended monetary policy”, trying to manage liquidity and macroprudential risks in a dollarized context. On the practical side, the reserves requirement policy was so cautious that it was scarcely effective in curbing these inflows. But the most striking fact concerned foreign investors’ access to short-term debt assets issued by the Central Bank. In spite of the measures adopted, Central Bank barriers were circumvented due to the timid and uncoordinated reaction of the Government and the Banking Supervisor.

The explanation for this is that, counter to Brazil, in Peru the conflict around CAR did not evolve. Peru was so in need of incoming investment that it tried to preserve a friendly image for foreign investors. Positions against regulations were always dominant, which helps to explain why the effectiveness of this regulation was low. It was the lack of political will, rooted in the bargaining power of interest groups against CAR, that produced a context in which only the Central Bank was committed to regulation, while the Government and Banking Supervisor were not.

The Icelandic experience is completely distinct from the other cases, making it very relevant for purposes of comparison. Between 2003 and 2008, Iceland was a perfect example of unanimous and explicit consensus in favour of complete freedom of capital

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<sup>71</sup> The reserves requirement (RR) imposed costs on banks when receiving foreign funds. But the foreign investors were also affected, as their profits decreased if the bank transferred to them part of the RR.

flows.<sup>72</sup> The Government and the Central Bank took this position to be the pillar of their political and economic management, with almost no relevant critiques emerging from Parliament or the academic and economic sectors. Banks were tremendously relevant to the economy and fully backed this approach.

Following the financial collapse in October 2008, Iceland moved within just a few days to the opposite position, with a new consensus formed around the urgent need to strictly regulate capital flows, to mitigate as much as possible the enormous costs that the bursting of the financial bubble represented for the country. Iceland became an example of how extreme situations – whether bubble euphoria or financial collapse – are prone to unanimity.

This consensus, rooted in the emergency situation affecting the whole economy, gave rise to a strong political will. This helps to explain how committed and coordinated the institutions were when facing the challenge of regulating capital flows and, as a consequence, how well the framework was adapted over time to ensure effectiveness, fighting against evasion.

What the comparison of these three experiences suggests is that complete effectiveness is probably attainable only under extreme circumstances. Iceland after the financial collapse had few options apart from applying very hard regulation – with no regulatory holes – in a very resolute way. But in more ordinary situations, like those in Brazil and Peru, regulatory frameworks will tend to be less strong by design and, as a consequence, adaptability will be the main attribute for achieving at least partial

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<sup>72</sup> Sigurgeirsdottir and Wade, 'From Control by Capital to Control of Capital: Iceland's Boom and Bust, and the IMF's Unorthodox Rescue Package'; Wade and Sigurgeirsdottir, 'Iceland's Rise, Fall, Stabilisation and Beyond'; Wade and Sigurgeirsdottir, 'Lessons from Iceland'; Wade, 'Iceland as Icarus'.

effectiveness. What makes the difference in this case is how institutions performed in terms of commitment, coordination, and information-gathering systems. All these institutional factors depend on political will, itself a product of the bargaining power of the different sectors involved in the regulation.

#### *4.3. Who the “regulation game” is about: the importance of domestic banks*

Another insight unveiled when examining the domestic conflict around capital account regulation regards the players that participate in the strategic game that the regulator promotes. Given that CAR is about capital flows, it is reasonable to consider that this policy involves local authorities trying to influence foreign investors’ behaviour.

But the experiences under analysis suggest that the most relevant players (apart from regulators) are not investors, but domestic banks. Although the literature rarely mentions this fact,<sup>73</sup> there are good reasons to explain why domestic banks should be so relevant.

Firstly, domestic banks are the critical intermediaries for capital flows entering or exiting a country. In Iceland, they were practically the only relevant player attracting foreign investment, whether through the stock market or other investment channels. The same was true in Peru, where even the unorganized derivatives market was created entirely by domestic banks. In Brazil, where the paths for entering the country were more diversified, the banks were also very relevant, especially in terms of sustaining activity in the domestic futures markets, whence the pressures on exchange rate appreciation came.

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<sup>73</sup> Spiegel, ‘How to Evade Capital Controls...and Why They Can Still Be Effective’.

Secondly, all problems and risks that capital flows can potentially entail are closely related to banks: banking credit connects with overheating and household over-indebtedness, and the banks assume and/or disseminate exchange rate, credit, and liquidity risks.

Thirdly, domestic banks played a key role in all the documented attempts to circumvent regulation in the experiences analyzed. This is absolutely reasonable, because capital flows are a very important source of business for banks (intermediation, consultancy, representation), and a difficult one to substitute. And the domestic banks are far better prepared than anyone – particularly in comparison with foreign investors – in finding ways to circumvent CAR, due to their knowledge of local regulation.

Moreover, domestic banks seem to be a more significant factor in CAR effectiveness than the sophistication of financial markets. Even if financial sophistication can likewise influence agents' capacity for creating innovative ways to circumvent regulation,<sup>74</sup> our analysis suggests that this relationship is not strong.

In Brazil, with its rather liquid and sophisticated financial markets, documented attempts to circumvent the initial tax regulation to discourage short-term debt investment showed varied degrees of sophistication, ranging from export invoice falsification to participation in the exchange rate futures market. But what all these dynamics had in common was the key role played by domestic Brazilian banks. All these attempts were suppressed thanks to the political will that drove regulators to properly adapt the law. In Peru, attempts at circumvention also came through the derivatives market. They succeeded not because of the market's sophistication, but

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<sup>74</sup> Carvalho and Garcia, 'Ineffective controls on capital inflows under sophisticated financial markets: Brazil in the nineties'.

thanks to the poor adaptability of the regulation, rooted in the weak political will to regulate capital flows.

## **5. Final remarks**

This article has sought to shed some light on the factors that determine CAR effectiveness, through the analysis of three different scenarios (Iceland, Brazil, and Peru) of intense capital account regulation.

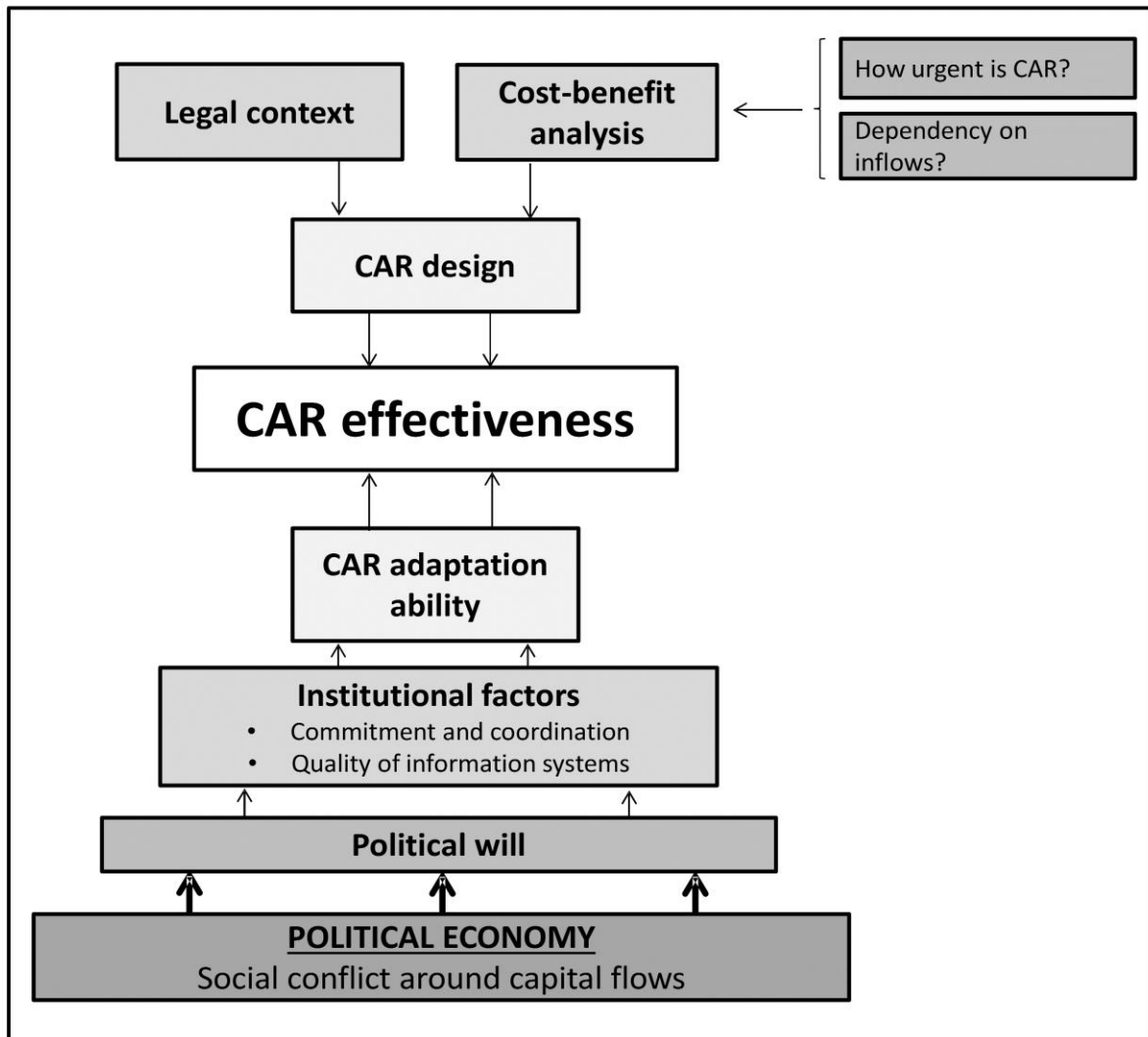
The research suggests that commitment and coordination among institutions, political will, and (at the root of everything) the consensus among interested groups are all important factors in the explanation of CAR effectiveness. Without that consensus, the regulatory framework will be vulnerable to problems such as insufficient intensity, circumvention, or evasion.

Indeed, it can be said that the social consensus in favour of CAR is a requisite condition for making regulatory measures effective. Brazil depended on this consensus to build effective regulation. In Peru, the lack of such consensus explains why CAR was not nearly as effective. And even in Iceland, where the design of regulation was as strong as it could be, the effectiveness of CAR depended on a wide consensus to ensure effectiveness.

The comparison of these three experiences suggests a panorama of explanatory factors for CAR effectiveness that is summarized in Figure 4. There are two main proximate causes of capital account regulation effectiveness: a) the design of the regulation (in terms of its strength and coverage), determined by the legal framework, and the cost-benefit analysis performed by the regulators, itself dependent on the level of urgency to regulate and the cost that regulation may have on other valuable flows;

and b) the way in which the regulation is implemented, in terms of adaptation over time, in order to combat problems such as insufficient intensity, circumvention, and evasion.

**Figure 4: Explanatory factors of capital account regulation effectiveness**



Additionally, the adaptability of regulation depends on how well institutions perform in terms of: a) institutional commitment and coordination; and b) the quality of the information-collection systems implemented. The political will to regulate capital flows is at the foundation of these two institutional elements, being a result of the particular balance of forces currently at play in society vis-à-vis CAR. Thus, an important element

in explaining why some regulations are more effective than others lies in the relative incidence of domestic conflict.

Three interesting extensions to this work are worth mentioning here. The legal space for applying CAR has been an external variable in this research. A first extension would be to use a political economy approach to ask how this legal space is shaped. There is a relevant international dimension in how the country is inserted into the international arena through bilateral and multilateral trade and investment agreements, and vis-à-vis multilateral institutions. This is what Gallagher refers to when he writes of “countervailing monetary power”.<sup>75</sup> But there is also an interesting domestic dimension in how domestic conflict around CAR determines the legal frameworks – domestic and multilateral – to which the country adheres.

A second extension would be to analyze why some countries behave according to the legal space they have at their disposal, while others do not. Some countries did not employ all the legal possibilities, as Peru did during 2008-2013, and Iceland during 2003-2008; others may exceed it, as Iceland apparently did since 2009. In the first scenario, domestic political economy may again prove a useful tool; for the second, international political economy may be the right approach.

The third extension relates to a deeper analysis of the behaviour of the main actors regarding CAR. It seems clear that banks are key players, but is there any difference between domestic and international banks? And what about other financial agents? Some differences have been detected between Brazilian and Peruvian exporters that

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<sup>75</sup> Gallagher, ‘Countervailing Monetary Power: Re-Regulating Capital Flows in Brazil and South Korea’.

could explain why their positions diverged regarding CAR. Is it all about the economic sector? Does the domestic/international character of companies have any influence?

When discussing CAR and its effectiveness, technical issues are of course relevant, but political issues are also important, as this work has highlighted. It seems desirable from a democratic point of view that both dimensions be explicit when practical debate occurs around what a government should do regarding an issue as relevant as the entry or exit of foreign investment, as well as its regulation.

## Annex 1: Capital account regulation measures in Brazil, Peru, and Iceland

The following tables show the main regulatory measures applied in Brazil, Peru, and Iceland during the period analyzed. “Direct” measures target explicitly capital flows. “Indirect” measures are supposed to influence capital flows, but they are applied on domestic agents (mostly banks) and not necessarily as a consequence of a transaction with a foreign entity. Indirect measures are included to provide a complete landscape of measures that could influence capital flows, regardless their primary goals.

### Box 1: Brazil (2006-2013): regulation of capital inflows

Direct regulation		
Finance Ministry	Foreign Direct Investment (IOF on foreign investor)	0% (JAN06); 0,38% (JAN08)
	Portfolio investment (IOF on foreign investor)	- Fixed income securities: 0% (JAN06); 1,5% (MAR08); 0% (OCT08); 2% (OCT09); 6% (OCT10); 0% if debt linked to long-term investment (DEC11); 0% in any case (JUN13) - Shares in investment funds: 0% (JAN06); 1,5% (MAR08); 0% (OCT08); 2% (OCT09); 6% (OCT10); 2% (JAN11); 0% (DEC11) - Equity securities: 0% (JAN06); 2% (OCT09); 0% (DEC11) - Investment redirection from FDI to portfolio investment in equity securities: 0% (JAN06); 2% (JAN11); 0% (DEC11) - ADR cancellation for buying the underlying asset: 0% (JAN06); 2% (JAN11); 0% (DEC11) - Transfer of assets in order to issue ADR out of Brazil: 0% (JAN06); 1,5% (NOV09); 0% (DEC13)
	FX credit inflows received and debt issued out of Brazil (IOF on domestic agents)	5% loans <= 90 days (JAN06); 5,38% loans <= 90 days (JAN08); 6% loans <= 1 year (MAR11); 6% loans <= 2 years (APR11); 6% loans <= 3 years (JAN12); 6% loans <= 5 years (MAR12); 6% loans <= 2 years (JUN12); 6% loans <= 1 year (DEC12)
	Futures markets (IOF on contracts)	- Guarantee margins: 0% (JAN06); 0,38% (MAR08); 6% for foreign investors (OCT10); 0% (JUN13) - Notional value: 0% (JAN06); 1% (JUL11); 0% for hedge derivatives (MAR12); 0% in any case (JUN13)
Central Bank	Advanced payments to exporters (restrictions on domestic agents)	- No restrictions (JAN06); advance for more than 1 year forbidden (MAR12); advance for more than 5 years forbidden (DEC12)
National Monetary Council	Complementary administrative measures on financial markets	- The investor must exit and enter (virtually) in order to change the destination of previous investments (OCT10) - No domestic agent is allowed to cede, rent, or lend securities to foreign investors in order to meet guarantee requirements on futures markets (OCT10)
Indirect regulation		
Finance Ministry	Credit operations (IOF on domestic banks)	- 0,0041%* (JAN06); 0,0082%* (JAN08); 0,0041%* (DEC08) (*per day, limited to a maximum charge over 365 days)
Central Bank	Short FX open positions in spot markets (unremunerated reserve requirement on domestic banks)	- 0% (JAN06); 60% if the short position exceeds the minor between 3000 million BRL o the bank capital (ABR11); 60% if the short position exceeds the minor between 1000 million BRL o the bank capital (JUL11); 60% if the short position exceeds 3000 million BRL (DEC12); 0% (JUL13)
	Credit to households (capital requirements on domestic banks)	- Maximum weight on credit risk assessment rises to 75% for some credits (JUL08); Maximum weight 150% (JUL11); Maximum weight 300% (NOV11)
	Short-term liabilities (deposits) (reserve requirement on domestic banks)	- Sight deposits: ordinary 45%, marginal 8% (JAN06); marg 5% (OCT08); ord 42% (NOV08); marg 8% (MAR10); ord 43% (JUL10); marg 12% (DEC10); ord 44% (JUL12) - Term deposits: ord 15%, marg 8% (JAN06); marg 5% (OCT08); marg 4% (JAN09); ord 13,5% (OCT09); marg 8% (MAR10); ord 15% (ABR10); ord 20%, marg 12% (DEC12)

Source: Secretaria da Receita Federal <sup>76</sup>; Banco Central do Brazil e Conselho Monetário Nacional <sup>77</sup>. The data indicate when the measure becomes effective.

## Box 2. Peru (2003-2013): regulation of capital inflows

Direct regulation		
Central Bank	Reserve requirement on commercial banks' foreign liabilities (different requirement for PEN and USD liabilities): (44 Central Bank Rules between DEC02 and SEP13)	
	Access to short-term sterilization assets, non-resident investors	- Administrative tax on sterilization assets purchased in secondary market: raised from its ordinary level (0.1%) to 4% between MAR08 – NOV08 and after JUL10 - Sterilization assets unavailable for non-resident investors in some periods (FEB08-AUG08; JUL10-DEC10; JUN11-FEB12; JUN12-FEB13)
Finance Ministry	Fiscal taxes on foreign investors' capital rents	- Tax level for capital rents (domestic and foreign investors) raised in JAN10 and JAN13 - Capital rents obtained by foreign investors derived from derivatives contracts: new tax after JAN10 (to equalize the treatment with domestic agents)
Indirect regulation		
SBS	FX market (limits to domestic agents' operations)	- Limit to long FX global (spot and forward) position for banks (% equity capital): FEB10 (from 100% to 75%), NOV10 (from 75% to 60%), DEC 12 (from 60% to 50%) - Limit to short FX global (spot and forward) position for banks (% equity capital): FEB10 (from 10% to 15%), DEC12 (from 15% to 10%) - Limit to open FX forward position for banks: becomes stricter in JAN11, OCT11 and DEC11 - Limit to the volume of daily and weekly operations in FX markets (spot and forward) for Pension Funds (% assets): becomes stricter in JUN10 and JAN13
	Domestic credit	- Capital requirements for credit risk for banks: raised in NOV12 and JAN13 - Pro-cyclical provision for credit risk: active between OCT08 and SEP09, and again from OCT10

Source: Central Bank Rules <sup>78</sup>; SBS <sup>79</sup>; Central Bank Inflation Report <sup>80</sup>; <sup>81</sup>; <sup>82</sup>; interviews with employees of SUNAT (Superintendencia Nacional de Aduanas y de Administración Tributaria) and the Central Bank.

## Box 3. Iceland (2008-2017): capital account regulation (main laws and rules)

Direct regulation	
Central Bank	<ul style="list-style-type: none"> <li>2008-Oct-10: <i>Temporary modifications in currency outflow</i></li> <li>2008-Nov-28: <i>Rules on foreign exchange No 1082/2008</i></li> <li>2008_Dic-15: <i>Rules on foreign exchange No 1130/2008</i></li> <li>2009-May-28: <i>Instructions on the Execution of Foreign Currency Sales Due to Art 8 of the Rules on Foreign Exchange No 1130/2008</i></li> <li>2009-Oct-30: <i>Rules on foreign exchange No 880/2009</i></li> <li>2010-Abr-29: <i>Rules on foreign exchange No 370/2010</i></li> <li>2013-Abr-4: <i>Rules on foreign exchange No 300/2013</i></li> <li>2014-Jun-18: <i>Rules on foreign exchange No 565/2014</i></li> <li>2015-Mar-6: <i>Rules amending the Rules on foreign exchange No. 565/2014</i></li> </ul>
Legislative changes	<ul style="list-style-type: none"> <li>2008-Nov-28: <i>Act on the amendment to the Foreign Exchange Act No. 87/1992.</i></li> <li>2009-Mar-31: <i>enmiendas a las Foreign Exchange Act 87/1992 y la Customs Act 88/2005.</i></li> </ul>

See the website of the Central Bank of Iceland (<https://www.cb.is/foreign-exch/laws-and-rules/>) for an exhaustive list of all measures affecting capital flows

<sup>76</sup> 'IOF (Imposto Sobre Operações de Crédito, câMbio e Seguro, Ou Relativo a Títulos Mobiliários)'.

<sup>77</sup> Banco Central do Brasil, 'Legislação e Normas'.

<sup>78</sup> Banco Central de Reserva del Perú, 'Circulares (Varios Años)'.

<sup>79</sup> Superintendencia de Bancos, Seguros y Asociaciones de Fondos Privados de Pensiones del Perú, 'Resoluciones (Varios Años)'.

<sup>80</sup> Banco Central de Reserva del Perú, 'Reporte de Inflación (Varios Años)'.

<sup>81</sup> Choy and Chang, 'Medidas macroprudenciales aplicadas en el Perú', 9, 12, 16, 17, 21.

<sup>82</sup> International Monetary Fund, 'Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework.', 38.

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