Has capital account liberalization been delivering its promised benefits?
A review essay

7º Encontro Nacional da ABRI – Área Temática: Economia Política Internacional

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Abstract
Before the financial crises of the 1990s, international finance theorists sustained that capital account liberalization processes would lead to the following outcomes: i) greater rates of economic growth due to the absorption of foreign savings; ii) reduction of the volatility of the intertemporal consumption due to a greater risk sharing between countries; iii) stabilization of the exchange rate fluctuations; iv) monetary policy independence, in line with the called ‘impossible trinity’ assumptions; and v) the countercyclical function of the capital flows in relation to GDP and domestic economic policies. However, the occurrence of successive financial crises since the 1990s propelled academics and multilateral institutions to investigate whether the promised benefits of capital account liberalization were real. In the course of empirical studies on the subject, many of these ex ante theoretical assumptions about financial globalization were demystified, and previously unknown risks and dysfunctions were then presented. In this perspective, this paper aimed to survey the main empirical studies about the effects of financial globalization that have been published in the last two decades, and to counterpoint these studies with the main neoclassical assumptions that were constructed in order to theoretically sustain the processes of capital account liberalization that took place in the 1980s and 1990s in several countries. The analysis of the scope and evolution of these papers shows that the dynamics of globalized finance have been causing an increase in financial instability as well as greater economic divergence among the countries, in addition to other evidence that contradicted several neoclassical assumptions. The results surveyed in this paper indicate the importance of rethinking the conventional economics about the processes of capital account liberalization in order to ground new economic policies, highlighting the use of capital controls. In this sense, the critical international political economy approach can shed light on this theme.

Key-words
Financial globalization; capital account liberalization; orthodox-neoclassical assumption; financial instability; emerging economies

JEL Codes: F32, F33, F36, F41

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1 Introduction

The advent of the current phase of financial globalization took form in the capital account liberalization processes pursued by advanced countries during the 1980s and by the so-called emerging economies during the subsequent decade. Besides all the geopolitical conjunctures that motivated the transition to a new International Monetary and Financial System (IMFS), several theoretical presumptions were constructed in order to ground the supposed benefits of a free capital mobility.

According to such presumptions, the removal of the remaining capital controls would especially guarantee greater rates of economic growth, automatic adjustments in key macroeconomic variables, and long-term stability. Therefore, it could be observed that these axioms, which were influenced by the New Macroeconomic Consensus, were guided by orthodox principles.

In the last two to three decades since this new International Monetary and Financial System has been in operation, the world has been observing increasing financial instability, a greater divergence between the economic growth of countries, and global imbalances, besides other dysfunctions that have been counterpointing the above-mentioned presumptions. In that sense, to what degree has financial globalization been delivering on its promised benefits?

In order to answer this question, this article conducted a survey on the main papers that empirically investigated the impact that capital account liberalization has been having on several countries, especially emerging ones. It can be seen that these studies were preoccupied with developing quantitative methods to test the validity of each theoretical construction that grounded the advent of liberalized global finance.

Therefore, surveys on these publications, which began to appear even in the 1990s, made it possible to understand the evolution of this empirical literature and, consequently, to balance the main outcomes of financial globalization on emerging economies. With this evidence, it was possible to find out to what degree capital account liberalization has been working according to the theory that grounded it.

After this brief introduction, this article is divided as follows: Section 2 presents a brief description of the principle orthodox presumptions that theoretically grounded the process of external financial openness; Section 3, in turn, is subdivided into surveys on the correlations between financial globalization and the principle orthodox presumptions presented, as well as surveys on papers that investigated recent impacts fostered by
liberalized global finance on emerging countries. The Conclusion makes an effort at having a balanced outlook on the main outcomes of financial globalization and its correlation with the *ex-ante* elaborated theory. Finally, some notes on the necessity to construct an alternative open macroeconomic theory to guide new economic policies are presented.

2 Orthodox presumptions on capital account liberalization

Put succinctly, a capital account liberalization process is characterized by the removal of controls on international capital flows, which in turn allows free mobility of private capital portfolios between different countries and markets.

The main benefits that capital account liberalization was expected to deliver, as summarized by Prasad et al. (2003), can be subdivided into direct and indirect effects on economic growth. According to neoclassical theory, in the first class of effects, an increase in financial integration should lead to: i) an increase in the economy’s total saving (by means of external savings absorption); ii) better risk sharing, which in turn reduces capital costs; iii) technology transference, due to Foreign Direct Investments (FDIs); and iv) greater development of the financial system.

Additionally there are the indirect channels, by which greater financial integration should lead to increased economic growth, and operate by means of an increased effectiveness of economic policy as well as corporative governance. These effects would occur due to the constant evaluation performed by financial markets and due to the increase in the total factor productivity (TFP).

According to Prasad et al. (2003), another financial liberalization benefit defended by neoclassical literature is intertemporal consumption smoothing due to the greater development of the financial system following a capital account liberalization process. That would be because the development of financial instruments that allowed residents to acquire foreign assets as well as an increase in external liability issues would theoretically lead to a convergence of the consumption volatility among different countries.²

During the decade characterized by the insertion of the so-called emerging countries into globalized finance, the then IMF executive-director Fisher (1997) also defended capital account liberalization as an economic growth stimulator, since this processes would allow a more efficient allocation of financial resources, i.e. in sectors
that presented higher productivity. This assumption would be even more relevant for developing economies, which show capital scarcity and an abundance of labor supply, which in turn would allow an increase in the investment rate even in a context of a low domestic saving rate.

According to Dooley (1996), an important assumption that boosted the capital account liberalization processes was that there would be expected returns convergence among different countries, equated by the uncovered interest rate parity theory (UIP).\(^3\) This potential benefit would be greater in developing and emerging economies, since these countries had been historically characterized for presenting relatively higher interest rates.

According to this assumption, external financial openness would lead to expected returns convergence since these processes were accompanied by structural reforms, including those destined to make feasible the superiority of monetary policy to act on aggregate demand, relative to fiscal policy.

In parallel to the presumptions described above, orthodox theory also defended that a floating exchange rate system would guarantee auto corrective movements in exchange rate in order to reflect the country’s current account structure. In this way, the global liberalized finance should theoretically correct any disequilibrium in a country’s balance of payments.

As described above, one of the promised benefits of capital account liberalization would be the development of the domestic financial system due to, among other factors, the exposure to foreign competition. One of the expected effects of this process was, such as shown by Fisher (1997), an increase in risk sharing capacity due to a higher degree of financial integration.\(^4\) In other words, the external financial openness would also equalize the risk management of productive activities between different countries and, by allowing the purchase and selling of financial assets by resident and foreign investors, would contribute to auto corrective exchange rate fluctuation.

According to this train of thought, which can be denominated orthodox/conventional, emerging economies would potentially have greater benefits from risk sharing processes, since the majority of their foreign assets are the public bonds of developed countries. Since advanced economies, in turn, generally invest in the private assets of emerging countries, they are relatively more exposed to greater price volatility during financial crises. Therefore, there would be, theoretically, greater risk sharing for emerging economies during financial crises.
However, most of such theoretical assumptions were not fully observed during the last decades of financial globalization. Indeed, some new evidence showed the opposite of these expected outcomes. The next section makes an effort to synthesize the main empirical studies on this subject.

3 Empirical counterpoints to orthodoxy

Despite all the neoclassical-orthodox constructs that theoretically grounded the process of external financial openness, several studies within mainstream economics and the International Monetary Fund (IMF) have been contradicting these presumptions over the last two decades. It is understood that this movement was a reaction to the crises of emerging economies that took place in the mid-1990s and beginning of the first decade of the twenty-first century (which we shall refer to as the 00s).

Besides the development of these counterfactuals, subsequent to these financial crises, extensive literature concerned with developing studies and sophisticated techniques designated to evidence several risks that emerging countries are exposed to under the current international financial system started to stand out. These new studies started to emphasize the sudden stops (a sudden decrease in private capital inflows into economies, typically in developing ones), reversals (an intense reduction in domestic absorption due to a sudden stop, since current account deficit is generally financed by capital inflows), currency mismatches, and loss of monetary policy autonomy, among other risks.

The next subtopics are organized in order to aggregate, by theme, the main empirical studies that counterpointed several orthodox presumptions of the benefits of capital account liberalization, in addition to evidencing divergences between developed and emerging economies, which until then had not been contemplated by the conventional approach.

3.1 Economic growth and consumption volatility

As described above, one of the presumptions that grounded the financial deregulation processes was that these reforms would raise investment and economic rates, and reduce intertemporal consumption volatility. In addition, these benefits would be potentially greater for developing countries.
One of the more embracing papers on this subject was the one developed by Prasad et al. (2003). The authors conducted an empirical study on several emerging economies in order to evaluate the impact that financial globalization had been having on these countries.

A first their analysis showed that financial liberalization is neither a necessary nor sufficient condition to stimulate higher rates of economic growth. Within their research, there were relatively closed countries that presented expressive rates of economic growth and open economies that presented low or even negative rates.⁵

A second analysis made by Prasad et al. (2003) consisted of a correlation estimation between the financial integration level and the growth rate of real per capita GDP for a conjunct of emerging economies.⁶ This method did not establish a robust relation between financial integration and economic growth.

Prasad et al. (2003) also provided an important contribution to the other above-mentioned assumption, i.e. that financial globalization reduces consumption volatility and/or variance. The authors investigated the evolution of the variance of aggregate components, such as private consumption, GDP, and consumption/income for a conjunct of developed and emerging economies. The latter was divided into ‘more financially integrated’ (MFI) and ‘less financially integrated’ (LFI) countries.⁷

These estimations showed a very important result for the emerging economies within the sample. The variances of both private consumption and consumption/income dropped more dramatically for LFI emerging countries over the whole period. In addition, Prasad et al. (2003) showed that the above-mentioned variances arose during the 1990s for the MFI countries, as presented in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Variance of selected macroeconomic variables</th>
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<tr>
<td><strong>Ratio of total consumption variance</strong></td>
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<tr>
<td>to income variance</td>
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<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Industrial countries</td>
</tr>
<tr>
<td>MFI countries</td>
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<tr>
<td>LFI countries</td>
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Source: Extracted from Prasad et al. (2003).

Given these results, Prasad et al. (2003) pointed out the procyclical behavior of international financial markets and rating agencies lead to procyclical movements in domestic consumption. In other words, the presumption that greater financial integration
would optimize the intertemporal consumption volatility of emerging economies lacked evidence.

Several other studies pointed out a similar lack of evidence on the subject. The survey published by Kose et al. (2006) contributed to establishing this stylized fact: several papers that aimed to establish a direct correlation between international financial integration and economic growth could not find such a correlation. In relation to the presumption of intertemporal consumption smoothing due to greater degree of financial integration, Kose et al. (2006) pointed out that this synchrony has been occurring more significantly between advanced countries, while emerging economies have been showing higher rates of consumption volatility. In other words, there was not the expected risk diversification.

Facing several papers that showed the failures of such orthodox presumptions, Rodrik and Subramanian (2009) aimed to identify the reasons why foreign savings were not, in most cases, stimulating higher rates of economic growth. This particular paper stood out, since it constituted an empirical and theoretical counterpoint to the above-mentioned neoclassical presumption.

The authors estimated regressions (and correlation estimations) for a conjunct of emerging economies and evidenced the absence of any correlation between the variables in question. They also counterpointed the argument that the positive effects of capital account liberalization would take a while to be observed, since the estimations calculated in this particular paper were temporally very wide-ranging.

Given the results, Rodrik and Subramanian (2009) presented an important theoretical innovation on capital account liberalization and economic growth that had not been debated by the mainstream economics until then. According to the authors, emerging economies can be characterized as ‘saving constrained’ (SC) or ‘investment constrained’ (IC), in such a way that the effects of capital inflows radically change depending on the group into which each country fits. The first class of emerging economies is characterized by the showing of a low domestic saving rate and high real interest rates. The main restriction of these countries is the lack of accumulated saving stock for the concretization of investments. In that way, the implications of the orthodox approach could (but not necessarily) be valid for them.

On the other hand, several emerging economies belong to the ‘investment constrained’ (IC) group. Their main restriction is the lack of investment demand due to an expectation of insufficient profitably from the execution of new projects. For this
group, the neoclassical-orthodox approach would not be valid, since a great deal of financial inflows would not function as productive capital for new investments.

On the contrary, these capital inflows, by the appreciation of the domestic currency, foster a negative externality in other sectors, in such a way that the investment rate of tradable sectors is negatively affected, bringing negative implications for long-term economic growth.\(^\text{11}\) A substantial portion of capital flows destined to IC countries are, therefore, channeled into a raise in consumption via credit expansion and, indirectly, into a raise in real salaries that take place due to exchange rate appreciation. Therefore, the orthodox approach is inappropriate for this conjunct of countries.

Their theoretical construct having been presented, Rodrik and Subramanian (2009) investigated to what degree emerging countries fit SC or IC groups.\(^\text{12}\) The regressions elaborated by the authors showed that the American interest rate had a positive and moderate correlation with the investment/GDP rate of the emerging economies analyzed. In other words, capital inflows were negatively correlated with the rate of fixed capital gross formation in these countries. Therefore, the emerging countries analyzed were mainly characterized as ‘investment constrained’ economies, for which the neoclassical assumption that full external financial openness would promote higher economic growth has little validity.

Lastly, the authors aimed to identify the common determinants of emerging economies that presented higher rates of economic growth over the period between 1980 and 2004. The regressions established a positive relation between rates of currency devaluation, a proxy for the development of domestic financial systems, and the economic growth of these economies.\(^\text{13}\) These results evidenced that the emerging countries that presented higher rates of economic growth over the last decades of financial globalization accomplished it through internally funding their investments, and not through reverting to foreign resources.\(^\text{14}\) Therefore, these results are contrary to the idea of foreign savings being used to make production investment feasible, as defended by conventional economics.

Among the causes of the lack of a robust relationship between full external financial openness and an increase in the domestic investment rate in emerging countries, Rodrik (2006) argued that the monetary policy of capital inflows sterilization contributes to that lack. The reason being that as capital inflows potentially contribute to reducing domestic interest rates, central banks in emerging economies become concerned with inflationary pressures that can take place through that processes. As a response, these
central banks are increasingly reverting to capital inflows sterilization, which in turn contracts domestic currency liquidity and replaces it with public bonds. The result of this processes is that the domestic private sector ends up with a higher volume of public bonds as assets in its portfolio, i.e. a great deal of capital inflows are not channeled into productive investments assets.15

Therefore, one can see that these empirical studies established an absence of a robust relationship among capital account liberalization, improvements in economic growth, and intertemporal consumption volatility, often pointing out an opposite relationship to that supposed by conventional theory. These counterintuitive results also stimulated research to find the causes of such negative results, which were also not put forward by international finance theorists in the 1980s and 1990s.

### 3.2 Original sin and debt intolerance

Many peculiar characteristics of emerging economies that were not contemplated by the conventional apparatus during the liberalizing reforms were only recognized years after the occurrence of financial crises (of currency and banking) in these countries. One of these characteristics refers to restrictions on the issue of external liabilities imposed on emerging and developing countries. This process occurs because the access to international financial markets depends on the dynamic of important wealth managers, such as the institutional investors. In other words, the access to “foreign savings” as a determinant of the economic growth of emerging economies does not appear as preconized by theory. Among the main phenomena identified by mainstream economists in the beginning of the 00s, original sin and debt intolerance stood out.

Among the pioneers to identify the causes of such restrictions were Eichengreen et al. (2003). This particular paper evidenced that some of the divergence of economic policies between developed and emerging countries has the fact that cross borders financial transactions are denominated in a small number of strong currencies as a main cause. In other words, emerging countries cannot contract foreign debt in their own currencies. This restriction was then called “original sin”.

Another important contribution presented by Eichengreen et al. (2003) was that original sin can be domestically manifested in emerging economies. When instated, it produces side effects in relation to the composition of their domestic public debt securities (DPDS). The indicator presented by the authors16 showed that the lack of a currency
convertibility in international markets reflects on the composition of the DPDS in such a way that a substantial portion of public bonds is denominated in a strong currency and/or are short-term bonds, and/or are interest rates post fixed bonds.

In this way, when an economy presents an unfavorable indexation of its DPDS, a loss of autonomy in implementing domestic policies takes place, since public debt gets exposed to exchange rate, interest rate, and inflation variability. Furthermore, the lack of a distinct separation between public debt management and monetary policy inhibits the latter’s effectiveness and imposes high financial costs to the public budget.

In order to demonstrate other difficulties that emerging economies incur due to original sin, Eichengreen et al. (2003) showed that the real GDP volatility (quoted in American dollars) of these countries – an indicator in analyzing the payment capacity of foreign debt – was approximately three times greater in relation to the same indicator shown by developed countries. That, in turn, has been negatively affecting the credit rating of emerging countries.

It is noteworthy that the economic growth volatility of emerging economies is high due to their real exchange rate variability, this last condition being due to original sin. This phenomenon also took place in the medium and long term, which in turn contradicted the orthodox-neoclassical assumption that in the long run there would not be a differential in exchange rate volatility between developed and emerging countries. ¹⁷

Besides that, another side effect derived from the lack of international currency convertibility is the higher volatility of the domestic interest rate, what in turn feeds back on the incapacity of these economies to issue bonds in international markets that are denominated in their own currencies. It can also induce the proliferation of domestic debt contracts with a foreign exchange clause – a process that discourages the development of the domestic financial system by inhibiting the launch of long-term pre-fixed bonds. One can observe that this last possible side effect is clearly the opposite to the assumption that full external financial openness would promote the development of the domestic financial system, but, as shown by Eichengreen et al (2003), several liberalized emerging economies have been seeing an increase in the volume of foreign currency denominated debt between domestic agents.

However, the recognition that emerging and developing countries face more obstacles when managing foreign debt had other justifications of causality. The thesis that emerging countries are subjected to ‘debt intolerance’ when trying to access global financial markets deserves a careful analysis. Reinhart et al. (2003) showed that emerging
economies that had just a low level of foreign debt acceptable by foreign investors had common historical factors that include periods of high inflation and foreign debt defaults, such as described in Table 2. Therefore, the delay in financial and tax systems due to these factors creates a vicious cycle in which these countries would have to maintain low levels of foreign debt and higher interest rates in order to attract capital inflows.

<table>
<thead>
<tr>
<th>Table 2. Inflation, foreign debt default and country-risk (1824-2001)</th>
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<tr>
<td>Emerging countries with at least one default since 1824 (average)</td>
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<tr>
<td>Percent of 12-month periods with inflation at or above 40 percent, 1958:1-2001:12</td>
</tr>
<tr>
<td>Number of default or restructuring episodes, 1824-1999</td>
</tr>
<tr>
<td>Percent of years in a state of default or restructuring, 1824-1999</td>
</tr>
<tr>
<td>Institutional Investor Ratings, September 2002</td>
</tr>
</tbody>
</table>

Source: Extracted from Reinhart et al. (2003).

The regression elaborated by the authors also showed that the current credit ratings of emerging economies had a negative correlation with the history of defaults and inflation, and foreign debt cycles, while the hypothesis that the ratings of developed countries had a positive correlation with their public debt level was confirmed. Therefore, the authors empirically demonstrated that emerging economies were susceptible to ratings downgrades when they increased their level of foreign indebtedness. It is noteworthy that a rating downgrade to the ‘debt intolerance’ level is accompanied by an increase in the risk premium demanded by foreign investors.

The authors also performed a regression in which the dollarization level of a given economy – measured by the share of dollar deposits in the financial system and by the percentage of public bonds indexed to the exchange rate - had a direct relation to the debt intolerance incidence. It is notable that in those cases the higher the dollarization level, the lower the autonomy in implementing domestic policies was.18

Reinhart et al. (2003) also attributed the growth of domestic public debt that took place within emerging countries to the financial liberalization processes that occurred mainly in the 1990s. Within this context, there was also a significant difference between emerging economies characterized by incurring debt intolerance and those that showed a
better external insertion. On the one hand, for the first group of countries there was, in a general way, an increase in both the fiscal deficit and public debt interest rate. On the other hand, an opposite movement took place for the second group of countries, i.e. the liberalizing reforms affected the public accounts and DPDS of emerging countries characterized for presenting debt intolerance negatively and more intensively.

Within the debate that took place during the 00s about the main causes of unfavorable external insertion of emerging economies, the paper published by Eichengreen et al. (2007) reaffirmed the influence that international financial architecture exercises on this processes. More precisely, the authors provided important evidence that pointed to the fact that original sin was the cause of most divergences between emerging and developed countries, including the occurrence of debt intolerance. It is notable that they admitted that net capital flows do not dislocate from rich to poor countries, such as defended by orthodox theory, since international finance displays pro-cyclical behavior.

In response to the debt intolerance thesis defended by Reinhart et al. (2003), Eichengreen et al. (2007) called attention to the fact that all emerging economies that showed difficulties in managing levels of foreign indebtedness had in common the fact that none of their currencies was convertible in international financial markets. This factor, in turn, generates a strong divergence between developed and emerging countries in relation to foreign restriction issues. Another problem presented by economies that incur original sin is a currency mismatch, since their external liabilities are mostly denominated in a foreign currency, while their assets are mainly denominated in their domestic currency.

In this way, in order to counterpoint the debt intolerance thesis, the regression estimated by Eichengreen et al. (2007) established that there was, on the one hand, a negative correlation between the ratings of these countries and their original sin indicators. In other words, the occurrence of original sin was the main determinant of ratings’ divergences among several economies.\(^{19}\) On the other hand, the volatility of the real exchange rate tended to be stronger in countries that presented a relatively open capital account and a high composition of commodities in its exportations.

Still in response to the debt intolerance thesis, Eichengreen et al. (2007) also estimated a regression in order to analyze the relation between a given country’s foreign liabilities level and its rating, in such a way that the original sin indicator could be utilized as a control variable. The results found were extremely important, since there was only a negative correlation between external liabilities and ratings when the original sin
indicator did not control the regression. However, this negative correlation lost statistical significance when the above-mentioned control was performed.\textsuperscript{20}

Furthermore, Eichengreen et al. (2007) established that there was a positive correlation between the presence of original sin and the measures of exchange rate, capital flows, and economic growth volatilities, even when the regressions were controlled by a debt intolerance indicator.\textsuperscript{21} Therefore, these additional regressions also established greater influence of original sin in explaining the different behaviors and volatilities of these economic variables between developed and emerging economies.

In other words, contrary to the debt intolerance advocates, the original sin literature attributed the strong concentration of international investments’ denomination in a few strong currencies to the architecture of the international financial system. In this way this approach recognizes the existence of a hierarchy of currencies in the international monetary system. As a result, emerging and developing countries cannot issue significant amounts of external debts in their own currency and, therefore, external financial openness does not play the same financing role as it plays for developed countries whose currencies have international convertibility.

3.3 Sudden stops and reversals

The dynamics of the contemporaneous International Monetary and Financial System, which are structurally unstable according to Minsky (1986), have also had divergences pointing out between developed and emerging countries in relation to the frequency of access to global financial markets. The occurrence of financial crises in the mid-1990s and beginning of the 00s was necessary in order for mainstream economics to recognize that emerging economies incur interruptions to the access of foreign financing, which in turn leads to negative pressure on the economic activity of these countries. These events were respectively denominated sudden stops and reversals.

One of the first studies to call attention to this unpredictability of external financing was published by Rodrik and Velásco (1999). The authors analyzed currency and financial crises that hit emerging economies in the 1990s, and concluded that these crises originated in the capital accounts of these economies, meaning that any economic policy that was intended to reduce the level of domestic absorption would be ineffective.

According to the theoretical model elaborated by the authors, the interest rate structure of external financing is endogenous to the agents,\textsuperscript{22} in such a way that the rolling
over of foreign liabilities depends on the creditors’ confidence level in relation to the volume of short-term foreign liabilities (STFL) contracted by the investors.

However, according to the authors an optimum level of volume and structure of foreign liabilities, determined by private agents, generally results in the contraction of a high volume of STFL, in such a way that the risks of long-term foreign liabilities defaulting (in the case of the absence of STFL rolling over) has the side effect of raising its interest rate, feeding back into this vicious cycle.23

In other words, according to Rodrik and Velásco (1999), due to factors such as the absence of agent risk internalization in their financing operations and information asymmetry, the market can lead to a macroeconomic scenario characterized by a sum of short-term foreign liabilities that exceed the volume of international reserves (IR), generating balance of payments crises and insolvency.

In order to corroborate their model, Rodrik and Velásco (1999) performed a regression to identify the connection between the ‘STFL/IR’ indicator and financial crises, measured as sudden stops, for a group of emerging economies over the 1990s.24 The results showed that the higher the ‘STFL/IR’ indicator, the higher the probability of financial crises occurring. Besides that, when a sudden stop took place, the effects on currency devaluation and recessive impacts also had a direct relation to the ‘STFL/IR’ level that was in force before the occurrence of the financial crisis.

The increasing differences between emerging and advanced economies in global financial markets continued to incentivize studies aimed at quantifying the impacts that external financial deregulation had been having on each kind of economy. In this sense, the capital account liberalization indicator constructed by Edwards (2007) and its relations with the financial vulnerabilities of economies was an important contribution to the literature.25

Based on the above-mentioned capital account liberalization indicator, the author aimed to identify a relation between sudden stops, reversals, and the degree of capital mobility existing in several countries.26 A first estimation developed by the author showed that emerging and developing countries showed, on average, a higher frequency of sudden stops and reversals in relation to developed economies, which, in turn, showed a low incidence of these two events.

The regressions elaborated by the author especially deserve highlighting, because they evidenced some important dynamics in global finance. In relation to developed economies, the regressions established that the higher the degree of capital mobility, the
lower the frequency (or probability) of these economies incurring sudden stops and reversals. Furthermore, they established that the lower the financial integration of these countries, the higher the probability of the two above-mentioned events occurring.

On the other hand, the regressions elaborated for the conjunct of emerging economies – specifically the Asian economies \(^{27}\) - established contrary behavior, i.e. the probability of these economies incurring sudden stops and reversals increased with the higher the degree of their capital mobility, while this probability (or frequency) decreased with the lower the degree of their capital account liberalization.

These results showed that financial globalization has been functional, in relation to external financing, for advanced countries, while it has been riskier for emerging and developing economies, even when these two groups of countries present similar degrees of \textit{de jure} capital account liberalization. In other words, financial globalization has not been homogeneous in the financing of all countries, nor even delivering equal risk sharing among them, thus revealing its asymmetrical character.

It has been increasingly evident that emerging economies had been facing unfavorable conditions when trying to get stable foreign funding, and in regards to that several papers aimed to investigate the main exogenous factors, as well as the main domestic determinants of sudden stops and reversals. The intention was to find solutions that could partially soften the adverse effects of such events on emerging economies. One good example of such a study was that developed by Calvo et al. (2004), according to which episodes characterized by sudden stops of foreign financing are typical of emerging countries, so much so that several of these countries have already suffered the contagious effects of sudden stops, despite having different levels of public debt.\(^{28}\) It is noteworthy that according to the regressions performed by Calvo et al. (2004), the probability of the occurrence of sudden stops increased with the higher the level of foreign liabilities contracted by the domestic financial system, and the higher the sensibility of the real exchange rate in relation to the current account deficits of those economies.\(^{29,30}\)

Another relevant point derived from the regressions elaborated by Calvo et al. (2004) referred to the strong difference observed between emerging and developed economies in relation to the consequence of incidences of sudden stops. The regressions estimated by the authors showed that the increase of the real interest rate and the reversals magnitude were, on average, respectively, three and five times greater for emerging economies vis-à-vis developed countries. In addition, in some cases when a sudden stop endured, the use of international reserves became innocuous.
Therefore, despite the fact that emerging economies can partially soften the incidence of sudden stops, given the main domestic determinants of such an event, the existence of exogenous determinants (such as contagious effects) means that emerging and developing countries will never be fully protected from this capital flight. In other words, the architecture of the International Monetary and Financial System contributes, per se, to sudden stops of the external financing of emerging economies, a condition that results in the subordinate insertion of these economies into financial globalization.

3.4 Procyclical capital flows, risk sharing, and monetary policy independence

One of the theoretical presumptions that grounded the capital account liberalization processes was that capital flows would inflow countercyclically to the domestic economic activity of countries in order to correct, mainly, the balance of payments imbalances. In turn, this process would promote intertemporal consumption and income smoothing, and this benefit would be potentially greater for developing and emerging countries. Similarly, a higher degree of financial integration between countries would make an increase in risk sharing between domestic and foreign agents possible.

However, such has been discussed, the evidence pointed out unexpected effects beyond the strong divergences between advanced and emerging economies, which had until then not been seen in orthodox economics. Particularly, the study published by Kaminsky et al. (2004) stood out for demystifying some theses about international financial markets, especially the assumption that external financing would always be countercyclical to domestic economic activity. In this way, the study published by the authors aimed to analyze if the economic policies implemented by developed and emerging economies were countercyclical or procyclical to economic activity, and more specifically, to net capital inflows.

When focusing on the macroeconomic response of countries in relation to business cycles, the authors showed that for both groups of countries analyzed, net capital inflows were procyclical to business cycles. This evidence, therefore, contradicted the orthodox assumption that these capital inflows would be countercyclical. However, while ODCE countries succeeded in implementing countercyclical fiscal policies over the analyzed period, the non-ODCE economies implemented procyclical fiscal policies in relation to business cycles.
Kaminsky et al. (2004) also investigated the macroeconomic response of these countries in relation to net capital inflows, establishing relevant differences between the two groups of countries. According to the authors’ correlation calculus, ODCE countries succeeded in implementing countercyclical fiscal and monetary policies in relation to net capital inflows, while non-ODCE countries, in special medium-income emerging economies, responded to net capital inflows by implementing procyclical fiscal and monetary policies.

In this way, Kaminsky et al. (2004) pointed out that a monetary policy that is procyclical to net capital inflows is a major characteristic of emerging economies, since these countries do not have the uninterrupted access to external financing that ODCE countries do. Indeed, the analysis of the amplitude and coefficient of variation of net capital inflows established that emerging economies showed much higher values than ODCE economies did. Therefore emerging economies implemented expansionist monetary policies while in phases of external bonanza, and while in contexts of low global liquidity these economies were forced to practice a monetary contraction in order to attract capital inflows and to reduce domestic absorption, so they could honor foreign liabilities services. In other words, during this second context, emerging economies generally incur in financial constraint. According to Kaminsky et al. (2004, p. 29): “In developing countries, the capital flow cycle and the macroeconomic policy cycle reinforce each other (we dub this positive relationship as the "when it rains, it pours" phenomenon).”

Another important issue pointed out by Kaminsky et al. (2004) was that the ratings attributed by risk agencies to emerging economies were procyclical to their business cycles. This process, in turn, has been contributing to the increase of the amplitude of net capital inflows over the phases of boom and bust in these countries. In other words, the dynamics of rating agencies’ classification of risks has been strengthening the procyclical behavior of fiscal and monetary policies in emerging and developing countries.

Underlying the presumption that capital inflows would be countercyclical to business cycles, a process of financial liberalization should be accompanied by the implementation of a floating exchange rate regime in order to guarantee automatic adjustments in balance of payments. Given the procyclical behavior of net capital flows, several studies started to point out the absence of such automatic adjustments and, consequently, mechanisms present in the exchange rate of emerging economies that were divergent from the ones preconized in orthodox theory. The paper published by Calvo
and Reinhart (2002), in which the expression “fear of floating” was coined, deeply investigated such macroeconomic relations.

The estimations performed by Calvo and Reinhart (2002) showed that emerging economies that claimed to adopt a floating exchange rate regime presented a high variability in their international reserves and interest rates as a counterpart to smooth excessive exchange rate fluctuations. In other words, these countries have been presenting, effectively, a ‘dirty’ floating exchange rate regime.

The implication expressed by the authors was that the frequent changes made in interest rates and international reserves by this group of emerging countries reflected their “fear of floating”. This concern was justified by the fact that exchange rate exacerbated fluctuations were accompanied by an increase in the occurrence probability of sudden stops, since these exchange rate exacerbated fluctuations impacted the risk premiums demanded by international investors and vice-versa.

Calvo and Reinhart (2002) recognized that the risk premium attributed to emerging economies generally had a more volatile behavior. In this way, frequent changes in the domestic interest rate as a response to exchange rate volatility have been reducing the degree of autonomy of domestic monetary policy for these countries. Therefore, one can see that the guarantee of monetary policy independence within the context of a floating exchange rate and a deregulated capital account has not been delivered for emerging economies such as preconized by the impossible trinity presumption.

The evidence of the procyclical behavior of net capital flows in relation to the business cycles of emerging economies gained greater adhesion in literature over the 00s. One of the implications of such dynamics is that the capital account and its financial linkages are getting even more hierarchically superior to the current account in determining capital inflows. This dynamic, as discussed in this article, induces a reduction in the degree of autonomy of domestic monetary policy in these countries, i.e. some of their macroeconomic variables, such as interest rates and exchange rate, are highly susceptible to external shocks and to economic policies implemented in developed countries.

In this sense, the study elaborated by Arora and Cerisola (2000) aimed to quantify the impacts that economic conditions in advanced countries had been exercising on the autonomy of emerging economies to implement their domestic policies. More precisely, the authors’ concern was to measure the influence that changes in the Fed funds rate had
been exercising on the sovereign bonds spreads of emerging economies, a proxy for the country’s risk premium. The authors estimated, in isolation, regressions for a conjunct of emerging economies in which the dependent variable was the sovereign bonds spread of these economies, and the independent variables were the Fed funds rate, domestic factors, and a measure of future uncertainty in relation to the Fed funds rate.\(^3\)

The principle results of these regressions established that changes fostered by the Fed funds rate showed the highest impact, while the domestic factors of the country also played an important role. The authors further pointed out that the sovereign bonds spread of these emerging countries were subjected to contagious effects, in such a way that factors like external banking loans and mechanisms of cross border hedging significantly contributed to this kind of effect. Therefore some of the external factors that have been contributing to negatively affect the autonomy of emerging economies to implement domestic policies were evidenced. One can also state that the monetary policy decisions are asymmetrically taken under financial globalization, in which major developed economies are the ones who truly have a high degree of autonomy in implementing interest rate policies.

In addition, one of the most important issues about this subject is that the full long-term consequences of financial globalization were not well known at the time of the liberalizing reforms. For instance, it was expected that there would be an equal risk sharing between advanced and emerging economies, and that the growth of foreign liabilities and assets would take place in order to sustain the evolution of international commerce and Foreign Direct Investments (FDIs).

To the extent that financial globalization was getting more intense, several unforeseen dysfunctions and trade-offs started to appear. The extreme divergence in relation to risk sharing between advanced and emerging economies was well evidenced in the embracing study published by Lane and Milesi-Ferretti (2007).\(^3\) According to the methodology developed in this particular paper, the de facto financial integration of advanced countries started to depart from the indicator of emerging economies in the beginning of 1990s, and the difference increased considerably through the 00s, a decade where a great deal of developing and emerging economies already showed a de jure liberalized capital account.

The joint analysis of these indicators showed that de facto financial integration has been increasingly greater for advanced countries, then indicating a greater capacity of risk sharing for this economic group. It is also noteworthy that risk sharing has gotten
greater especially due to cross borders operations involving debt bonds. Lane and Milesi-Ferretti (2007) also pointed out that advanced countries that are considered financial centers, i.e. whose currencies are convertible in international financial markets, have a peculiar characteristic: these economies showed high volumes of gross external liabilities and assets while also showing a relatively low and constant Net External Position (NEP). It is notable that this last condition contributes to a less volatile exchange rate in developed economies, what in turn secures their monetary policy’s high degree of autonomy.

In order to deepen the analysis on the divergences of the existing external positions, Lane and Milesi-Ferreti (2007) subdivided the external assets and liabilities in their components and found the following scenario: in a general way, advanced countries presented a positive net external position (NEP) for equities and FDIs and a negative NEP for debts, in such a way that the authors affirmed that the financial systems of these countries have been functioning like hedge funds. On the other hand, for the class of developing economies, a considerable number of these countries (about one third) showed an opposite composition, i.e. a negative NEP for equities and FDIs and a positive NEP for debt bonds.

This last group was essentiality constituted by emerging economies that were externally financed through equities and FDIs and that had extensive international reserves invested in the public debt bonds of advanced countries. Therefore, this class of emerging economies showed an external financial insertion that was unfavorable, since the charges on their foreign liabilities are much higher than the yields of their external assets, given the fact that the interest rates of advanced economies are relatively low. This returns differential has therefore constituted another counterfactual to the benefits of financial globalization being equally reaped, and can be seen as a consequence of the inferior capacity of risk sharing of emerging economies.

Congruent to the evidence that the financial systems of advanced countries have a superior risk sharing capacity in relation to developing and emerging economies, the paper published by Bluedorn et al. (2013) also deserves attention for demystifying several concepts about capital flows volatility. The authors pointed out that the net capital inflows of emerging economies were, relative to their GDPs, higher and more volatile compared to those of advanced economies. One of the main determinants of this phenomenon was that the gross outflows of developed countries were greater in relation to those of developing economies. Furthermore, the gross outflows of advanced
economies, especially the banking and debt bond flows, have been mostly flowing to other developed countries, which helps to explain the greater de facto financial integration and risk sharing among these countries.

In addition, Bluedorn et al. (2013) investigated if the volatility of capital flows were significantly different between these two classes of countries, in order to ratify or counterpoint the mainstream vision that the capital inflows of emerging economies show a relatively higher volatility. According to the authors’ estimations, there were not statistically significant differences between the volatilities of net capital flows of advanced and emerging economies. However, a more disaggregated analysis established other results: several subcomponents of net capital inflows of advanced countries, especially debt bonds and banking flows, showed a higher degree of variability.

Two other characteristics of the two classes of countries analyzed differed: the level of gross capital outflows of emerging economies was inferior to the one observed for developed countries; however, the capital flows volatility of this class was greater than for the emerging economies. According to Bluedorn et al. (2013), this difference in the behavior of gross capital outflows between the two classes of countries has been influencing the behavior of net capital flows and, consequently, the movements of the nominal exchange rate, that being more volatile for emerging economies.

As described, apparently the advanced economies analyzed had a paradox: several subcomponents of net capital inflows were relatively more volatile in relation to the emerging economies; however, the aggregate volatility of net capital inflows did not show this behavior. According to Bluedorn et al. (2013), it occurred because the level of development of the financial system of developed countries is relatively superior. More specifically, the authors showed that there was, in the case of advanced economies, a strong and positive correlation between the subcomponents of gross outflows.

This strong degree of financial assets interchangeability, in turn, has been fostering a strong and negative correlation between net subcomponents of capital flows, that being a factor that guarantees a relatively constant level for this variable and, hence, for the nominal exchange rate of advanced countries. Besides this strong degree of interchangeability, the financial systems of developed economies have also been providing a high degree of complementarity of financial assets subcomponents, what in turn has also contributed to relative stability in their respective nominal exchange rates. In other words there was a strong and positive correlation between the gross capital inflows and gross capital outflows of these economies.
The main empirical evidence raised by Bluedorn et al. (2013) established that, contrary to what has been defended by a great share of mainstream literature, the volatility of capital flows has not been intrinsically greater for emerging economies. The appearance of this phenomenon, due to a higher variability of net capital inflows (and hence, of nominal exchange rate) observed for this group of countries, is due to the fact that their financial systems do not have a similar level of development and sophistication in relation to what is observed in advanced countries.

Therefore, the financial systems of emerging economies have been causing a relatively inferior interchangeability and complementarity between the subcomponents of their capital flows. In other words financial globalization has not enhanced, via foreign competition, the development of the financial systems of emerging economies to the level observed for advanced countries. As a consequence, besides the higher volatility of the net inflows of emerging economies, the *de facto* financial integration and risk sharing occur more intensively in developed countries. As previously argued, this processes has been fostering an asymmetry between the autonomy of advanced and emerging economies in implementing domestic monetary policy, since a higher volatility in the exchange rate of emerging economies induces them to use domestic interest rates to counter excessive fluctuations in the foreign exchange market, and consequently, this reduction in the degree of autonomy of monetary policy has been preventing emerging economies from acting countercyclically to private capital flows.

### 4 Conclusions

The financial crises that hit emerging economies during the 1990s and the beginning of the first decade of the twenty-first century was an alarm to the fact that financial globalization could not be as functional and predictable as presumed in orthodox theory. The wave of studies that has taken place since then has been concerned with investigating the validity of such presumptions, as well as evidencing new phenomena derived from the global finance liberalization.

A factor that these studies have in common is that they point to the fact that there is no robust evidence that emerging economies are reaping the promised benefits of global finance. In fact, when it was possible to state clear evidence on the subject, these studies showed that emerging and developing countries reap the higher risks from the contemporaneous International Monetary and Financial System.
Despite literature incorporating all these counterfactuals, there has not been, at least to the same intensity, an evolution in orthodox theory about capital account liberalization. Until now, most of open macroeconomic theory has been based on the notion of impossible trinity and other presumptions that ground capital account liberalization in order to reach sustainable development and stability.

Therefore, the understanding of this article is that the last two decades of empirical studies on financial globalization and its outcomes must be used in the construction of a new open macroeconomic theory that takes into account all these dysfunctions derived from global finance. Our understanding is that, given the results surveyed in this article, this new theory must contemplate the use of capital controls in its presumptions and prescriptions.

It is also noteworthy that, contrary to orthodox theory constructed during the 1980s and 1990s that grounded full external financial openness, a new theory developed in favor of capital controls would benefit from decades of empirical research about the subject. In other words, while the orthodox theory, briefly described in the Section 2, had little or no evidence to ground its presumptions being built from hypothetical-deductive methodology, a new theoretical construction would have several stylized facts based in empirical evidence that should be used in the elaboration of its presumptions. From this perspective, an ex post open macroeconomic theory would be more useful in providing prescriptions of economic policy than an ex ante theory, such as the presumptions that grounded full capital account liberalization in the 1980s and 1990s.

Notes
1. In summary, an approach based on conclusions of New Keynesian macroeconomics. For more details see Arestis (2009).
2. It is notable that, theoretically, the effects of a higher degree of financial integration on the volatility of GDP presents more caveats, since the neoclassical-orthodox apparatus assumes that a capital account liberalization can induce productive specialization or a higher degree of productive diversification.
3. The uncovered interest rate parity (UIP) theory can be demonstrated as follows: \( \Delta^e_{t+k} = (i_D - i_F) + p^{CR}_t + p^E_t \); where \( i_F \) represents the foreign interest rate; \( i_D \), the domestic interest rate; \( p^{CR}_t \), the country risk premium; \( p^E_t \), the exchange rate risk premium; and \( \Delta^e_{t+k} \) is the expected exchange rate devaluation \( k \) periods ahead (assuming that \( i_D \) is superior to \( i_F \)). For more details about the literature on UIP, see Alper et al. (2009).
4. The implicit premise in this defense is that a de jure capital account liberalization, i.e. the removal of remaining controls in the capital account, leads to a de facto financial integration (the sum of foreign gross assets and liabilities) in a similar proportion.


6. The authors selected 12 emerging economies during the period 1982-1997 and used the following control variables: initial per capita income, initial scholarship level, the mean of investment/GDP rate, political instability and regional dummies. The methodology of financial integration is the one developed by Lane and Milesi-Ferreti (2007).

7. The method used by Prasad et al. (2003) consisted of calculating the standard deviation of the above-mentioned macroeconomic aggregates. The analysis period covered 1960 to 1999, and was also subdivided into decades.

8. The cross-country regression elaborated by Kose et al. (2006) also showed the absence of such a correlation. The period of analysis covered 1985-2004.

9. Rodrik and Subramanian (2009) performed these regressions for the periods of 1970-2004 and 1985-2004. Contrary to many studies that use indicators of de jure capital account liberalization, the authors used measures of de facto financial integration based in Lane and Milesi-Ferreti (2007). The regressions were performed in relation to the level of financial integration and in relation to changes within this level. Both regressions pointed to a lack of a robust correlation between external financial openness and higher rates of economic growth.


11. According to the theory proposed by Rodrik and Subramanian (2009), capital that flows to IC economies can increase investment in non-tradable sectors, especially due to the fact that domestic currency gets valorized in this context. However, this effect is overcome, in terms of long-term economic growth, for the reduction of investment rate in tradable sectors.

12. For the countries to be characterized in the first group, commensurate with the neoclassical-orthodox approach, capital inflows must have a direct relation to the investment/GDP rate of emerging economies. Alternatively, international interest rates must have an inverse relation to the investment/GDP rate of emerging economies.

13. Such as described, the development of the domestic financial system, in improving the channeling of domestic savings to tradable sectors, can reduce the pressure on exchange rate appreciation.

14. Prasad et al. (2007) also found this conclusion through different methods.

15. Rodrik (2006) shows for a conjunct of emerging economies that the international reserves (IR) have strongly increased since the 1990s, a consequence of the increase of capital inflows to these economies. However, the M2/IR indicator was relatively constant during this period, indicating that a significant part of these capital inflows were accompanied by sterilization policy, since the M2 monetary aggregate includes public bonds. Furthermore, the fixed capital gross formation/GDP rate in these countries dropped sharply from the mid 1990s to the mid 00s, a period in which several of these countries were strengthening their external financial openness processes.
16. This indicator captures the representativeness of bonds that have an unfavorable indexation (denomination in a foreign currency, short-term bonds, and interest rate post-fixed bonds) on the total of a given country’s DPDS.

17. The study elaborated by Eichengreen et al. (2003) covered the period 1980-1999. It is noteworthy that the volatility of the real exchange rate of emerging economies showed a similar magnitude between a 1 year and a 5 years moving average, both for the decades of 1980s and 1990s, being from twice to three times greater than the volatility of the real exchange rate of advanced economies.

18. The regressions elaborated by Reinhart et al. (2003) used the dollarization index as a dependent variable, and the following independent variables: both inflation rate history and foreign debt restructuring episodes, and the level of foreign debt to GDP, for the period 1996-2001. All independent variables presented a direct relation to the dollarization index.

19. These regressions were controlled by the following variables: per capita GDP, total debt/GDP, foreign debt/GDP, volatility of terms of trade, and volatility of the real exchange rate.

20. The authors also controlled the regressions by the countries' level of development, i.e. between developed and developing economies.

21. The inclusion of a debt intolerance indicator as a control variable did not show statistical significance and the results remained the same.

22. Given the fact that short-term foreign liabilities (STFL) present an inferior perceived risk in relation to long-term liabilities, due to the fact that they have a relatively inferior liquidation deadline, agents attribute inferior interest rates to STFL.

23. Rodrik and Velásco (1999) used this theoretical construction to explain the crises of emerging economies in the 1990s.

24. The regression elaborated by Rodrik and Velásco (1999) included 23 emerging economies for the period of 1988-98. The debt inflows were divided into long, medium and short term. For the latter category, there was still a subdivision between foreign liabilities contracted by the banking and financial system, and total short-term foreign liabilities, both in relation to total foreign liabilities.

25. The indicator of capital mobility mainly takes into account the degree of (de)regulation on the capital account, but also includes a measure of commercial integration. For more details about the methodology, see Edwards (2007).

26. The regressions developed by Edwards (2007) covered the period of 1970-2000. The countries present in the sample were grouped according to their income level.

27. The regressions performed for the conjunct of Latin American countries did not show statistical significance. These results hold for both regressions that used 1-year and 5-years moving averages.

28. Calvo et al. (2004) pointed out that some emerging economies that were hit by sudden stops had levels of public debt inferior to the ones observed for advanced economies.

29. It is notable that the measure of real exchange rate sensibility to external deficit took into account the ratio between absorption of tradable products and domestic production. The higher this ratio was, the higher was the real exchange rate sensibility.
30. The regressions performed by Calvo et al. (2004) covered the period of 1990-2001 and contemplated 15 emerging and 17 developed economies. The control variables were the following: international reserves/current account balance, the growth rate of private credit, total public debt, FDI/GDP, fiscal stance/GDP, improvements in terms of trade, two measures for exchange rate regimes and a dummy for emerging economies.

31. For more details, see Section II.

32. The study elaborated by Kaminsky et al. (2004) covered 104 economies and subdivided them into economies belonging to ODCE (21) and ‘non-ODCE’ countries (and this last category was subdivided into low-income (40), medium-income (25) and medium-high-income (18) countries. The period of analysis was from 1960 to 2003.

33. As an analysis methodology, Kaminsky et al. (2004) used Hodrick-Prescott filters to calculate the cyclical components of each variable and, in that way, to perform correlation calculus and the regressions. As a proxy for fiscal policy, the authors used the cyclical component of non-financial real expenditure. The proxy used for monetary policy was the cyclical component of short-term nominal interest rates (the interbank rate, for example).

34. This study covered the period of 1970-1999 and distinguished four classes of countries based on the criterion of exchange rate regime: developed countries that had a pure floating exchange rate, emerging economies that had a peg regime, emerging economies that had an administrated exchange rate regime, and emerging economies that claimed to have a pure floating exchange rate.

35. Calvo and Reinhart (2002) stated that risk premium shocks were responded to by means of interest rate changes. The authors still pointed out that these indirect manipulations in the exchange rate served as an instrument to the control inflation rate. It was especially valid for emerging economies that had a high pass-through coefficient and an inflation target regime.

36. Through different methods, Rey (2015) reached a similar conclusion, i.e. that the impossible trinity is not valid for emerging economies. Instead of pursuing full capital account liberalization, emerging economies should use capital controls in order to increase the degree of autonomy of their monetary policy.

37. The regressions covered the period of 1994-1999 and were estimated, in isolation, for 11 emerging economies. The uncertain measure in relation to the future American interest rate was calculated based on the spread between the Fed fund rate and the Treasury bills three-month interest rate. The variables related to domestic factors were the following: fiscal stance/GDP, net foreign position of the banking system, public foreign and public total liabilities/GDP, foreign liabilities services/exportations, and international reserves/importations.

38. Lane and Milesi-Ferretti (2007) presented an extensive database of foreign gross and net assets, and liabilities for a conjunct of 145 economies over the period of 1970-2004. The assets and liabilities were subdivided in three categories: FDI, equities, and debts (that included debt bonds and debts related to the banking system). The indicator of de facto financial integration proposed by the authors consisted in (foreign gross assets plus foreign gross liabilities)/GDP.

39. The study elaborated by Bluedorn et al. (2013) analyzed 147 economies, subdividing them into advanced, emerging, and developing economies. The capital flows analyzed
were subdivided in FDIs, equities, and debt (which included banking debts). The paper covered the period 1980-2011.

40. The volatility calculus of each capital flow, as well as its subcomponents, was performed by means of estimations of standard deviation and coefficient of variation.

41. The capital inflows to emerging economies were expected to be more volatile because the institutions of these countries have not yet achieved the level observed in advanced economies.

References


