The financing of developing countries in the face of the global financial crisis

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Abstract: The depth and width of the crisis of deregulated, liberalized and poorly supervised finances will entail changes in the regulation and supervision of financial systems. However, these changes are very unlikely to result in a structural reform of the international financial framework and in the reversion of financial globalization. The main proposals for reorganization currently being discussed tend to take no consideration of the subordinate position of developing countries in the international monetary and financial system. This article thus seeks to discuss the implications of the crisis for peripheral countries which have become part of the financial globalization, turning into “emerging markets”. Since the strategies implemented after the crises of the 1990s have proven insufficient to protect them against the intrinsic volatility of international capital flows, the article proposes to rekindle debate concerning controls and management techniques for these flows, which also involves prudential regulation on operations with foreign currency by the financial institutions of such countries.

Introduction

The financial crisis started in mid-2007, with the soaring insolvency and the devaluation of real estate and assets related to American high-risk (subprime) mortgages, has reached systemic proportions after the bankruptcy of many banking and non-banking institutions. The distrust of investors in financial systems has become widespread, entailing panic-driven moves in stock, exchange, derivatives and credit markets on a global scale.

In the face of fear and insecurity, investors have sought to relocate their portfolios, selling the higher-risk assets and thus causing a sharp fall in their prices and in the value of weak currencies. In this move, they were attempting to ensure liquidity, preferably in international reserve currency and/or US Treasury bonds, the last resort assets of the global monetary system, still controlled by the American nation-state, which resulted in a flight-to-the-dollar, despite Wall Street being one of the epicenters of the crisis. The systemic crisis increased distrust among financial institutions, thus blocking resource flows in interbank markets, estimated at US$ 23.3 trillion in March 2008 by the Bank for International Settlements (BIS). This caused interest rates to soar, especially the Libor (London Interbank Offered Rate) – an indicator of liquidity in the London interbank market –, resulting in a tendency of contraction in bank loans. Small and medium-sized financial institutions have been threatened by withdrawals and cuts in their credit lines. Corporations have also faced difficulties in renewing existing loans and/or contracting new ones.

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Among various decisions, the authorities of the main monetary centers have taken measures to ensure the continuance of interbank operations, seeking to increase the flow of liquid resources, concentrated in the large financial institutions, and to capitalize the weakened banks. The American government has made US$ 2.25 trillion available (US$ 1.5 trillion as collateral for new debts emitted by the banks, US$ 500 billion for deposits in mutual funds and US$ 250 to capitalize larger banks). The Federal Reserve increased to US$ 900 billion its agreements of currency exchange with nine central banks in order to enhance liquidity in US dollars in the global financial markets. The countries of the European Union (Germany, France, the Netherlands, Spain, Austria, Portugal, the United Kingdom and Sweden) and Norway have in turn made US$ 2.75 trillion available. In addition, Italy announced it would supply “as much as necessary”, and Poland has signaled to a similar plan.

The crisis has spread to developing countries, many of which were forced either to adopt financial packages to aid their respective financial systems or to flexibilize their monetary policy. Russia has drawn a plan of US$ 200 billion, and South Korea one of US$ 130 billion with a view to stabilizing the financial markets. The governments of Malaysia and Singapore have provided collateral for deposits in domestic and foreign currency until 2010. The Central Bank of India has reduced its rediscount rate. The Central Bank of China has lowered the aliquot of banks’ compulsory deposits and the interest rates on deposits and loans. The Brazilian government has initiated a set of measures aimed at alleviating the loss of liquidity in domestic currency and at providing credit lines in US dollars for exporters.

Further aggravating the scenario of uncertainty in the financial systems, the estimates of contraction of the international demand for goods and services has contaminated the price of commodities (agricultural, mineral and energy) exported by developing countries (Russia, Brazil, Mexico, Nigeria, etc.), reinforcing pressures for the depreciation of their currencies. The Eastern European countries, some presenting a two-digit deficit in their current accounts in relation to their GNP, have come under intense pressure. Ukraine has negotiated an emergency US$ 16.5 billion loan with the IMF, and Hungary has contracted a € 5 billion loan with the European Central Bank.

The first meeting of the G20 to discuss the reform of the international financial framework has been scheduled for November 15th, 2008. After initial resistance, President George W. Bush has agreed to summon world leaders to Washington in order ‘to promote mutual comprehension’ regarding the origin of the crisis and to formulate ‘a common set of principles for the reform of the regulatory and institutional regimes of international financial sectors.’ The Summit on Financial Markets and the World Economy will comprise the G7 (United States, Japan, Germany, France, United Kingdom and Canada) as well as a group of emerging nations including Argentina,
Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea and Turkey. Some researchers argue for the creation of a cartel comprising the twelve largest economies’ central banks in order to coordinate policies of regulation, supervision and global liquidity. This group would meet frequently, probably replacing the G8 (which includes Russia).

Others support the creation of a new G8 (Brazil, China, the European Union, India, Japan, Russia, Saudi Arabia and the United States) to discuss and determine policies related to the global economy and to financial systems.

It is known that the weakening of the multilateral financial institutions created by the Bretton Wood Agreement (1944), especially of the International Monetary Fund (IMF), has meant that the functions of regulating global liquidity and of acting as last-resort lender have been handed over to the Federal Reserve and to the American Treasury, the exclusive managers of the world’s reserve currency since 1947 (Marshall Plan). In the face of the asymmetries resulting from the American position and from difficulties of coordination, in 1975, French President Valéry Giscard d’Estaing took the initiative of summoning the Heads of State or Government of the central countries in order to discuss the major international issues. The main concern of this forum (the G7) was the coordination of short-term economic policies among the participant countries. Shortly before, in 1974, the Basel Committee for Banking Supervision (BCBS) was created within the Bank for International Settlements as a forum for discussions aimed at perfecting the processes of banking supervision and of cooperation among the different national organisms. Although participants remained restricted to the G10, the understandings and the agreements reached in this Committee had an impact on the instruments of regulation and supervision of non-member countries. Basel Agreements I and II were negotiated within this Committee.

Given the magnitude of the losses and of the public resources raised in order to reestablish trust, the weakness of the deregulated, liberalized and carelessly controlled financial system has become evident. The rescue of mortgage agencies (Fannie Mae and Freddie Mac) and of the American Insurance Group (AIG), as well as the bankruptcy of independent investment banks in

4 Garter (2008), Professor in Yale, goes even further. He argues for the need of a new global monetary authority (GMA). ‘A GMA would work as a reinsurancel central or as a discount house for specific obligations held by the banks. It would evaluate more efficiently than the IMF the regulatory activities of national authorities and it would supervise the implementation of a limited number of world regulations. It would monitor the international risks and set up an effective system of anticipated alert, being a more respected organism to sound the alarms than the BIS. The institution would also work as a “bankruptcy court” for the world reorganization of financial companies beyond a certain size. The largest world financial companies would have to be registered at the GMA and they would be subjected to its monitoring, lest they be included in a blacklist. This would include commercial companies and banks, but also sovereign investment funds, large hedge funds and private capital companies. The GMA’s counsel would comprise the directors of central banks coming not only from the US, the UK, the euro zone and Japan, but also from China, Saudi Arabia and Brazil. The institution would be financed by compulsory contributions from all member countries which are in a position to pay, as well as by premiums in the manner of insurances paid by the world’s financial companies – the open capital companies, as well as the State companies and the closed capital ones.”

5 Comprising the following countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States.
Wall Street (Bear Sterns and Lehman Brother), of hedge funds and private equities funds have speeded the shrinkage of a gigantic financial system which had been producing ever more complex and opaque innovations. Banking and non-banking institutions had granted home purchase loans by means of different types of mortgages, attracting higher-risk borrowers. In the sequence, these loans were brought together and packed into securities, which could be sold to different investors at an international level. The payment flows of these securities were divided in tranches of different levels of risk, compensating the riskier tranches with higher interest rates. The credit risk rating agencies certified these securities so that they could be purchased by pension funds and insurance companies. To make the distribution of some of the riskier securities easier, a credit derivative was introduced (credit default swaps), thus reinforcing the inventors’ security against the insolvency of the issuers of such titles. In general, these assets were negotiated in over-the-counter markets, by means of bilateral agreements and with no clearinghouse.

This model of credit generation and distribution, involving a large number of institutions and markets has been called the “global shadow banking system”. These institutions raised resources in the short term, operated with high leverage and invested in long-term and illiquid assets. However, as opposed to other banks, they were loosely regulated and carelessly supervised, having no capital reserves, no access to deposit insurances, to rediscount operations and to last-resort credit lines in the central banks. They were thus highly vulnerable, both to the flight of investors (withdrawal of resources or mistrust of short-term markets) and to assets’ unbalances (Farhi & Cintra, 2008).

In spite of the high level of uncertainty and of the risks involved, American authorities sought to accelerate the process of adjustment of the more opaque segments of the financial system through the bankruptcy of insolvent institutions and the elimination of the more exotic financial instruments, thus promoting an imposed restructuring of its own financial system and, as a consequence, of the global financial system. The purpose was to reduce the obscure ramifications and the sources of instability. This meant forcing a reorganization of the financial framework under the regulation and supervision of the Federal Reserve System, followed by the other central banks (United Kingdom, European Union, Switzerland, Japan, Canada, etc.).

It also meant forcing an improvement in the regulation and supervision systems. The new rules for the operation of financial systems seem to go in the direction of an improvement of Basel II at a global level, according to what has been called supervised self-regulation, i.e., with some rules regarding the degree of leverage, stress tests for new instruments and corporate governance reflecting the fiduciary responsibilities of financial institutions (Guttmann, 2008).6 The financial

6 Within the Basel Committee for Banking Supervision (BCBS), negotiations and improvements in the models and in the mechanisms of risk management and monitoring continue: ‘In April 2008, the Basel Committee has announced a
institutions – whether they act on a global scale or not – will follow the norms of risk-weighted capital and the increasingly sophisticated monitoring and management systems. The over-the-counter derivatives markets, and especially the credit derivatives, will be negotiated in organized markets, with standard contracts and clearinghouses.7

According to this direction, the first section of this text presents a small agenda for the improvement of the regulatory system. The second section discusses the implications of the crisis for the peripheral countries involved in the financial globalization which have become “emerging markets.” The argument put forward is that the proposals have so far ignored these implications, which are specific and associated with these countries’ subordinate position in the international monetary and financial system. Furthermore, these countries should review the strategies implemented after the financial crises of the 1990s, which have proven insufficient to secure them against the intrinsic volatility of international capital flows.

1. Discussion agenda for the improvement of the regulatory system

The complexity and the sophistication of the new instruments, which has surfaced with the recent financial crisis, have masked uncertainties and the interrelation of risks, as much for banks as for regulatory authorities. The proliferation of innovation demands constant monitoring (by the banks themselves and by the authorities) because there is no safety mechanism which prevents a movement of risk perception going in a single direction (upward or downward, “bulls and bears” in Keynes’ language). In case there is a “polarization of opinions” led by the bears, pricing becomes

series of steps to help make the banking system more resilient to financial shocks. These included: a) enhancing various aspects of the Basel II Framework, including the capital treatment of complex structured credit products, liquidity facilities to support Asset-Backed Commercial Paper (ABCP) conduits, and credit exposures held in the trading book. At the same time, the Committee noted the importance of prompt implementation of the Basel II framework, as this will help address a number of the shortcomings identified by the financial market crisis; b) initiating efforts to strengthen banks’ risk management practices and supervision related to stress testing, off-balance sheet management, and valuation practices, among others; c) enhancing market discipline through better disclosure and valuation practices’ (available at – http://www.bis.org/press/p080416.htm). In September 2008, the BCBS (2008b) issued a new document, Principles for Sound Liquidity Risk Management and Supervision, according to which: ‘Guidance has been significantly expanded in a number of key areas. In particular, more detailed guidance is provided on: the importance of establishing a liquidity risk tolerance; the maintenance of an adequate level of liquidity, including through a cushion of liquid assets; the necessity of allocating liquidity costs, benefits and risks to all significant business activities; the identification and measurement of the full range of liquidity risks, including contingent liquidity risks; the design and use of severe stress test scenarios; the need for a robust and operational contingency funding plan; the management of intraday liquidity risk and collateral; and public disclosure in promoting market discipline’. It is possible that the reaction of financial institutions to these initiatives will be the development of ever more complex models. For a discussion of the possible impacts of Basel II in developing countries, see Freitas (2008) and Griffith-Jones; Kregel & Ocampo (2007).

7 The report of the Counterparty Risk Management Policy Group III (CRMPG III, 2008), for instance, recommended: a) the creating of a clearinghouse for over-the-counter derivatives; b) that counterparties in certain over-the-counter operations should be “sufficiently sophisticated to understand the operations and their risks.”; c) changes in the evaluation of credit-backed assets – including those already existing – which would no longer be kept off-balance and would be included in the balance-sheets. This last recommendation would result in a sharp increase in regulatory capital and would force many institutions to raise large amounts of capital. However, “expensive as these reforms might be, this cost will be a small fraction if the hundreds of billions of dollars those financial institutions have had to face in credit liquidation in the last months, not to speak of the distortions and of the economic repositioning brought about by the crisis.”
erratic, not to say inexistent. Sharp fluctuation in the prices of assets might jeopardize all agents’ liquidity and solvency (banks, investment funds, hedge funds, companies and families). It is also impossible to prevent that, in contexts of euphoria, banks should perform imprecise credit evaluation and promote a concentration of assets and overleveraging.

The implications of the crisis for the governance of the international financial system still remain uncertain. Some agents (such as the Institute of International Finance – http://www.iif.com), in spite of supporting the decision of enhancing global liquidity promoted by the major central banks, fear a radicalization of regulations, which would excessively limit the actions of banks and other financial institutions (Dallara, 2008). The inherent technical deficiency of this governance is far from having been overcome: the inexistence of a global regulating organism. Regulators and institutions acting on the financial market are still organized on national bases. While regulation is national, finances are multinational, thus imposing a deficit of global governance. However, even within the current status quo, it is possible to formulate a few proposals to improve the regulating mechanisms of the financial system.

First, it would be necessary to consolidate the different regulatory agencies, both in Europe and in the United States. The subprime crisis has laid bare the obsolescence of the decentralized structure of supervision, which is due to the degree of interrelation among the different financial institutions (banks, pension funds, investment funds) and markets (credit, capitals and derivatives). It is worth mentioning that this problem has already been identified by the American government. One of the pillars of the proposal for restructuring the regulatory structure of the American financial system, which was announced in late March 2008 by US Secretary of the Treasury Henry Paulson, consists exactly of consolidating the different regulatory agencies in the country. Besides, in this proposal, the Federal Reserve would have increased powers and, as well as financial holdings, it would supervise investment banks, insurance companies and investment funds (including hedge funds).

Second, a few initiatives should impose limits to the advancement of securitization, among which might be noted: (i) regulators could impose restrictions to the instruments that can be issued and acquired by the regulated entities; (ii) central banks could only accept as collateral in commitment or rediscount operations sufficiently transparent classes of asset-backed securities (ABS); (iii) a regulatory requirement could be enforced that demands the originator to retain the equity tranche – this is so because when the originator of the loans is far too distant from the investor, the incentives for careful origination are fewer; a means of mitigating this problem would be for the originator to retain the riskiest tranche; (iv) a re-intermediation could be promoted, with
the incorporation of off-balance institutions (conduits, SIVs, quasi-banks) on the banks’ balance-sheets.8

Third, the role of rating agencies and the banks’ models of internal ratings should be reconsidered. The subprime crisis made the deficiencies of these two models proposed in Pillar 1 of Basel II very conspicuous. As Buiter (2008b) suggests, the regulatory role of rating agencies and of the internal models of pricing credit risk should be eliminated. These institutions ought to become one-product firms, i.e. they should only offer the service of credit-risk rating. The potential conflicts of interest arising from the situation in which an agency provides consulting services and advice on the structuring of securities is inevitable. Even the sale of products and services which do not conflict directly with the rating process is undesirable, as it might provide an incentive to distort rating in exchange for business opportunities in other areas. The existence of specialized companies should also reduce entry barriers and enhance competition. Payment by the issuer should be eliminated. Payment by the investor is not an ideal solution, since, in spite of eliminating the conflict of interest, it would create a problem of collective action, or free rider. In a viable solution, ratings would be paid by an organism representing institutional investors, financed through a fee paid by these agents and by the issuers of securities. Conflicts of interest would thus be avoided, inasmuch as no individual issuer would pay for its own rating.

Fourth, internal models of risk pricing have proven to be of little use in times of turbulence, since they are built on parameters drawn from past information. They suppose that the prices of assets are not correlated and that oscillations are of relatively little consequence. However, when the crisis breaks out, the prices of assets become correlated and oscillations become sharp, resulting in great losses. Furthermore, ‘the risk sensitivity approach is upside down. Statisticians need to stand back a little and look at the broad sweep of financial history. Financial market crashes do not emerge randomly, but follow booms. What fuels the boom are market estimates that risks are low. This optimism encourages imprudent lending, which eventually leads to the next crash. Boom-time is the best time for financial institutions to make provisions, but the incentives are for banks to respond to falling margins of a maturing boom by chasing after the marginal borrower. Current regulations do not pull them back but let them run ahead. Market-price-based, risk-sensitive models tell banks in the up-cycle that risks have fallen and capital is sufficient for more risk-taking’ (Goodhart & Persaud, 2008).

8 For the Unctad (2008: p.2): ‘the problem with these investment vehicles is that they had a built-in maturity mismatch, and once they lost access to the market for asset-backed commercial paper, the parent banks had to step in and provide the necessary liquidity. Thus, a liquidity crisis which originated outside the banking sector immediately spilled over into the sector. This suggests that the involvement of banks with lightly regulated agencies that could conceivably transmit liquidity and solvency problems to the banking system should be either prohibited or reported in a fully transparent way’.
Finally, in order to attempt to limit the aggravation of the cycles of financial assets motivated by banking credit, Goodhardt & Persaud (2008) propose ‘that bank capital requirements should not only be contra-cyclical but also related to the rate of change of bank lending and asset prices in the relevant sectors. The capital adequacy requirement on mortgage lending could be linked to the rise in both mortgages lending and housing prices, and lending to construction and property companies to the rise in such lending and in commercial property prices. Where there are less reliable guides to asset prices, more weight would be placed on the growth of bank lending by itself, perhaps supplemented by prices in the relevant equity market sector. The purpose of the exercise is not to end the cycle, but to build up reserves and to restrain bank lending during asset price booms, so as to release them during asset price depressions’.°

2. The implications of the crisis for developing countries

So far, proposals for improving mechanisms of regulation have focused on the configuration of financial systems in advanced countries and on the international financial system (Aglietta & Rigot, 2008; Roubini, 2008; Buiter, 2008a), avoiding two fundamental issues which are closely related and which had been noted by Keynes. First, the hierarchical and asymmetrical nature of the international monetary system. Second, the characteristics of this system (besides their nature, the form of the international currency, the exchange rate regime and the degree of capital mobility) shape the profile of international finances in each historical epoch.

In spite of the different characteristics of the international monetary systems which have replaced each other since the 19th century, the practical solution for the inexistence of a truly international currency, has remained the same. As noted by Brunhoff (1996), based on an agreement among advanced (or developed) countries, which reflects the underlying power relations, a key-currency is established, that of the hegemonic country, which performs the role of international currency, i.e., means of payment, unit of account and of denomination of contracts and value reserve. There is, however, an inherent ambiguity to this agreement, since the key-currency, placed at the top of the pyramid, is also a financial asset in competition with other currencies.

Furthermore, these currencies are also hierarchically positioned among themselves. Besides the superior position of the key-currency, there is an asymmetry in the international monetary


10 The works developed within the Unctad (Trade and Development Report, 2004 and 2007) have been an exception.

11 Some heterodox authors emphasize the logical impossibility for a national currency to play the role of an international currency, such as Guttmann (1994) and Schmitt (1975 and 1977). This author, the main representative of the theory of the monetary circuit of production, develops a detailed analysis of this impossibility based on the idea of a hierarchy of the credit-currency (on this approach, see Freitas, 1997).

12 Aglietta (1986) has made a difference between monaie and divise (“money” and “currency”), according to which the money is sovereign in its national territory and becomes a currency when it starts circulating in the international sphere.
system between the convertible currencies of developed countries, which occupy an intermediary position in the hierarchy – since they perform, in a secondary way, the role of international currencies – and those of the developing countries which participate in financial globalization and thus become emerging countries. The currencies issued by these countries are generally incapable of performing such roles, which makes them inconvertible currencies, situated at the bottom of the hierarchy.

In the international monetary system which emerged after the breakdown of the Bretton Woods system and which was consolidated by the regain of hegemony by the US, the hierarchy of currencies has become even more asymmetrical, as a result of the key-currency’s fiduciary character, which secures the United States a practically unlimited degree of liberty in the management of its exchange, monetary and tax policies. The other characteristics of this system – flexible exchange rates and free capital mobility – have reinforced this autonomy and, at the same time, have imparted an inherent instability to the system, reaching in a very harmful way the countries that issue inconvertible currencies.

This is because these countries are subject to two closely associated asymmetries. The monetary asymmetry, which is related to the hierarchical nature of the international monetary system, is coupled with the asymmetry of the international financial system, comprising two dimensions. The first is related to the determinants of capital flows directed to the emerging countries. These flows ultimately depend on a dynamics that is exogenous to these nations, which thus remain constantly vulnerable to their reversion, which might be the result of either changes of phase in the economic cycle and/or changes in the monetary policy of the central countries, or of the increase of a preference for liquidity on the part of global investors. The second dimension relates to these countries’ marginal insertion in the global capital flows. In spite of the increase of assets issued by these countries in the portfolios of investors residing in advanced economies in the course of the 1990s, such participation is still residual (Obstfeld & Taylor, 2004).

Monetary and financial asymmetries, which reinforce each other, have two important consequences for the dynamics of the exchange and financial markets of emerging countries. First, these markets are particularly vulnerable to the inherent volatility of capital flows. At times (as in the present) of reversion in the cycle and of an increase in the preference for liquidity, ‘emerging’ financial assets, not playing the role of value reserve and thus failing to fulfill the function of a ‘receptacle’ of international uncertainty, are the first target of global investors’ flight to quality.

13 The financial globalization refers to the elimination of internal barriers among the different segments of financial markets, coupled with the interpenetration of national monetary and financial markets and their integration in the globalized markets (Chesnais, 1996). However, besides being asymmetrical (an issue that will be developed in the sequence), financial globalization is exclusive. Only a small number of developing countries has become the destination of private capital flows in the 1990s and the 2000s.
Second, the fact that a marginal proportion of capital flows is allocated in these markets also contributes to their greater volatility. This is so because the degree of instability in investments is generally higher for the foreign than for the national assets (Plihon, 1996) and, in the case of ‘emerging’ assets, this instability is still more pronounced as a result of the equally marginal effects of the sale of these assets on the profitability of global portfolios. However, in spite of their residual nature, the potentially destabilizing effects of capital flows on the emerging economies’ exchange and financial markets are considerable, given that, in relation to the size of these markets, the volume allocated by global investors is not marginal (Akyüz & Cornford, 1999). In addition, because these markets are little liquid and deep, sales by these investors result in currency depreciations and significant drops in the prices of assets, with potentially harmful consequences on other segments of the financial market, as well as on the macroeconomic dynamics and on the level of activity (Studart, 2003). These consequences are also related with the so-called currency mismatch in the balance-sheets of banks, companies and governments holding debt in foreign currency, which is one of the consequences of monetary asymmetry (specifically associated with the inconvertible currencies’ inability to play the role of unit of denomination in contracts on the international market).

These adverse consequences have been rendered even more conspicuous by the current crisis, which, contrary to the financial crises of the 1990s, originated at the center of the system, in the United States. As noted in the Introduction, this crisis has become a systemic one which, by means of deleverage and/or flight to quality movements, has spread to developing countries, whose companies and banks had no relation with the securities linked to subprime mortgages. However, exactly because of the asymmetries, these movements had much more destabilizing effects on the exchange markets of the developing countries (see Graph 1). As detailed below, not even emerging economies with relatively solid macroeconomic foundations have remained untouched by the contagion effect of the crisis.

After these considerations on the hierarchical and asymmetrical nature of the contemporary international financial and monetary system and on its implications for emerging countries, it is important to recall Keynes’ proposal in the Bretton Woods Conference. Keynes’ basic idea was to extend to the international sphere the banking principles applied in the national sphere. The International Clearing Union, a central bank of central banks, would issue an international banking currency of public nature, the “bancor”, which would liquidate positions among the central banks: the countries’ deficits and surpluses would result in reductions and increases of the national banks’

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14 As suggested by The Economist (2008, p. 23): ‘Unlike many previous emerging-market crises, today’s mess spread from the rich world, largely thanks to increasingly integrated capital markets’.

15 ‘...even countries with comparatively solid balance sheets are seeing their outlook darken as access to credit tightens and global economic growth slows sharply’ (Slater, 2008).
bancor in the International Clearing. Private business would be conducted in the national currencies, which would be tied to the bancor by means of a system of fixed, but adjustable, exchange rates (Keynes, 1943 and 1944). The bancor would not be subject to hoarding on the part of private agents – thus, the demand for the key-currency as a financial asset and as an instrument of preference for liquidity would be eliminated.

**Graph 1. Variation in exchange rates by groups of countries in selected timeframes (in %)**

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<thead>
<tr>
<th>Average Emerging Countries</th>
<th>Average Latin America</th>
<th>Average Asia</th>
<th>Average Emerging Europe</th>
<th>Average Advanced Countries</th>
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<tr>
<td>11.2</td>
<td>15.8</td>
<td>5.2</td>
<td>10.7</td>
<td>0.7</td>
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<tr>
<td>11.3</td>
<td>14.5</td>
<td>9.3</td>
<td>5.8</td>
<td>-1.3</td>
</tr>
</tbody>
</table>

Source: Bloomberg.

In this system, problems of liquidity or solvency of countries with less financial power – that is to say, those that occupy inferior positions in the monetary hierarchy and, in the present context, the emerging nations, whose currencies remain inconvertible, unable to perform monetary functions in the international sphere – would no more have to be solved ‘by means of the search for confidence in the capital market (Beluzzo & Almeida, 2002: p.60). The central bank of central banks would have the role of consciously managing the needs of liquidity in international trade and the imbalance in the balance-sheets of creditors and debtors. By this measure, deflationary adjustments would be avoided and national economies would be able to sustain their trajectories towards full employment.

One of the central elements of this proposal was thus to reduce the asymmetries between creditor and debtor countries, avoiding the deflationary adjustments that distanced economies from full employment (Belluzzo, 2005). Currently, a reform of the international monetary and financial system as proposed by Keynes aimed at alleviating the system’s asymmetries would certainly contribute to increase the autonomy of macroeconomic policy and to reduce the vulnerability of peripheral countries to the sudden stops in capital flows and, pour cause, to episodes of exchange instability which might lead to serious financial crises.

However, this sort of reform is still a “monetary utopia”, even after the outbreak of the current crisis, which is undoubtedly the most severe since that of 1929. The movement of flight-to-
the-dollar, mentioned in the Introduction, makes it clear that the American currency still acts as the system’s key-currency. This being given, what would the available alternative policies be to allow emerging countries to widen their room for macroeconomic management aimed at attaining high levels of employment and of social advancement as well as minimizing its susceptibility to the ups and downs of the international financial market?

The current crisis has shown that the adoption of prudent macroeconomic policies and the accumulation of significant amounts of exchange reserves (the ‘precautionary demand’ for reserves) by emerging countries was insufficient to make them immune to the systemic risks inherent to financial globalization and to market finances. It is worth recalling that in the post-crisis context, in Latin America and in Asia, the administered exchange rate regimes (fixed or currency bands) – which proved to be extremely susceptible to the appreciation of the exchange rate and to speculative attacks – were replaced by floating exchange rate regimes, with different degrees of intervention. That is to say, they were replaced by an intermediate system, the ‘dirty float’ regimes, in which the participation of central banks was the rule, and not the exception (BIS, 2005a and b). The constant and significant interventions of the central banks in exchange markets by means of the purchase of foreign currency were linked to the so-called ‘mercantilist motive’ (the manipulation of the exchange rate in order to ensure a virtuous commercial participation) and/or to the increase in the potential capacity of sustaining external liquidity at times of reversion of capital flows. Whereas, between 1998 and 2002, such trend was more evident in the South Asian countries (Ainzeman et al., 2004, Dooley et al., 2004), after 2003, benefiting from the price increase of commodities, many Latin American economies began to imitate the Asian strategy of reserve accumulation (IMF, 2006). This increase has also enabled the region to operate in the black between 2003 and 2007. The Eastern European countries, however, have not followed their Asian and Latin American counterparts. On the contrary, in a context of exchange rate regimes which are stable in relation to the euro, as a result of the European Union’s strategy of integration, these countries have accumulated significant deficits in their current accounts, becoming dependent on external capital flows to adjust their balance sheets (see Table 1).

<table>
<thead>
<tr>
<th>Table 1. Liquid flow of private capitals and result of current accounts in the emerging countries</th>
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<td><strong>US$ billions</strong></td>
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16 An exception was the fixed exchange rate regime adopted by Malaysia between September 1998 and July 2005. Following the change of exchange rate regime promoted by the Popular Bank of China – which announce, on July 21st, 2005, the adoption of a “controlled floating exchange rate regime, based on the supply and demand of market with reference to a pool of currencies” – Malaysia also adopted a floating exchange rate regime.

17 The majority of developing countries has taken advantage of the abundance of reserves to liquidate debts contracted with the IMF, resulting in a negative official capital flow. As a result, the IMF accumulated an availability of US$ 200 billion for supplementary loans. This organism is currently examining the possibility of implementing a short-term (3 to 6 months) credit line, limited to five times the country’s share, with no conditionalities, as a means of offering immediate liquidity to countries facing problems of resource flows (not of solvency). On the restructuring of the IMF, see Akyüz (2006).
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<tr>
<th></th>
<th>2000</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008 (c)</th>
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</thead>
<tbody>
<tr>
<td>Net Flow Private Capital</td>
<td>71.6</td>
<td>77.1</td>
<td>162.5</td>
<td>236.5</td>
<td>248.7</td>
<td>223.0</td>
<td>632.8</td>
<td>528.6</td>
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<tr>
<td>Direct Foreign Investment</td>
<td>172.0</td>
<td>156.6</td>
<td>166.2</td>
<td>189.0</td>
<td>261.8</td>
<td>246.0</td>
<td>379.0</td>
<td>443.6</td>
</tr>
<tr>
<td>Portfolio</td>
<td>16.0</td>
<td>-9.19</td>
<td>-13.0</td>
<td>12.7</td>
<td>-20.4</td>
<td>-107.3</td>
<td>54.5</td>
<td>-6.6</td>
</tr>
<tr>
<td>Others (b)</td>
<td>-116.3</td>
<td>12.4</td>
<td>9.2</td>
<td>34.8</td>
<td>7.3</td>
<td>84.4</td>
<td>199.5</td>
<td>91.8</td>
</tr>
<tr>
<td>Net Official Flow</td>
<td>-34.2</td>
<td>-1.0</td>
<td>-50.5</td>
<td>-71.1</td>
<td>-109.9</td>
<td>-158.0</td>
<td>-140.7</td>
<td>-158.6</td>
</tr>
<tr>
<td>Current accounts (emerging)</td>
<td>86.9</td>
<td>76.9</td>
<td>144.5</td>
<td>215.1</td>
<td>445.9</td>
<td>617.0</td>
<td>634.2</td>
<td>784.9</td>
</tr>
<tr>
<td>Developing Asia</td>
<td>38.6</td>
<td>64.6</td>
<td>82.5</td>
<td>89.3</td>
<td>161.5</td>
<td>277.6</td>
<td>403.4</td>
<td>380.0</td>
</tr>
<tr>
<td>Western Hemisphere</td>
<td>-48.3</td>
<td>-16.3</td>
<td>7.8</td>
<td>20.6</td>
<td>35.2</td>
<td>47.7</td>
<td>16.4</td>
<td>-37.3</td>
</tr>
<tr>
<td>Middle East</td>
<td>71.5</td>
<td>30.3</td>
<td>59.1</td>
<td>97.0</td>
<td>204.7</td>
<td>253.9</td>
<td>257.0</td>
<td>438.6</td>
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<td>Africa</td>
<td>8.1</td>
<td>-8.8</td>
<td>-4.1</td>
<td>2.1</td>
<td>15.6</td>
<td>27.8</td>
<td>4.0</td>
<td>40.1</td>
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<td>Fuel Exporters</td>
<td>151.7</td>
<td>61.6</td>
<td>106.4</td>
<td>185.8</td>
<td>353.9</td>
<td>439.6</td>
<td>405.5</td>
<td>711.3</td>
</tr>
<tr>
<td>Central and Eastern Europe (c)</td>
<td>-31.4</td>
<td>-23.1</td>
<td>-36.8</td>
<td>-57.6</td>
<td>-59.4</td>
<td>-87.7</td>
<td>-120.7</td>
<td>-164.4</td>
</tr>
<tr>
<td>International Reserves (emerging)</td>
<td>801.1</td>
<td>1,000.9</td>
<td>1,395.6</td>
<td>1,848.5</td>
<td>2,339.6</td>
<td>3,095.8</td>
<td>4,308.4</td>
<td>5,552.7</td>
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Notes: (a) Estimates; (b) Including bank loans and issues of bonds, commercial papers, notes, etc.; (c) Excluding Russia, whose current accounts have operated in the black since 1999.

Even though a few analysts argue that ‘precautionary demand’, and not the ‘mercantilist motive’ is the most general determinant of the policy of reserve accumulation followed in the Asian countries and, to a lesser extent, in the Latin American ones (Aizenman et al., 2004), these goals are deeply related and reinforce each other. This is so because this manipulation is crucial for obtaining surpluses in the current accounts and thus for a liquid entry of foreign currency genuinely obtained by the countries. There is no doubt that reserves accumulated on the basis of such surpluses (and on direct external investment flows) are more robust than those obtained through the entry of volatile capital flows (portfolio investments and short-term bank loans).

The importance of this composition was made clear by the different impacts of the crisis on the exchange rates of emerging countries. These impacts were more significant not only in countries, such as South Africa and Turkey, with high current account deficits (in 2007, 7.1% and 7.3% respectively, according to the IMF), but also in those that increased their degree of financial opening during the phase of abundant international liquidity (2003-2007) and absorbed significant amounts of these flows (and/or allowed hedge and speculative transactions on the exchange derivatives markets). Brazil and Korea belong to this group, two countries that suffered strong devaluation since the outbreak and the aggravation of the crisis (see Graph 2), in spite of their current accounts having operated with a surplus in 2007 (turned into a deficit in 2008) and of their possessing significant amounts of international reserves (in September, US$ 205.5 billion and US$ 239.7 billion, according to *The Economist*).

Graph 2. Variation in the exchange rates of emerging countries in selected timeframes (in %)
The Brazilian economy, better protected than at other moments of global turbulence, was touched by some contagion mechanisms, largely associated to its high degree of financial opening, which allows foreign investors unrestricted access to the domestic financial markets, in the spot and derivatives segments. First, the deadlines of international credit lines for Brazilian banks and companies were cut short and interest rates were raised, making access to new loans for working capital and investments more difficult. Brazilian banks and companies started facing difficulties to access credit lines, even to support foreign trade operations, which are considered as low risk operations. According to the Central Bank, short-term credit lines – including those for imports and exports – amounted to US$ 46.1 billion in August. If considered together with operations among the multinational companies in the country, which amounted to US$ 59 billion, this represents a considerable amount of foreign resources fuelling the Brazilian economy. Second, the devaluation of stocks negotiated in the Sao Paulo Stock Exchange (Bovespa) reduced the price of the companies’ assets (in R$ 1 trillion until October), further complicating access to new credit and opening the capital of new companies. Third, the weakening of industrialized economies reduced the demand for Brazilian exports, which have also suffered from the drop in the prices of the major exports (agricultural, mineral and industrial commodities).

Fourth, the exchange rate registered a sharp devaluation, due to the flight of foreign investors and to major losses of exporting companies which had performed high-risk operations in the domestic exchange derivatives market (which are liquidated in real, i.e. are not deliverable) an in the international exchange derivatives market (where the Non-Deliverable Forward – NDFs – are negotiated). These operations were performed in a context of uninterrupted appreciation of the real since 2003, whether to offer protection against the devaluation, to obtain speculative gains or to reduce the cost of bank loans.\textsuperscript{18} With the abrupt devaluation of the real after the aggravation of the

\textsuperscript{18} Around 220 companies, believing in the persistent appreciation of the real, were sold twice in future dollars, by means of an operation known as “target forward”. They first sold the dollar to the bank by means of an instrument
crisis in mid-September (as a result of the bankruptcy of the Lehman Brothers), the companies’ losses piled up, whereas banks were under the threat of breach of contract (counterparty risk). Besides, there were rumors that medium-sized companies, including constructors and smaller size banks, would also undertake these very high risk operations. A crisis of trust in the domestic financial system was thus generated, resulting in a sudden contraction of domestic credit, both for companies and for small banks, which started having difficulties adjusting their balance-sheets. In spite of the sudden drop in the amount of compulsory deposits (R$ 259.4 billion in August – corresponding to 23.4% of the stock of loans available in the country – of which R$ 89 billion are kept in government papers and R$ 170 billion in cash – have been cut by R$ 130 billion), allowing the purchase of loan portfolios, liquidity remained concentrated in the large banks, increasing the amount of overnight operations with the Central Bank. In the face of this situation, the Brazilian government has allowed the public banks – the Banco do Brasil and the Caixa Economica Federal – to temporarily purchase loans portfolios, as well as to absorb financial and non-financial institutions with liquidity problems, with a view to avoiding bankruptcy and the proliferation of panic in the country.

In this context, companies started buying foreign currency, whether to buy imported pieces and raw materials to honor future contracts with suppliers or to attempt to cover for the losses in exchange derivatives markets, which resulted in sharp movements of devaluation of the national currency. This movement was further amplified by foreign investors’ aversion to risk. Given this situation, the Central Bank started selling foreign currency in swap auctions in the Brazilian Commodity Exchange (BM&F) and on the sport market, in an attempt to refrain the abrupt devaluation of the real, as well as granting loans in foreign currency, drawing on exchange reserves, in order to ensure the supply of credit to exporters.

In the Korean case (already classified as an advanced country by the IMF, in the group of Newly Industrialized Asian Economies, along with Taiwan, Singapore and Hong Kong), besides the collateral package for banks’ foreign currency liabilities (mentioned above in the Introduction), the government has adopted other policies in order to alleviate the harmful effects of the crisis on the domestic financial system, among which are the supply of liquidity in US dollars on the exchange market and the reduction of the basic interest rate (from 5% to 4.25%, in an extraordinary meeting on October, 27th). As displayed in Graph 2, after the South-African rand, the won was the emerging called “forward”. This is a traditional fixed-term dollar sale, by means of which the company sells dollars on a day in the future at a prefixed exchange rate. This transaction might in itself not represent an exposure to exchange risk, if it is coupled with an income to be received by the company in dollars. Then, the company made another coupled transaction: it resold the dollar to the bank by means of a risky sale of purchase option. In this instrument, the bank would pay an amount to the company in order to have the right to buy the dollar in the future at a pre-established exchange rate. Besides, in many cases, the bank offered to the companies performing this operation a discount in the cost of debts contracted in real (Lucchesi; Balarin & Valenti, 2008).
currency which suffered the sharpest devaluation between the outbreak of the crisis and October, 23rd.

As in Brazil, the sharp devaluation of the Korean currency is associated with companies’ (many of which belong to the naval industry) operations with exchange derivatives. Another similarity with the Brazilian case regards the gradual appreciation of the South-Korean currency in the past years, which, just as in Brazil, was the main mechanism that alleviated inflationary pressures associated with the rise in the prices of commodities and that thus ensured the efficiency of the inflation targets regime. Nevertheless, the cost of this strategy in both countries was that exports became less competitive, inducing exporting companies to search for hedge and/or speculative gains in an attempt to remediate their situation. Besides, in Korea, which is a liquid importer of commodities, this rise entailed the deterioration of the terms of trade, contributing to cause current accounts, previously operating in the black, to operate in the red in 2008.

The specificity of the South Korean situation – which underlies the largest depreciation of the country’s currency in relation to the real between August 2007 and October 2008 – lies in the bond between derivatives operations and the large short-term debt contracted by the South Korean banks. This bond is a consequence of the South Korean’s exchange derivatives market institutional framework, in which gains or losses are liquidated in US dollars, i.e., they are deliverable, as in most countries (the Brazilian case, in which such gains and losses are paid in the domestic currency, constitutes an exception). Thus, to make operations on derivatives markets possible and profitable, the South Korean banks sold contracts in wons to the companies (which bought them under the belief that the trend of appreciation would be maintained) and contracted loans in US dollars to sustain their positions on these markets (Kim & Yang, 2008).

These loans fulfilled two roles: they provided the necessary dollars to liquidate such operations (which generated losses to the banks and profits to the companies while the currency appreciated) and they enabled the application of resources in the national fixed income market, generating arbitrage gains which surpassed the losses. With the outbreak of the crisis and the international financial market’s credit crunch, banks facing growing difficulties to refinance these loans, started buying dollars to liquidate their external liabilities, thus making a pressure for the devaluation of the won. This devaluation entailed losses to the companies that relied on the currency’s appreciation, forcing them to hand the corresponding dollars over to the banks, part of which had to be obtained on the exchange market, further contribution to the pressure.

In open economies, with ample capital flows and derivatives markets, which enables the establishment of speculative positions in markets of liquid and deep derivatives (i.e. which contaminate the evolution of prices in spot markets), the exchange rates reflect the demand and
supply of currencies as financial assets, and not the relative prices of internally and externally produced goods. Should this be the case, the exchange rate would move as a function of the position of current accounts, that is to say, it would react to surplus or deficit in the current accounts. Always pro-cyclical and tending to exaggeration, estimates on price variation provoke adjustments between the domestic and the international currency, bearing no proportion to results in foreign trade. In the case of inconvertible currencies, these adjustments are particularly rough, given their asymmetrical position in the contemporary monetary and financial system. The evolution of the won since the outbreak of the crisis and that of the real after its aggravation make clear the destructive potential of the association of a high degree of financial opening and the existence of these markets, which amplify the chain of transmission of external instability into the dynamics of exchange rates and the price of ‘emerging’ assets.

As suggested by Belluzzo (2008), ‘Managers of domestic currencies are also participants in a universal and “hierarchical” system of payments and liquidity. Those that manage convertible currencies (...) are relatively protected against fluctuations in their currencies. For them, there generally is a “point of purchase” or there are markets of liquid and deep hedges, where “purchased” and “sold” agents in the different currencies seek protection against possible fluctuations in the exchange rates at a convenient cost. Even then, in times of hurried flight to liquidity, the possessors of wealth run to the reserve currency, the last resort of previously brave and now fearful capitals. Those that issue inconvertible currencies, on the other hand, are forced, in the globalized world, to hold to the reserves in strong currency and to permanently maintain commercial surplus. Such good foundations might, however, prove insufficient to prevent massive sales of domestic currency. Central banks are torn apart: should they stop the devaluation of the domestic currency or prevent the invasion of their territory by the recessive forces that dominate global economy? Exposed to the flight of foreign capitals, the countries of inconvertible currencies are unlikely to manage to alleviate the abrupt devaluation of the exchange rate by raising the interest rate.’ In sum, the prize of liquidity implicit in the possession of the international reserve currency (the US dollar) is, at times of distrust and panic, the most coveted object in the global markets.
Closing remarks

The reserve cushion’s inability to immunize many emerging countries against the effects of the systemic crisis and against the potentially harmful effects of the previous appreciation of emerging currencies, as made evident by the South Korean and the Brazilian cases – not only in its macroeconomic dimension (sustaining current accounts in the black), but also in its microeconomic aspect (creation of strategies of protection and of alleviation of losses by exporting companies) – presses for the resumption of discussion on the importance of maintaining a competitive exchange rate and on the role of capital controls. Rodrik (2006) has drawn the attention to the ‘unbalanced’ mode of insertion of these countries into globalization. In his words, developing countries ‘responded to financial globalization in a highly unbalanced and far-from optimal manner. They have over-invested in the costly strategy of reserve accumulation and under-invested in capital account management policies to reduce short-term foreign liabilities’ (2006: p.12). The maintenance of large reserves would be the price to be paid by governments who do not wish to or cannot regulate capital flows due to financial interests contrary to the second alternative, among other factors.

The hypothesis is that changes in international financial regulation (which should come about in the next years) are unlikely to entail a structural reform of the international monetary and financial system and a reversion of globalization among other reasons because the US will not peacefully give away the exclusive management of the international reserve currency. Besides, statements of European governments concerning the crisis have made it clear how interests in the region are nationally-minded and how a converging view regarding a new international monetary order in which these interests would be subordinated to multilateral ones is lacking. It is thus of the utmost importance to consider not only these controls, but also the techniques of capital flow management, which equally involve prudential regulations concerning the banks’ operations with foreign currency (Epstein, Grabel & Jomo, 2004). These techniques, by affecting an economy’s degree of financial opening, widen the possibilities of exchange rate policies (thus alleviating the conflicts with the monetary policy) and of the efficiency of intervention at moments of excess or shortage of currency.

This means that the relation between the accumulation of foreign reserves and capital controls is not necessarily one of substitution, as suggested by Rodrik (2006). One can say that,

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According to Akyuz (1993), the financial opening concerns the ease with which residents can purchase assets and liabilities denominated in foreign currency and the access of non-residents to the domestic financial market. Three degrees of opening are identified. The first concerns the inward transactions – the entrance of non-residents on the domestic financial market and the raising of external resources by residents. The second relates to the outward transactions – the depart of residents’ capital and the contraction of debts in the domestic financial market by non-residents. The third level regards the internal convertibility of the currency, i.e., the permission of transactions in (or denominated in) foreign currency in the national sphere (such as deposits in the domestic banking system and the issuing of securities indexed to variation in exchange-rates).
after the adoption of “dirty float” regimes by many peripheral countries, a new role has emerged for the techniques of capital flow management, which include these controls. Besides increasing the degree of autonomy for the economic policy and reducing these countries’ vulnerability to financial crises\(^\text{20}\) (Epstein; Grabel & Jomo, 2004; Carvalho & Sicsú, 2006; Ferrari Filho & Paula, 2006), these controls, along with the instrument of prudential regulation, have proven to be a sine qua non for the adoption of more flexible exchange rate policies, acting as ‘filters’ that soften the destabilizing effects of short-term capital flows (Greenville, 2000). As underlined by Mohanty & Scatigna (2005), regulation of capital flows – as capital account policies – is a supporting instrument in interventions on exchange markets regarding the management of floating exchange rate regimes in peripheral economies, since they reduce the minimum level of necessary reserves to restrain speculative movements and alleviate pressures on the interest rate at moments of flight of foreign capitals.

Finally, a broad discussion agenda concerning the international financial system’s deficit of governance – comprising public (national and multilateral) and private institutions as well as rules and procedures related to the evaluation of wealth – should be proposed based on the perceived weakness of the financial structures generated by banking conglomerates associated with the shadow financial system in their pursuit of new clients without the means of paying off the debts they contracted. The necessity of reducing the ‘democratic deficit’ of the national and international financial systems’ regulatory and supervising institutions also comes to the fore, which might be accomplished for example by including Non-Governmental Organizations (NGOs) in operative structures, so as to strengthen the role of these institutions and to consolidate mechanisms to prevent the aggravation of financial and production cycles. It also becomes necessary to discuss the importance of controlling capital flows and of establishing instruments of prudential regulations as mechanisms to mitigate the destabilizing effects of global finances on the economic dynamics of developing countries.

\(^{20}\) As noted by Ocampo (2000), these techniques contribute to improve the maturity structure of debts in foreign currency, thus constituting an instrument for policies aimed at managing liabilities, which is fundamental in peripheral countries subject to the mismatch. An important example is the imposition of reserve requirements on liabilities in foreign currency, adopted in Chile and in Colombia in the 1990s.
References


GUTTMANN, R. A primer on finance-led capitalism. (Hofstra University, New York; CEPN, Paris), May, 2008 (submitted for the Revue de la Regulation).


