REGIONAL LIQUIDITY MECHANISMS IN DEVELOPING COUNTRIES*

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The present work aims to evaluate how a mechanism for regional financial cooperation could reduce the external vulnerability of a group of countries, complementing the existing lines of defense in the multilateral sphere and offering resources in time to prevent the worsening of a liquidity crisis. A cooperative strategy could theoretically optimize the maintenance cost of international reserves of member countries, sharing the fiscal costs and economies of scale. This mechanism could also channel resources to promote financial development and expansion of transactions in local currency. We analyze two types of mechanisms: the reserve fund (reserve pooling), represented by the Latin American Reserves Fund (LARF) and the currency swap mechanisms, especially the Chiang Mai Initiative, the main example of a regional agreement swap. Economic stability is a goal increasingly valued in South America. Greater regional economic coordination is a prerequisite to achieve this stability. A cooperation mechanism involving all countries in the region could give voice and political accountability to all.

Keywords: financial regionalism; financial cooperation; international reserves; balance of payments crisis; reserve fund; currency swaps; IMF.

MECANISMOS REGIONAIS DE LIQUIDEZ EM PAÍSES EM DESENVOLVIMENTO

Esse trabalho busca avaliar como um mecanismo de cooperação financeira regional poderia reduzir a vulnerabilidade externa de um grupo de países, complementando as linhas de defesa existentes na esfera multilateral e ofertando recursos a tempo de impedir o agravamento de uma crise de liquidez. Uma estratégia cooperativa poderia, teoricamente, otimizar o custo de manutenção das reservas internacionais dos países membros, compartindo os custos fiscais e os ganhos de escala. Este mecanismo também poderia canalizar recursos para o desenvolvimento financeiro e promover uma ampliação das transações em moeda local. São analisadas duas modalidades de mecanismos: o fundo de reservas (*reserve pooling*), representado pelo Fundo Latino-Americano de Reservas (LARF); e os mecanismos de *swap* de moedas, com destaque para a Iniciativa Chiang Mai, principal exemplo de acordo regional de *swap*. A estabilidade econômica é um objetivo cada vez mais valorizado na América do Sul. Uma maior coordenação econômica regional constitui um requisito fundamental para a obtenção desta estabilidade. Um mecanismo de cooperação que envolva todos os países da região poderia dar voz e responsabilidade política a todos.

Palavras-chave: regionalismo financeiro; cooperação financeira; reservas internacionais; crise de balanço de pagamentos; fundo de reservas; *swaps* de moedas; FMI.

JEL: F33; F50

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1 INTRODUCTION

The Central Bank of Brazil (BCB) announced, in early 2008, that the Brazilian government had become an international creditor for the first time in its history. Since then, Brazilian foreign exchange reserves have duplicated reaching more than US$ 370 billion. Just as Brazil, during the past decade, all other South American countries have recorded expressive growth in their foreign exchange reserves, followed by reduction in external public debt. During this period, countries in the Region sought for paying their debts with international financing organisms, especially the International Monetary Fund (IMF), searching for a higher autonomy level in their economic policies implementation, free of policy covenants associated to loans from these institutions.

After several financial crises faced during 1990s, the majority of countries in the region left the fixed or almost fixed exchange regime, and they started the 21st century with a more flexible exchange regime, of "managed fluctuation". This change allowed for South American monetary authorities to respond quicker and more effectively in face of world instable economy, intervening in the exchange market in order to obtain a more competitive exchange rate. Jointly, the region's substantive enhancement of exchange terms with the world fostered economic activity and investments recovery and expansion, followed by strengthening of the current account balance (Ocampo, 2007). Additionally to these factors, it is added the long permanence of developed countries interest rates in very low levels, fostering capital inflow in developing countries seeking for comparatively higher profitability. Both the enhancement of exchange terms and interest rates differential and offered growth perspectives have increased pressures in maintaining exchange rate competitiveness of South American currencies through withdrawal of market's excessive liquidity, expanding foreign exchange reserves volume.

These factors promoted a reduction in external vulnerability of South America, one of the pillars for promoting a stable economic growth process. In this context, growth of foreign exchange reserves volume has acted as self-insurance against sudden capital outflows and eventual speculative attacks to national currencies. Thus, it is reduced the probabilities of countries to resort to emergency loans, competitive devaluations and economic activity contractions as means to adjust the balance of payment accounts, common events in past decades. However, the high levels of South American countries' reserves could also be consequence of their financial markets underdevelopment, which is evidenced by a significant gap existing between the *per capita* gross domestic product (GDP) and the level of financial development of South America compared to other regions of the world (Fanelli, 2008).

Foreign exchange reserves accrual has a high fiscal cost and, in view of growing magnitude of financial flows, they may be an insufficient mechanism. The possibility of accessing additional funds would allow the strengthening of countries' response capacity to face financial volatility, reducing crises probabilities and expanding available tools to achieve a more stable economic growth.

The search for scale optimization in funds use and diversification of risk would indicate that the multilateral sphere would be the most suitable to build mechanisms to finance balance of payments crises. However, the IMF known deficit of legitimacy, which is expressed in vote distribution that materializes developing countries' sub-representativeness, as well as the memories of hard and mistaken covenants imposed to those countries, fosters strong questionings related to the agency's way of acting. Additionally, experience shows that emergency loans granted by the IMF cause stigmatization by the financial market on the requesting country and the long period between negotiation and funds release significantly reduces its effectiveness. Finally, funds granted by the IMF are extremely concentrated throughout a small number of countries considered as "emerging markets of systemic importance". Also, some works show that multilateral development banks loans are reduced during crisis, and they do not perform their alleged countercyclical role (Perry, 2009). Financing stability is a basic prerequisite for any successful development strategy. These facts set doubts over the functionality of counting only with the supply of multilateral financing to face balance of payments crises.

These limitations led several analysts to explore with greater attention the regional realm as a space to promote financial cooperation. Roles performed by a regional mechanism should not necessarily be limited to emergency loans. The addition of economic policies coordination on common objectives amongst States would be an interesting new feature for regional economic integration. Promotion of local currency bonds issuing and access to more favorable interest rates than those got by each country itself are both almost unexploited alternatives which could perform an important preventive role against eventual liquidity crises. These possibilities may constitute a major additional incentive to build a regional liquidity mechanism.

Recent changes support the need for a greater attention toward regional financial mechanisms. During the last decade, South America presented average annual growth rate of inter-regional exports of 10.6%, practically half of the pace of exports expansion to China (19.1%) (Cepal, 2010). Sales expansion to Asia contributed significantly to the maintenance of positive current account balance and reduction of external vulnerability, but made South America countries' foreign sector more susceptible to commodities prices variations, whose values are traded in financial markets located outside the region. Exports reprimarization is followed by loss of industrial exports dynamism and its growing concentration within the regional space.[1] In parallel, the setup of the Union of South American Nations (UNASUR), especially from its Economy and Finance Council, seeks to stimulate the establishment and institutional convergence of economic and financial cooperation instruments of the Southern Common Market (Mercosur) and the Andean Community of Nations (CAN). Finally, the participation of Argentina and Brazil in the financial G20, consolidated after the beginning of the international crises as the main forum for negotiation the reform of world financial architecture, has demanded greater protagonism from both countries in financial cooperation initiatives, both regional and multilateral.

This work aims at evaluating how regional financial cooperation can reduce developing countries foreign vulnerability, especially South American countries. A regional cooperation system, for the purpose of this work, consists of an agreement between countries to setup a reserve fund or currency swap mechanism to mitigate the adverse effects caused by liquidity crises. This system would have as core objectives: *i*) complementing available credit lines in multilateral system (IMF); *ii*) reducing regional spreading of crisis by contagion; and *iii*) promoting regional financial integration by means of instruments with countercyclical features. The construction of a regional mechanism with this format would provide conditions for member countries to directly participate in the entities' management, allowing them to take up greater responsibilities than those in multilateral realm.

The article will seek to approach the ways through which regional financial cooperation could mitigate liquidity crises occurrences. Later, it will describe the foreign exchange reserves accrual process, as well as reviewing its main costs and benefits. Main currency swap mechanisms and reserve fund features and requirements will be detailed. Finally, two major cases of regional cooperation cases to help liquidity among developing countries will be analyzed, the Chiang Mai initiative (CMI) in Asia, and the Latin American Reserve Fund (LARF), in South America.

2 DEVELOPING COUNTRIES' NEW ECONOMIC INSERTION

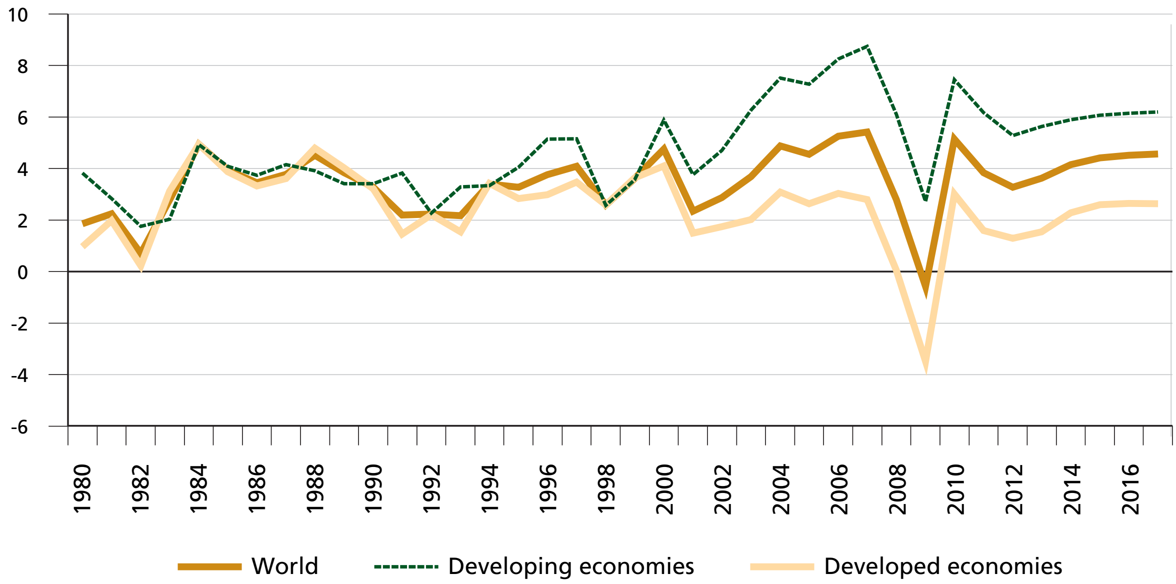
2.1 Change of the exchange regime

Developing countries growth cycles presented a high correlation with the expansion pace of developed economies during 1980s and 1990s. This correlation, once serious and frequent financial crises among developing countries were overcame, has presented a notorious reduction. Since early 2000s, it was noticed that

1. As example, Latin America was, in 2011, the destination of 45% of total Brazilian exports of manufactured goods according to the Ministry of Development, Industry and Foreign Trade (MDIC) data; in 2004, the region accounted for 35% of total Brazilian exports of manufactured goods.

developing economies have presented growth rates above those of developed economies, thus increasingly contributing for the world economy performance.

GRAPH 1
World GDP growth and by group of countries



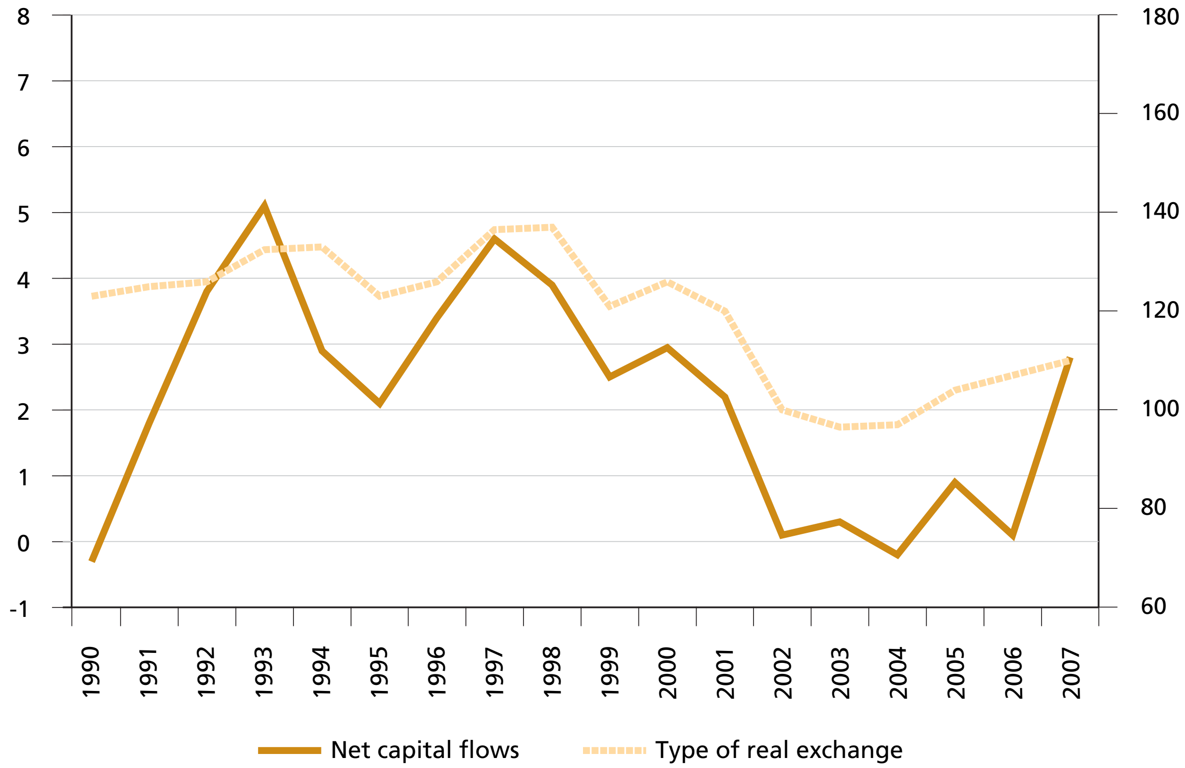
Source: IMF, *World Economic Outlook* (2012).

The improvement of developing economies performance is closely related with the macroeconomic policies changes applied, particularly, from the Asian crisis. The high economic and social costs of crises faced during the 1990s led to abandoning of extremist exchange regimes, either soft or hard pegs, widely used as "anchors" supporting prices stabilization programs implemented in developing countries or maintenance of exchange fluctuation free of monetary authority interventions.

Those countries migrated toward an intermediate exchange regime, usually called "managed fluctuation" or "dirty fluctuation" (Gosh and Ostry, 2009). The lack of commitments related to the exchange rate in the new regime offered these economies a valued flexibility to adjust themselves to foreign shocks without yielding high costs in monetary authorities' loss of reputation. Also, the new regime eliminated incentives for speculators continuing betting in just one way in the exchange market, forcing them to take up the exchange risk. These measures, along with the strengthening of prudential measures and financial markets development in local currency, caused a lower exposition of developing countries' portfolios to exchange variations, reducing their financial systems' vulnerability to foreign shocks and increasing monetary policy effectiveness.

By making compatible exchange flexibility with the buying and selling interventions of currencies from authority in the exchange market, managed exchange regimes fluctuations allowed a major improvement in the actual exchange rate levels, fostering Latin American countries' economic growth. As noticed in graph 2, the increase in growth pace of economies was followed by fall in the relevance of international capital flows regarding regional GDP.

GRAPH 2
Latin America: net capital flows (in % of GDP) and type of real exchange
(index 2002=100) (1990- 2007)



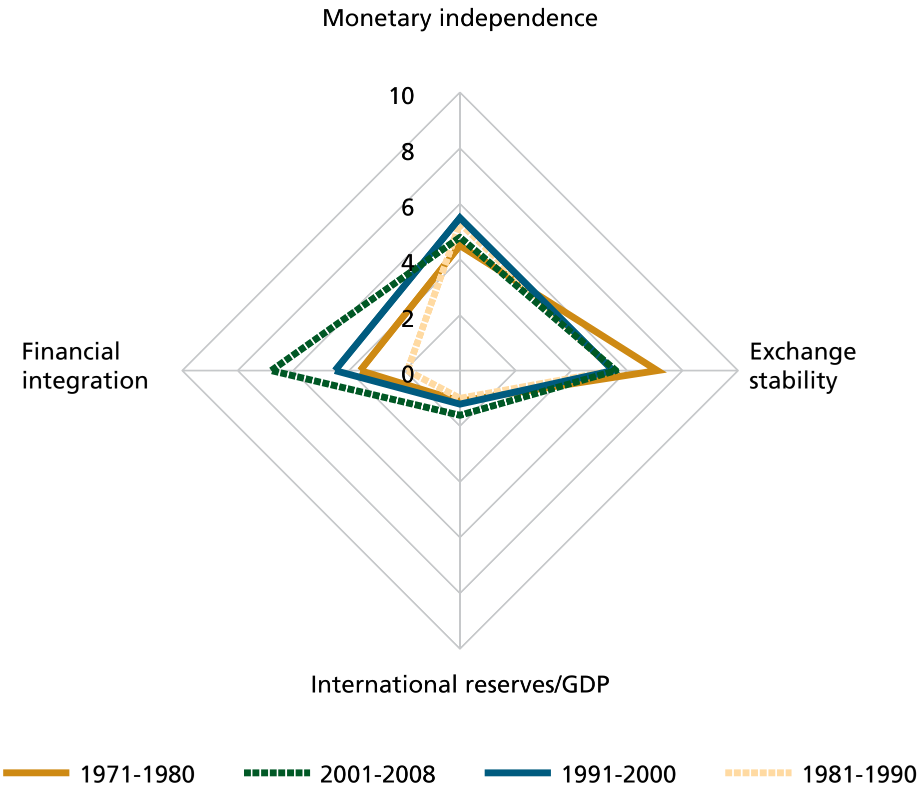
Source: French-Davis (2009).

Thus, many of the developing economies that were characterized as net receptor of foreign savings began to generate surpluses in current account, accruing increased volume of foreign exchange reserves. In South America, this phenomenon was strengthened by the enhancement of the exchanging terms, especially by the uptrend of international prices of commodities (Ocampo, 2007). This caused a major reduction in the region's dependence in foreign financing. This phenomenon has reflected in the significant reduction of perceived risk, diminishing risk grades impact on the cost of public and private debts financing, reducing contagion risk and the occurrence of "herd-type" behaviors among investors (Fernández-Arias and Levy-Yeyati, 2010).

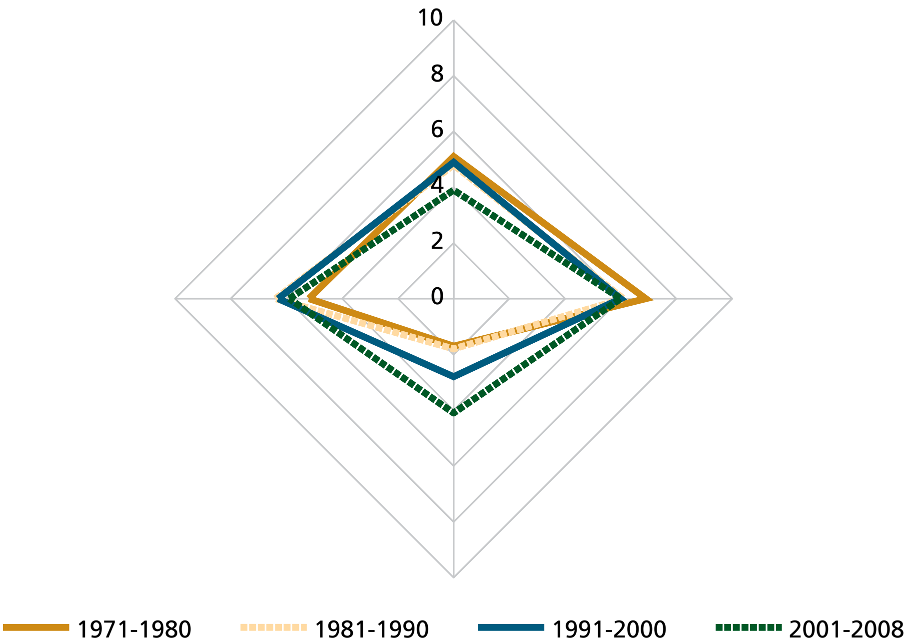
GRAPH 3

Regional patterns of the trilema and foreign exchange reserves level in Latin America and Asia

3A – Latin America



3B – Asia



Source: Aizenman, Chinn and Ito (2008).

As graph 3 illustrates, Latin American and Asian countries are moving toward a greater exchange flexibility and integration with the financial markets, in parallel to expanding their foreign exchange reserves. However, comparison between both regions reveals that Latin American countries have advanced comparatively faster in integrating with international financial market, which Asians have centralized their efforts in setting up a growing stock of reserves. In spite of these differences, greater attention given to exchange management, followed by increased stock of reserves, allowed Asia and Latin America to expand the policy space of the monetary policy, enabling a more balanced insertion in the financial markets (Aizenman *et al.*, 2008). The central Banks began to have greater control over the exchange rate and interest rate within an environment of high capital flow mobility, placing their action on an intermediary point in the "trilemma of open economies". Surely, these variables simultaneous control, impossible under the 'trilemma's" perspective, was enabled only through the expressive increase of those countries' foreign exchange reserves stock.

2.2 The foreign exchange reserves accrual

Literature (Aizenman and Lee, 2005; Frenkel and Rapetti, 2009) suggests two explanatory factors for the foreign exchange reserves accrual phenomenon in developing economies: the precaution approach and the mercantilist objective. Both are related with volatility reduction and/or induction of nominal exchange rate trend. The mercantilist objective would be motivated by the desire of export-driven economies to keep a competitive and stable exchange rate, promoting their foreign sales. On the other hand, the precaution approach suggests that reserves accrual, followed by monetary authority intervention in the exchange market, seeks to reduce volatility and/or sudden and long lasting moves of the nominal interest rates, thus, avoiding entering in financial frailness zones (non-sustainable current account deficits and/or sudden exchange appreciations).

In spite that sudden-stops risks are very relevant, the reserves accrual process is particularly moved by the effort in avoiding nominal exchange rate disarray. Short term capital flows imposed an excessive volatility, and they may generate major and long lasting disarrays in the exchange rate. Buying and selling currencies by the monetary authority seeks to reduce exchange volatility, promoting a more stable relative prices system and enabling funds distribution throughout the economy. Quantitative studies confirm these indications: carrying reserves reduces spreads and exchange rate volatility, issuing a strong predictability signal to markets (Fernández-Arias and Levy-Yeyati, 2010).

The reserves accrual process is also motivated by issues with political feature. Foreign exchange reserves constitute a liquidity instrument free of covenants and available to be used immediately whenever needed. These two features are extremely valued by liquidity demanding countries, and they do not find similarity with any foreign financing instrument currently offered.

However, carrying and maintaining reserves also present considerable costs. For Rodrik (2006), this cost should be interpreted as the difference between the interest rate of the private sector debt and reserve assets return rate. Based on this interpretation, the author computes that developing countries' annual cost of reserves maintenance is responsible for 1% of these countries' total GDP. In their turn, Baker and Walentin (2001) estimate the cost of reserve maintenance as the difference between the domestic interest rate and reserve assets return rate. For the authors, this cost would correspond to 2% of developing countries' GDP. Seeking to reduce the carrying cost, several countries have channeled part of their reserves to capitalize their national development banks, to cancel foreign debts, and exports financing (Chin, 2010).

Once the understanding of an optimum level of foreign exchange reserves is achieved, the margin of immediate use of reserves would be reduced, which should hue Central Banks preference for high liquidity assets. Roubini and Setser (2005) reinforce this position by stating that, in past years, assets in dollar have totally compensate foreign investor of currency depreciation risk. Also, it is added the fact that the current financial crisis, managed in the American financial marked and transferred to Europe, has undermined the credibility of developed countries financial markets, main investment destination of foreign exchange reserves. Fiscal consolidation challenges faced by these markets do not allow foreseen a fast recovery of trust. This suggests that the composition of developing countries reserves should be more diversified. In fact, this is already taking place between 1995 and 2011; developing countries reserve assets invested in dollars went from 73.8% to 66.2% of the total.[2] In South America, diversification of reserve assets currencies has been boosted from 2008 (annex 1).

Finally, it should be recalled that carrying reserves usually is followed by sterilization inflow funds through bonds issue by the Central Bank. As these bonds have a return rate higher than those of reserves, they imply in fiscal losses for the monetary authority. This process may become unsustainable fiscally in as much as capital inflow is extended for a long period of time (Frenkel, 2007). Since 2008, Latin American countries have promoted a major reduction in their domestic interest rates, which is contributing for maintenance of exchange rate competitiveness and fiscal sustainability of the reserves accrual process.

2. *Currency Composition of Official Foreign Exchange Reserves (COFER)* – IMF. This information is partial, since there are countries that do not reveal the currency composition of their foreign exchange reserves.

3 ON THE REGIONAL COOPERATION SYSTEMS

3.1 Regionalism and financial development

Empirical evidence shows the existence of mutual causality between growth and financial development (Levine, 2004). However, financial volatility affects negatively economic growth. Low financial system development limits the incidence level of countercyclical monetary policies applied by developing countries (Taylor, 2005). When increasing the quality and diversity of risks management instruments, the financial markets deepening reduces the occurrences of financial and exchange crises (Fanelli, 2008). In summary, there are several works showing that a greater domestic financial development is translated into lower volatility of capital flows and reducing the probability of crises, allowing countries to achieve higher economic growth rates.

A higher level of financial opening may boost financial development, but increases volatility risks of flows, sudden stops and financial contagion, phenomena that negatively influence growth perspectives (Kaminsky and Reinhart, 1999). In face of these international financial markets "flaws", what kind of institutional structure developing countries should promote in order to achieve a greater financial development?

Many multilateral agencies – IOSCO (International Organization of Securities Commissions); FSB (Financial Stability Board); BIS (Bank for International Settlements); BCBS (Basel Committee for Banking Supervision) – offer a wide range of codifications and good practices for the world financial system, but their recommendations are not contextualized. Rules governing financial transactions have a significant endogenous portion and they are determined by evolutional factors (Rojas-Suarez, 2007). The political context, legal traditions, informal institutions and the existing level of openness, among others, are determinant conditions of a country's financial development level. These variables imply that the construction of financial institutions constitutes an extremely difficult and complex task, and it should be marked by gradualism. Monterrey Consensus text of the International Conference on Financing for Development, held in 2002, in Mexico, acknowledges these points by stating that:

> *Es indispensable asegurar la participación eficaz y equitativa de los países en desarrollo en la formulación de normas y códigos financieros. También es indispensable asegurar el cumplimiento de esas normas y códigos de manera progresiva y voluntaria a fin de reducir la vulnerabilidad de los países a las crisis financieras y al efecto de contagio* [It is essential to ensure the effective and equitable participation of developing countries in the formulation of financial standards and codes. It is also essential to ensure implementation, on a voluntary and progressive basis, as a contribution to reducing vulnerability to financial crisis and contagion] (ONU, 2002, p. 8).

Many of the “flaws” emerging during the financial liberalization process in the developing countries resulted from difficulties of the constitutional build-up. Bearing in mind teachings derived from past financial crises, many scholars began to propose the regional realm as platform to build up of an architecture fostering a greater financial stability. A lower quotation volatility of currencies from countries participating in a regional economic integration process foster intra-regional trade and investment flows, diversifying their industrial sector (Bresser-Pereira and Holland, 2010). It also reduces risk associated to loans between member countries in an integration process, fostering portfolio diversification in regional currencies (Mongelli, 2002). By expanding markets scale, regional financial integration enables increased liquidity and capitalizations of financial markets, boosting their efficiency and minimizing exposure to risks connected to exchange devaluation (Fernández-Arias *et al.*, 2004). Other considerations restate the importance of regional scope as space for institutional buildup: *i*) financial contagion usually affects several countries within the same region (Calvo and Mendoza, 2000); *ii*) international investors rank different countries in a same group and make decisions based on regional criteria; and *iii*) capital flows tend to be regionally synchronized if countries simultaneously board on the financial liberalization process.

Ocampo (2006) focuses his attention on deficiencies presented by the international financial architecture, aggregating additional arguments favorable to the regional financial cooperation process. The first argument refers to intrinsic demands to the integration process itself. The “open regionalism” requires financial cooperation in several complementary ways: protection in face of balance of payments crises, reduction of information asymmetries at the regional level, gains in learning cost and adaptation to international standards, among others. The second argument emphasizes the necessity of building up a complementarity between regional and multilateral financial institutions, the idea of a “labor division” between two realms. The third point stresses that promotion of a certain level of competitiveness between the regional and multilateral realms would promote an improved attention to the developing countries necessities, especially those with smaller size and/or specific necessities. Finally, the fourth argument is of political nature and it emphasizes the low representativeness and power of influence of less developed economies in the multilateral agencies. In summary, the regional space would be understood as a more favorable scope to harvest the benefits from financial openness and to promote financial development, resulting in greater resistance to financial contagion and volatility.

In spite of acknowledging the importance of the regional scope as space for financial development promotion, the traditional categorization of regionalism (Balassa, 1961; 1987) incorporates aspects related to financial integration only from advanced stages, particularly from the establishment of a Common Market.

This categorization of regionalism, still prevailing, is marked by the relevance of imports tariffs in world trade, by reduced capital mobility, and by existence of foreign exchange controls, domestic or through the Bretton Woods System, no longer existing bases and/or less relevant for understanding the reality imposed by the current world economy stage.

CHART 1
Stages and components of financial regionalism

	Stage 1: regional liquidity fund	Stage 2: regional monetary system	Stage 3: economic and monetary union	Stage 4: political union
Main Component	Creation of a public liquidity fund	Introduction of a regional monetary system with foreign exchange bands	Convergence of domestic exchange rates and single currency	Political union with continuity of existing domestic political systems
Political measures	Creation of a central Banks forum	Regular meeting around a regional monetary committee	Creation of common political institutions; establishment of a Regional Central Bank and Regional Treasury	Creation of supranational institutions in several areas
Additional components (financial crises management)	Creation of a private liquidity fund	Coverage expansion of regional liquidity funds	Regional Central Bank as last instance lender; issuance of regional bonds	
Additional components (financial crises prevention)	Creation of a regional banking supervisory system in parallel to national system		Unification of banking supervision around a regional agency	
	Compulsories for foreign currency credits			
	Macro prudential regulation			
Trade components		Harmonization of trading standards and norms	Customs union	Workers free mobility
Macroeconomic policy	Joint monitoring of monetary and fiscal policy	Coordination and harmonization of monetary policy (interest rates) and fiscal (indebtedness levels)		

Source: Dieter (2000) and own elaboration.

Dieter (2000) establishes, by observing these deficiencies, a new categorization of the regionalism stages, concentrating in its financial and monetary features. Financial regionalism is centralized in the promotion of foreign exchange quotations and financial markets stability. Opposing to Balassa's view, the existence of previous formal trade agreements would not constitute a requirement for the progress of financial regionalism.

Financial regionalism carries implicitly the hypothesis that it is possible to manage, even if partially, the consequences of "imported" volatility and avoiding or reducing financial crises, promoting a greater financial development. Financial cooperation dividends would be charged in dynamic terms and not only in static terms. It is a major point bearing in mind the vital importance of growth acceleration as public policy objective in developing countries.

As seen in section 2, foreign reserves accrual constitutes a costly process and it could be a consequence of these countries' own financial underdevelopment. The increasing costs of maintaining unilateral accrual of foreign reserves strategy has renewed developing countries interest in financial cooperation, more specifically, in building up regional liquidity mechanisms by means of foreign reserves funds and/or currency swap agreements, the first stage of financial regionalism (chart 1). Since the end of 1990s, Southeast Asian countries have developed regional cooperation as means to perfect the maintenance costs of their foreign reserves and promoting financial development. On the other hand, since the 1970s, South America counts with a regional liquidity fund, the Latin American Reserve Fund (LARF), still little explored. South American countries continue adopting individualist foreign reserves accrual strategies, not exploiting a broad set of potential benefits for economic and financial development of the region.

3.2 Self-insurance or cooperation?

Foreign accounts status is crucial for defining the country vulnerability. The search for sound foundations in developing countries finds, however, obstacles in face of international demand oscillations of exported goods, commodities prices, volatility of capital flows, international interest rates, among other variables. On the other hand, in view of imperative need to build consistent foundations or to defend them during crises, developing countries often do not find instruments in the IMF that are suitable to their financial and political capabilities.

In face of doubts regarding access to multilateral protection mechanism against foreign shocks, developing countries are opting for carrying their international reserves. Which, then, would be the ideal reserves level to be accrued in order to a country be considered as safe?

Although undertaking a detailed study about the optimum reserves level for an economy is not object of this paper, it is important to stress that measuring reserves level adequacy of a country by taking as reference only its imports (traditional models) constitutes an extremely limited method. Rajan, Siregar and Bird (2003) state that crises in 1990s were basically capital account crises. Therefore, reserves adequacy calculations began to have capital outflow as reference, in addition to imports volume. Another indicator generally used in search to setting up the optimum reserves level would be the ratio between reserves and variables such as short term foreign debt, GDP and M2. In several developing countries, including in Latin America, these indicator have showed a continued increase of international reserves weight, expanding criticism regarding liquidity maintenance as strict guiding criterion for reserves investment.

TABLE 1
Adequacy of international reserves

	Position at end of year					(%)							
	In US$ billion				GDP (%)	Short term foreign debt				M2			
	96	07	08	09	09	96	07	08	09	96	07	08	09
ASEAN[1]	477	2907	3318	4028	55	170	449	586	545	22	35	35	35
China	105	1528	1946	2399	49	376	1249	1868	1597	11	28	28	27
India	20	267	247	259	21	260	340	338	302	11	28	27	23
Latin America	142	397	440	466	14	145	238	362	306	71	47	49	40
Argentina	18	44	44	43	14	60	200	279	350	27	51	49	46
Brazil	58	179	193	232	15	111	292	364	300	21	20	24	18
Chile	16	17	23	25	16	201	86	113	130	54	18	28	25
Colombia	9	20	23	23	10	142	201	390	374	23	26	28	24
Mexico	19	86	94	94	11	60	256	240	277	13	15	18	16
Peru	11	27	30	31	24	166	284	248	313	266	165	157	134
Venezuela	11	24	33	18	5	273	347	900	395	91	33	36	20
Russia	11	467	413	417	34	42	493	490	618	22	86	86	80
Turkey	16	73	70	69	11	125	124	119	132	35	23	24	20

Source: IMF and central banks.
Note: [1] Also includes Hong Kong, South Korea and Taiwan.

The benefits for carrying international reserves toward developing countries financial stability and economic growth are really unarguable. However, it is a sub-optimum mechanism, financially costly for developing countries and, as long as it keeps feeding the demand for hard currencies, it is a promoter of global unbalances. At the same time, the depth of these unbalances and expectations of maintaining asymmetries between developed and developing countries interest rates and pace of growth enables supposing that there will not cease reasons for developing countries' monetary authorities to keep on intervening in the foreign exchange market, continuing the foreign reserves accrual process.

Regional cooperation, by means of building up a pool of foreign reserves or currency swaps agreements, could reduce the cost of increased foreign reserves, enabling access to a greater volume of funds during crises. In other words, it would be possible to expand the capability of accessing funds and to reduce their maintenance costs through an insurance shared among countries.

3.3 On currency swap mechanism

According to Henning (2002), a currency swap is an agreement that seeks to exchange one currency for another and to undo this operation in a future date. These swaps involve two simultaneous transactions: *i*) one spot transaction, in which currencies are exchanged at a spot exchange rate; and *ii*) one future transaction, which involves the first operation at a set exchange rate. Generally, the operation is followed by payment of interests on balances opened by the swap agreements. The author emphasizes that swap agreement are different from loans. Swaps are an exchange of assets that are not accounted as foreign currency reserves in the records of whomsoever is receiving the funds, waiving guarantees issue.

Once this point was clarified, it can be stated that a currency swap mechanism is nothing but an agreement, usually temporary, through which currency exchange between countries is enabled. Generally, agreements are made between one country with convertible currency and another non-convertible. Thus, if any liquidity restriction indication in one of the countries signatories of the agreement, this can face liquidity demand in foreign currency by means of temporary exchange of the domestic currency for a convertible currency.

Currency swap agreements between countries arose in the 1960s when the United States began to promote them as a way of preventing the sale of their gold when accessing other currency, providing, in parallel, greater stability to foreign exchange markets. The first agreement of this sort was signed in 1962 between the Federal Reserve and the Central Bank of France. With the breakdown of Bretton Woods and the beginning of foreign exchange quotation fluctuations, central Banks worldwide agreed to boost these mechanisms, formalizing them in 1973, in Basel.

The United States signed, in the financial crises context, in 2009, a swap agreement with developing countries with sound macro-economic foundations (especially, with significant volumes of foreign reserves) with which they maintain strong financial and trading ties (Brazil, Mexico, Singapore, and South Korea). The agreement, of US$ 30 billion each, sought to break the demand for liquidity that predominated in the first phase of the international crisis. Thus, it was possible to stop the "escape for quality".[3] The signing of these agreements caused a considerable reduction of risk perception from these economies by the market, inclusively with an impact significantly higher than those presented by the countries contracting IMF's Flexible Credit Line (FCL) (Arias and Yeyati, 2010).

3. Actually, the Federal Reserve (Fed) made available a total of US$ 900 billion currency swap agreements with fourteen central banks to expand liquidity in dollars in global financial markets. See McGuire and Peter (2009), for discussion on the role of these Fed's swap operations in global crisis management.

The selectivity of agreements supplied by Americans evidenced that only a few countries could count on this instrument. China interpreted the moment, supported by its trading power and its broad liquidity, as an "opportunity window" to extend agreements in Yuans to countries not considered by Americans (Argentina, Belarus, Hong Kong, Indonesia, and Malaysia), promoting a greater international insertion of its currency. Later, in June 2012, Brazil and China established a bilateral swap agreement, in Brazilian Real and Yuans, in the amount of US$ 30 billion equivalent.

The recent Sino-Brazilian agreement constitutes a first step toward building up a network of swaps of the BRICS, currently under negotiation. According to negotiators of the pool, the mechanism would have a dimension near US$ 100 billion in convertible currency. Just as in the Chiang Mai's case (see section 4), ongoing discussions signalize that the countries' voting power would be set according the dimension of offered swap lines and that main decisions would be made through consensus. Concerning supervision, funds release would be conditioned, from a certain percentage, to a previous agreement between the beneficiary country and the IMF. However, each of the five countries has its own seat in the multilateral agency's Executive Board and their added votes reach more than 15% of total, what enables them to make use of vetoing power if the act coordinately.

The pooling aims at announcing guidelines for the swaps network in 2013, even if its full operations will take several years. If successful, the agreement could set an interesting instrument for inter-regional financial cooperation between developing countries, strengthening BRICS' position in the IMF and opening possibilities to establish "bridges" with regional liquidity funds.

Even though the swap agreements may contribute toward a greater global financial stability, supplying countries' national interests are a determinant factor of agreements, restricting their potential stabilizing effects. In this sense, expansion of swaps supply, through China and BRICS emergence, represents a major step toward a broader and diversified supply of this instrument.

3.4 Regional foreign reserves funds and their constitution requirements

Rajan, Siregar and Bird (2003) differentiate two types of regional foreign reserves funds: partial pool and complete pool. In the first, member countries contribute only with a fraction of their foreign reserves to the common fund while, in the second case, countries share the totality of their reserves.

In order to be feasible the establishment of a foreign reserves fund, two variables should be considered: *i*) absolute volume of its reserves; and *ii*) volatility of its reserves. A foreign reserves fund must seek that the volume of funds available to its members be significantly larger than reserves volume of each country and that volatility of the set of deposits be lower than the one recorded individually.

Rajan, Siregar and Bird (2003) define the following coverage index that, for an *i* country, may be represented by:

$$Ci = \frac{PR}{Var(PR)} \tag{1}$$

Where: *PR* is the *i* country's average volume of foreign reserves during a given period of time; and *Var(PR)* is the reserves volatility during this period, measured by the standard-deviation. The greater the coverage index, the better will be the conditions for a country to participate in the fund.

When one *i* country begins to participate in a pool, it begins to have access to an additional volume of reserves. Likewise, volatility of funds to which a country has access begins to be set by the volatility of its reserves added to the volatility of the fund. Formally, when admitting the behavior of reserves between two given countries, called *i* and *j*, we have:

$$C_i = \frac{\left(R_i + \sum_{j \neq i} \rho R_j\right)}{Var\left(R_i + \sum_{j \neq i} \rho R_j\right)} \tag{2}$$

In this equation, *p* refers to the level of pooling (0 ≤ p ≤ 1), whereas for *p*=0, there is not any reserves pool, for *p*=1 there is complete pool of reserves, while for values between 0 and 1 there would be varying levels of partial pool; R*i* and R*j* are total reserves of countries *i* and *j*.

It is understood that, from equations (1) and (2), the *i* country's coverage will be expanded through a reserve pool system if: *i*) volatility of its reserves added to that of the fund is lower than the volatility of its reserves; or if *ii*) access to a larger volume of funds compensates the volatility increase of combined reserves. Thus, for example, a modest increase of available volume of reserves, followed by a strong increase of total volatility would result, under the reserves pool system, in worsening of conditions of a given country.

Both Rajan, Siderar, and Bird (2003) and Williams, Polius and Hazle (2001) indicate that the benefits of integrating a reserves pool may be best evaluate when compared to the effort of accruing reserves required from a country so it achieves the same coverage index individually. This coverage level would be measured through the *hypothetic reserve* concept, computed as follows:

$$HRi = Ci * Var(Ri) \tag{3}$$

Where: *HRi* is the hypothetic reserves volume, which expresses the reserves level that an *i* country should keep if it did take part in the fund; *Ci* is the coverage index supplied by the fund; and *Var(Ri)* represents the volatility of the *i* country's own reserves.

Gains or losses derived from participating in the fund may be expressed by:

$$G / L = HR - PR \tag{4}$$

Where: *G/L* represents gains (if > zero) or losses (if < zero) in the foreign reserves level; *HR* are the hypothetic reserves; and *PR* are the actual reserves. Therefore, whenever *HR* > *PR*, there will be gains in *i* country's participation in the reserves fund.

One should also consider the possibility that the reserves fund may leverage additional resources in the market, increasing its capacity of supplying funds and reducing synchrony of reserves variations of countries participating in the fund.

In practical terms, the suitable operation of a reserves fund presupposes overcoming some obstacles. Countries participating in the fund should not go through acute liquidity problems during the same period, which would lead to simultaneous use of fund's resources, increasing the risk that its volume to be insufficient to meet all demands. Just as the fly to quality demonstrate during the beginning of current financial crisis, a capital flows reversion may be related to a region's external issues, and simultaneously affecting several members of a fund, harming the regional mechanism's operation.

There are two ways to minimize this risk. Firstly, a reserves fund could be designed as a complementary instrument to the IMF. For Machinea and Titelman (2007, p. 23), "*los acuerdos financieros regionales son un complemento de los acuerdos globales y que, como principio rector de los procesos de integración financiera regionales, debieran ser adicionales a la arquitectura financiera global*" (regional financial agreements are a complement to global agreements and that, as a guiding principle of regional financial integration processes, should be additional to the global financial architecture). This opinion is also shared with Agosin, who states that

> *el objetivo de fortalecer la institucionalidad financiera regional no implica sustituir el FMI. Este último es una institución clave en el sistema monetario internacional. Ningún fondo regional contaría ni con el volumen de recursos del FMI ni con la capacidad política para movilizar rescates financieros de gran envergadura cuando ellos fueran necesarios. Además, muchos problemas financieros internacionales rebasan el ámbito regional y requieren de soluciones globales* (the objective of strengthening regional financial institutionality does not imply in replacing the IMF. This latter is a key institution in the international monetary system. No regional fund would count either with IMF's volume of funds or with the political capability to mobilize large financial rescue when they were necessary. Additionally, many of the international financial problems surpass the regional scope and require global solutions) (Agosin, 2001, p. 38).

Therefore, a regional liquidity mechanism should count on complementarity of resources from multilateral agencies, particularly in case of exogenous crises. Regional funds would work as additional liquidity buffers, increasing agents' trust in States participating in the fund. Secondly, a timely action of the regional fund could play a major role in preventing and containing the contagion effect, minimizing the possibility that the crises extending to neighboring countries and becoming necessary to resort to greater volume of funds through the IMF.

The challenges imposed by the interaction between States aimed at the reduction of foreign vulnerability can be overcome through institutional strengthening of the regional mechanism. Reserves funds or swap agreements should have, by their own nature, a high level of institutionalization and governance structure suitably built to promote cooperation. Concerning the relations between international institutions and cooperation, Keohane (1998, p. 86) indicates:

> Institutions create the capability for states to cooperate in mutually beneficial ways by reducing the costs of making and enforcing arrangements – what economists refer to as "transaction costs". They rarely engage in centralized enforcement of agreements, but they do reinforce practices of reciprocity, which provide incentives for governments to keep their own commitments to ensure that others do so as well. Even powerful states have an interest, most of the time, following the rules of well-established international institutions, since general conformity to rules makes the behavior of other states more predictable.
>
> [The research on international regimes] drew heavily on the twin concepts of uncertainty and credibility. Theorists increasingly recognized that the preferences of states amount to "private information" – that absent full transparency, states are uncertain about what their partners and rivals value at any given time. They naturally respond to uncertainty by being less willing to enter into agreements, since they are unsure how their partners will later interpret the terms of such agreements. International institutions can reduce this uncertainty by promoting negotiations in which transparency is encouraged; by dealing with series of issues over many years and under similar rules, thus encouraging honesty in order to preserve future reputation; and by systematically monitoring the compliance of governments with their commitments (Keohane, 1998, p. 86).

The quote makes explicit the importance to count on measures that minimize two evaluation problems that are typical of loans: adverse selection[4] and

4. In a simplified way, it is a situation in which a protection mechanism (for example, an insurance contract) attracts mainly clients with greater probability of theft, in higher ratio to occurrence of this type of client in a certain market. Concentration of high risk clients in the insurance company's portfolio increases, consequently, occurrences of theft and amounts paid for indemnifications, and it may turn insurance unfeasible. This phenomenon occurs due to information asymmetries, since the seller (the insurance company) does not know all client's data (the insured), not knowing in advance the risk level of each insurance holder.

moral hazard.[5] In this sense, the adopted governance regime plays a fundamental role in maintaining regional mechanism efficiency and sustainability. One should not confound suitability of conditionalities to the realities of countries participating in the mechanism with lack of conditionalities. In spite of IMF's requirements be notoriously standardized and their outcomes arguable for the recovery of economies under crisis, the establishment of a regional fund that works as the ultimate lender without requirement of any type of counterpart simply could foster an irresponsible behavior among members of a common reserves fund. At the same time, forcing a country that had not previously presented problems in its macroeconomic foundations to comply with severe conditionalities in facing crises with exogenous origin seems to be a senseless and counterproductive measure.

It should be considered that, in situation involving a reduced number of actors, belonging to a same region, with strong political and economic ties among them, the counterpart forms offered by borrowing countries may be at the same time more innovative and effective than those applied by the IMF. The Game Theory suggests that, in situations where reputation and long term gains matter, actors may accumulate enough stimuli to cooperate. In these conditions, generation of incentives in order that countries' debts with the fund have high priority in the order of complying with their obligations, for example, would signalize a high commitment level of countries with the institution, discouraging assuming risks and the occurrence of defaults. The lack of defaults throughout LARF history is, in this sense, remarkable evidence.

Concerning governance structure required to setup a fund, it should be highlighted the need to ensure clear and well-delimited management standards. By taking the format of self-regulated entity, the responsibility for fund management would be borne by its member States, which would begin to count on influence level and responsibilities above those recorded in multilateral agencies. The agency's objectives and functions should be equally clear. Functions may include rendering financial services in addition to supply of emergency credit lines, core objective of a regional fund, but should not collide with this latter. Diversification of foreign reserves assets, as objective to improve its profitability, as well as the promotion to deepen domestic financial markets, is an alternative to be analyzed with special attention.

As stated by Eichengreen (2010) and McKay, Volz and Wolfinger (2010), in order to be feasible and efficient, reserves fund should comply with the following requirements: *i*) to have suitable financing capability; *ii*) to have capability to carry out financial and economic supervision over its members; *iii*) to be fast on

5. Another topic studied in the information asymmetry area in economics, the moral hazard is presented when an agent insured from a given risk (for example, someone who buys theft insurance for his car) behaves differently as if he did not have the insurance. In this example, someone who has theft insurance for his car could start going to places considered as dangerous, where he would not go if he was not insured. Taking the example to the case of reserves fund, it would be as if a country began to adopt less responsible economic policies after becoming a member of the fund.

its decision making; *iv*) to be acknowledge as carrier of legitimacy by its members; and *v*) to have the capability to work coordinately with multilateral agencies.

Taking into account these considerations and the need to setup guidelines for greater coordination between the IMF and the European Financial Stability Facility in jointly supply of liquidity to European economies, the G20 Ministers of Finance and Central Banks Chairpersons stipulated in Cannes, in October 2011, the following "Principles for Cooperation between the IMF and the Regional Financial Arrangements" (box 1).

BOX 1
G20 Principles for Cooperation between the IMF and the Regional Financial Mechanisms

• Cooperation strengthening between Regional Mechanisms and the IMF would be a major step toward promoting a better and more efficient crises prevention and resolution, as well as reducing moral hazard. Cooperation between Regional Mechanisms and the IMF should nourish a strict and balance supervision and promote regional and global financial and monetary stability;

• Cooperation should respect the roles, independence and decision making process of each institution, taking into account regional specificities in a flexible way;

• Although cooperation between Regional Mechanisms and the IMF may be unleashed by crises, continued collaboration should be promoted as means to strengthen regional capacities;

• Cooperation should start as soon as possible and should include information sharing and joint missions whenever needed. Each institution has comparative advantages and should benefit from the experience of the other. Specifically, Regional Mechanisms have a better understanding of regional circumstances and the IMF a greater global supervision capacity;

• The consistence of loan conditions should be pursued in as much as possible, preventing arbitration, especially of conditionalities and financing cost. Nevertheless, some flexibility should be preserved, such as adjustments in conditionalities, whenever necessary and defined at the time of program review. Additionally, definitive decisions on financial assistance within a joint program should be made by respective institutions;

• Regional Mechanisms should respect the IMF's preferential creditor status.

Source: Author's elaboration based on the G20 (2011).

The establishment of these principles highlights the need of innovative institutional reforms that makes closer action coordination between the two feasible spheres. Regional Mechanisms should establish modes of external institutional representation beyond their own member countries. Integration of regional arrangement to IMF's Executive Board and granting of loans by the IMF directly to these mechanisms would be some of the alternatives toward that direction. Notwithstanding the difficulty of internal consensus previous construction makes up for one of the major obstacles for regional mechanisms' greater external projection. The difficult negotiations among Europeans countries in defining coordinated action to struggle against the financial crisis and the persistent resistance against the unification of Euro countries' chairs in the IMF's Executive Board are evidences of this issue.

In view of this context, we will evaluate the Chiang Mai Initiative and the Latin American Reserves Fund experiences.

4 THE CHIANG MAI INITIATIVE

4.1 From bilateral to multilateral

In 1997, a speculative crisis against the baht, the Thai currency, unleashed a run on the Banks that rapidly spread out in the Southeast Asian countries. One year before the crisis, in 1996, Indonesia, South Korea and Thailand, three countries that later resort to IMF loans, presented foreign reserves that covered a large portion of their respective foreign short term debts (between 110% and 195% of total). However, maintaining the appreciation of their currencies for a relatively long period started to generate increased current accounts deficits, making foreign financing maintenance unsustainable. Japanese banks, which maintained a high exposition in the region, were one of the parties most affected by the crisis.

Besides the existing high economic interdependence among its countries, the region counted on a very high underdevelopment level of financial institutions and cooperation mechanisms. Regional inter-government institutions, as the Association of Southeast Asian Nations (ASEAN) and the Asia-Pacific Economic Cooperation Forum (APEC), were highly concentrated on trading topic and/or counted on the participation of out of region powers. It was then that, as reported by Henning (2002), during the crisis pinnacle, Japan proposed the establishment of the Asian Monetary Fund (AMF) (Miyazawa Initiative), unilaterally supplying US$ 100 billion for its operation. Japan's Ministry of Finance, during proposal presentation, highlighted three major points: *i*) that Mexico's financial rescue undertaken by the United States and the IMF in 1995 had been crucial for the North America economic stability; *ii*) that the United States did not have the same incentives to rescue Southeast Asian economies, to which the Japanese economy was closely interdependent; and *iii*) while the United States had the vetoing power over IMF main decisions, Asian countries were suffering the consequences of their insufficient political influence in the institution. The United States, the G7, and the IMF used diverse ways to prevent the progress of the Japanese initiative since it would result in loss of influence in the region for these actors. In the other hand, China observed the initiative with mistrust during a period in which Japan was very active in its Yen internationalization strategy. Consequently, by not counting on sufficient support, the AMF Project was aborted.

Japan launched, in spite of the initial failure, the New Miyazawa Initiative centered in a US$ 30 billion fund in the next year. Half of these resources would be used to grant short term credits, while the other half would be targeted to medium and long term loans among the countries of the region. In this context, South Korea and Malaysia signed bilateral agreements with Japan. As outcome of the Japanese initiative, ASEAN, China, Japan and South Korea (ASEAN+3), gathered in the Thai city of Chiang Mai, signed a treaty in May 2000 that foresaw the establishment of a permanent mutual assistance mechanism in case of lack of liquidity. Among the reasons that boosted regional cooperation there was the perception that actions executed under IMF guidance as responses to the serious 1997-1998 crisis, in addition to be considered and unsuitable, had worsened some countries' economic and political situation.[6] Additionally, there was strong belief that the reform demands of the international financial structure, claimed by Asian countries would not be set in practice at the required speed and format.

The Chiang Mai initiative consists in a set of unilateral and bilateral currency swap agreements among ASEAN countries, China, Japan and South Korea (ASEAN+3). Agreements seek to provide short term liquidity, preventing contagion among their member countries. During its first phase, sixteen bilateral agreement among ASEAN+3 countries were negotiated and finalized. Each agreement had set period of validity, which implied in periodic renegotiations. In addition to constant renegotiations, effectiveness of agreements required, in certain cases, previous approval of the creditor country. The bilateral agreements amounts varied between US$ 1 billion and US$ 3 billion, adding to total of US$ 36.5 billion. Agreements amounts were very small compared, for example, with US$ 17.2 billion that had been requested by Thailand during the 1997 crisis, as well as compared with the foreign reserves accrued by the countries of the region.

In addition to count on insufficient funds, the release of volumes higher than 10% of the maximum predicted in each agreement was conditioned to the approval of a macro-economic and structural adjustment program between the IMF and the requesting country. As the main creditors and promoters of the initiative, China and Japan highlighted the importance of counting with the IMF to supply, at least in this first phase, greater credibility to the initiative. Countries agreed with the temporary maintenance of the link with the IMF until a supervision mechanism for the agreement would become operational. As highlighted by Amyx (2008), the rationale of interstate power structure in Southeast Asia led countries to adopt a comfortable and prudent solution for the problem presented by the need of supervision of credits granted by the regional mechanism.

6. Furman and Stiglitz *apud* Park (2006) highlighted that statements by IMF officers who stated that affected countries had severe structural problems in their public, financial, and business sectors, certainly did not provided trust in those economies. It is probable that the IMF was dealing with third generation crises, in which even healthy economies are susceptible to contagion, with first generation tools (concentrated on the frailness of macro-economic foundations). Among other criticism related to conditionalities, the recorded: *i)* strong fiscal adjustment with insufficient attention to their social consequences; *ii)* High standardization, with insufficient evaluation of the political and social context particularities; *iii)* ban in applying capital controls; *iv)* imposition of wide guarantees to borrowers, particularly foreigners; *v)* imposition of a fast set of structural reforms (privatization of state enterprises) and sale of several financial assets from the domestic capital.

ASEAN+3 embarked on a second stage of the regional financial cooperation process, acknowledging the insufficiency of agreements amounts and in face of the acceleration of individual accrual of their reserves, and they established the following objective: *i*) strengthening of the supervision mechanism; *ii*) instrumentalization of swap agreements effectiveness; *iii*) adoption of a common decision making process; *iv*) expansion of agreements; and *v*) reduction of the link with the IMF. In May 2005, ASEAN+3 decided to increase the total amount foreseen in the bilateral agreement to US$ 70 billion. The Ministers of Finance from the group of member countries also increased the level of free access resources, from 10% to 20% of maximum amount predicted in each bilateral agreement. Finally, the main financial swap conditions were defined: *i*) yearly interest rates between Libor[7] + 1.5% and Libor + 3.0%; and *ii*) loans with amounts lower than 20% of each agreement total would have a ninety days term, renewable twice for equal period (total up to 270 days), while those with amount higher than 20% of total (requiring previous agreement with the IMF) would have a two years term. These reforms allowed the Chiang Mai Initiative to become more inclusive, easing, at the same time, Western power's criticism and suspicions. It intended to reduce the IMF supervision dependence and, in parallel, maintaining collaboration attitude with the multilateral agency and the G7.

The Asian countries have deepened, since then, their model of international economic insertion, based in maintaining a stable and relatively devalued currency, and in exports promotion toward out of the region markets as final destination. During this period, the world economic cycle was marked by strong international liquidity expansion and fast growth of foreign reserves. In view of the positive international context, ASEAN+3 countries concentrated in keeping a competitive exchange rate. The resulting cost increase in carrying foreign reserves fostered countries to create, in May 2006, a Group of Authorities, comprised by academicians and technical staff from the Ministries of Finance, aiming at exploring ways to strengthen the supervision capacity of the mechanism and, thus, progressing toward expansion and multilateralization of the Chiang Mai Initiative. Swap bilateral agreements signed between members would be supplied permanently and simultaneously among all members.

The block has been gradually progressing around these objectives. Ministers agreed, in 2008, to increase the total amount of funds to US$ 80 billion and they set the fund's general governance principles and criteria for loans granting. Later, in May 2009, the Ministers of Finance, gathered in Bali, defined increasing total

7. *London Interbank Offered Rate* – a liquidity indicator of the London inter-banking market.

supplied funds to US$ 120 billion[8] (Lombardi, 2010). At the event, it was also achieved the decision related to criteria that will guide the path setting up the Chiang Mai Initiative Multilateralization (CMIM).

Indebtedness capacity with the fund is based in each country's contribution amount, multiplied by a pondering index that favor smaller economies. In accordance with set formula, Japan and China contribute with the same amount, counting with the same voting power, while South Korea's contribution corresponds to half of that of the two main Asian economies, equal proportion of its voting power. Decisions on topics considered as fundamental (fund size, contributions, loan multipliers, members adhesion, loan terms and conditions) are subject to consensus approval and issues related to granting loans (approval, renewal, default) require approval by simple majority vote. As it can be noticed, the governance system design of the mechanism supposes that none of the three major promoters of the initiative can isolatedly veto any measure, inducing to a concertation among the three countries and collaboration from the others for fundamental changes. Thus, pondering votes strengthens the regional cooperation process legitimacy.

In spite of regional mechanism's significant progress, until now, no swap agreement could be instrumentalized. The lack of an effective supervision mechanism, doubtlessly, is one of the main shortages of the Chiang Mai Initiative. Its members, seeking to solve this deficiency, began in mid-2011 the operation of an independent regional economic supervision unit, the *ASEAN+3 Macroeconomic Research Office* – AMRO. AMRO's objective is to promote Chiang Mai Initiative Multilateralized operations, as well as to offer own responses for the macro-economic supervision and loan granting and follow up. The office counts on a reduced number of technicians (between ten and twenty), enabling concentration only in information exchange (Cohen, 2010).

Since AMRO started to work, new progresses have been recorded. In mid-2012, ASEAN+3 Ministers of Finance determine duplicating the volume of available funds, expanding it to US$ 240 billion, and they plan to rise to 40% the portion of loans without link to the IMF by 2014 (Rana, 2012). In the long run, the initiative goes toward promoting disentail of Chiang Mai Initiative loans from the IMF, expanding, in parallel, its financial capability. In spite of the last progresses, it is not clear until where mechanism member are willing to grant autonomy to the evaluating unit.

8. Due to standard and institutional asymmetries among its members, countries contributions come from budgetary resources. Chalongphob Sussangkarn, AMRO Advisor. Interview held by author in September 2012.

TABLE 2
Chiang Mai Initiative Multilateralization

Country	Contribution				Loans multiplier	Basic vote	Votes based in contributions	Total voting power	
	US$ billion		(%)			number of votes	Number of votes	number of votes	(%)
China	38.40	China (excluding Hong Kong) 34.2	32.0	28.50	0.5	1.60	34.20	35.8	25.43
		Hong Kong 4.2		3.50	2.5	0	4.20	4.2	2.98
Japan	38.40		32.00		0.5	1.60	38.40	40.00	28.41
Korea	19.20		16.00		1	1.60	19.20	20.80	14.77
+3	96.00		80.00			4.80	96.00	100.80	71.59
Indonesia	4.552		3.793		2.5	1.60	4.552	6.152	4.369
Thailand	4.552		3.793		2.5	1.60	4.552	6.152	4.369
Malaysia	4.552		3.793		2.5	1.60	4.552	6.152	4.369
Singapore	4.552		3.793		2.5	1.60	4.552	6.152	4.369
Philippines	4.552		3.793		2.5	1.60	4.552	6.152	4.369
Vietnam	1.00		0.833		5	1.60	1.00	2.60	1.847
Cambodia	0.12		0.100		5	1.60	0.12	1.72	1.222
Myanmar	0.06		0.050		5	1.60	0.06	1.66	1.179
Brunei	0.03		0.025		5	1.60	0.03	1.63	1.158
Laos	0.03		0.025		5	1.60	0.03	1.63	1.158
ASEAN	24.00		20.00			16.00	24.00	40.00	28.41
Total	**120.00**		**100.00**			**20.80**	**120.00**	**140.80**	**100.0**

Source: ASEAN Secretariat.

4.2 Regional financial market development

Before the Asian crisis, many companies in the region contracted loans in foreign currency with Western and Japanese financial institutions. The relatively low development level of the Asian financial market left few financing options to companies. After the crisis, ASEAN+3 countries evidenced the need to develop their financial markets, particularly through local currency operations, reducing equity unbalance deriving from assets and liabilities structures denominated in currency mismatch, and preventing future liquidity crises. The low development of local financial markets, in relation to the size of economies and the growing opportunity costs for "recycling" foreign reserves in Western markets, evidenced a wide space to be exploited by scale expansion of Asian financial markets through building up a regional financial market. The low transactions volume in local financial markets resulted in a low presence of risk agencies, both global and regional, what meant insufficient supply of infrastructure supporting markets development.

Sharing these concerns, ASEAN+3 Ministers of Finance launched, in 2003, the Asian Bond Market Initiative (ABMI). The setting up of the Asian Bound Fund (ABF 1), amounting to US$ 1 billion was ABMI first initiative, leveraged by voluntary contributions from foreign reserves of the countries' group. ABF 1 management was delegated to the Bank for International Settlement (BIS) and its funds targeted to sovereign and state owned enterprises bonds issued in dollars in eight countries of the region. In parallel, voluntary work groups were created to study and propose actions in the following areas: *i*) debt securitization; *ii*) credit guarantees; *iii*) local currency bonds; *iv*) risk agencies; and *v*) currency exchange transactions.

A new step was taken in 2004, when ABF 2 was created. Counting on a larger volume of resources (US$ 2 billion derived from foreign reserves), its management was delegated to State Street Global Advisors, a firm located in Singapore and Hong Kong and custody of China's Shanghai Banking Corporation (Dieter, 2007). Its funds were targeted to select public and semi-sovereign bonds in local currency from eight countries. Specifically, the ABF 2 has two components (each with US$ 1 billion): *i*) Pan-Asian Bond Index Fund; and *ii*) Fund of Bond Funds. iBoxx ABF was also created, a joint-venture established with Western financial institutions (ABN AMRO Group, JP Morgan and Morgan Stanley) to provide benchmark of financial indexes for the regional markets (Rajan, 2009).

The significant discrepancy between evaluation made by international agencies and their local counterparts was identified as a discouraging factor to attract big international investors. The Asian Development Bank (ADB) and the Association of Credit Rating Agencies in Asia (ACRAA) were added to the initiative, beginning to work for harmonizing risk evaluation criteria and the establishment of "good practices" (Spiegel, 2009).

After the current financial crisis restates the importance to count on local currency financial markets, ASEAN+3 Ministers of Finance launched a set of measures seeking to strengthen the initiative. The Credit Guarantee and Investment Facility (CGIF), a guarantee fund created by the ADB in the amount of US$ 500 million to support private bonds issuing in local currency (Spiegel, 2009). ABMI began, in parallel, promoting periodic self-evaluations, but voluntary, among national regulators. Members of the private sector were added to discussions seeking to incorporate the topic of facilitation and liquidation of financial transactions between countries. Several ABMI participating countries keep a considerable level of control over the capital account. Given the voluntary participation feature, progress in setting facilitations for the undertaking of intra-regional transactions are concentrated in the region's more developed financial markets: Japan, South Korea, Singapore and Hong Kong.

Several challenges for the progress of the initiative remain. Firstly, the reduced volume of funds targeted sets a clear limitation. Secondly, the fact that investments are targeted to support only good quality public or quasi-public bonds could be causing a *crowd out* of private bonds. In this sense, the CGIF is a good response by the region to previous measures limitations. Thirdly, the absence of Australia, New Zealand and India, neighboring countries that count on financial markets with expressive size and appreciated expertise, decreases the initiative's externalities potential.[9] Finally, but not the least, the strong capital account control exercised by several countries reduces significantly the possibility of expanding liquidity and market capitalization.

ABMI aggregated value seems to be concentrated, in nothing less, in supplying a common basic infrastructure to support the development of Asian financial markets. In spite of Japan's constant efforts, which is the largest financial market in the region, to keep alive the initiative, steps taken for the establishment of a regional financial market are unequal, paced by sensitive national interests that are behind the discussion on capital account opening.

5 THE LATIN AMERICAN RESERVE FUND

5.1 Overview

There is in South America a regional cooperation mechanism that seeks to assist countries with balance of payments difficulties: the Latin American Reserve Fund (LARF). LARF was setup in 1978 under the name of Andean Reserve Fund and with the purpose of rendering services to the Andean Community of Nations' (CAN) members. It is the world's oldest regional reserve fund, with headquarter in Bogota, Colombia. LARF comprises the Andean Integration System, in which the Latin American Development Bank (LADB) also participates. In 1991, its founding members (Bolivia, Colombia, Ecuador, Peru, and Venezuela) decided to open the institution for all Latin American countries participation. In 2000, Costa Rica adhered to LARF, and it was followed, in 2009, by Uruguay.

The Fund works as a credit cooperative that grants short term loans to member countries in proportion to their capital contributions. Entity's corporate capital is US$ 2.34 billion and its paid in capital is US$ 2.03 billion. Its main source of funds is the subscribed capital by member countries. Leverages undertaken in capital markets and demand and time deposits made

9. It is worth highlighting that, in April 2011, the Treasurer of Australia, Wayne Swan, rejected the sale of Australia Stock Exchange to Singapore Stock Exchange allegedly in defense of "national interest". See <http://www.thehindubusinessline.com/markets/stock-markets/article1611578.ece>.

by central banks are added as well. From 2006, LARF also began to receive short term deposits. It is worth highlighting that, since the establishment of the fund, capitalizations of utilities yielded by the corporate capital is done individually by member countries.

TABLE 3
LARF capital composition by member country (March, 2012)
(In US$ million)

Country	Subscribed capital	(%)	Paid in capital	(%)	Reserves	Paid in capital / reserves (%)
Bolivia	234.4	10.0	195.7	10.5	12,440	1.6
Colombia	468.8	20.0	391.3	21.0	33,130	1.2
Costa Rica	234.4	10.0	234.4	10.5	4,627	5.0
Ecuador	234.4	10.0	195.7	10.5	3,931	5.0
Peru	468.8	20.0	391.3	21.0	55,843	0.7
Uruguay	234.4	10.0	234.4	7.0	12,810	1.8
Venezuela	468.8	20.0	391.3	21.0	27,587	1.4
Total	**2,344.0**	**100,0**	**2,034.1**	**100.0**	**150,368**	**1.3**

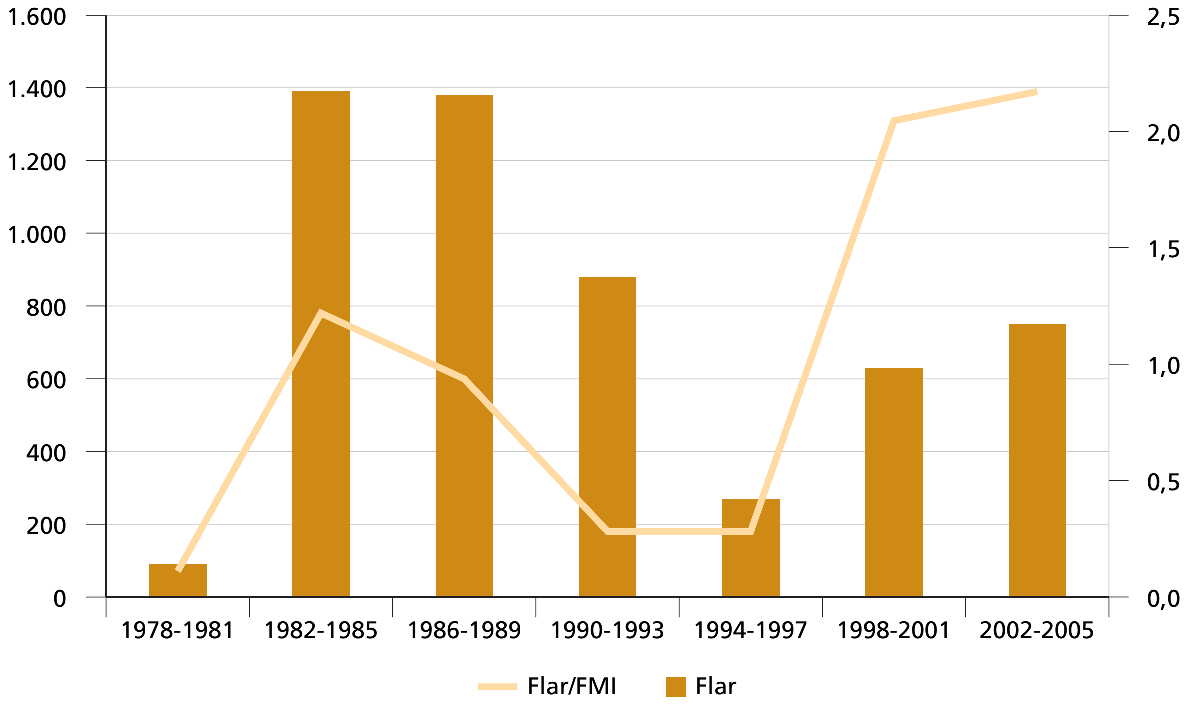
Source: Own elaboration based on LARF and central banks.

LARF Constitutive Agreement (Chapter 1, Article 3) sets forth the following objectives for the institution:

- supporting member countries' balance of payments or debts restructuring granting credits or guaranteeing third parties loans;
- improving investment conditions of member countries' foreign reserves; and
- contributing to harmonize member countries' currency exchange, monetary, and financial policies.

The Fund has been performing a very active role in granting short term loans to member countries, inclusively in amounts higher than the IMF. Between 1978 and 2012, LARF disbursed US$ 10.2 billions. According to Ocampo and Titelman (2010), between 1978 and 2005, granted loans responded to the equivalent of 60% of the IMF total financing to countries participating in the regional mechanism. These funds were comprised by, in large measure, loans supporting balance of payments and liquidity credits. It is also observed that, after the Asian crisis, LARF activity increased in compared to the IMF.

GRAPH 4
LARF: total granted loans (1978-2005)
(in US$ billion and proportion of the IMF loans)



Source: Ocampo and Titelman (2010).

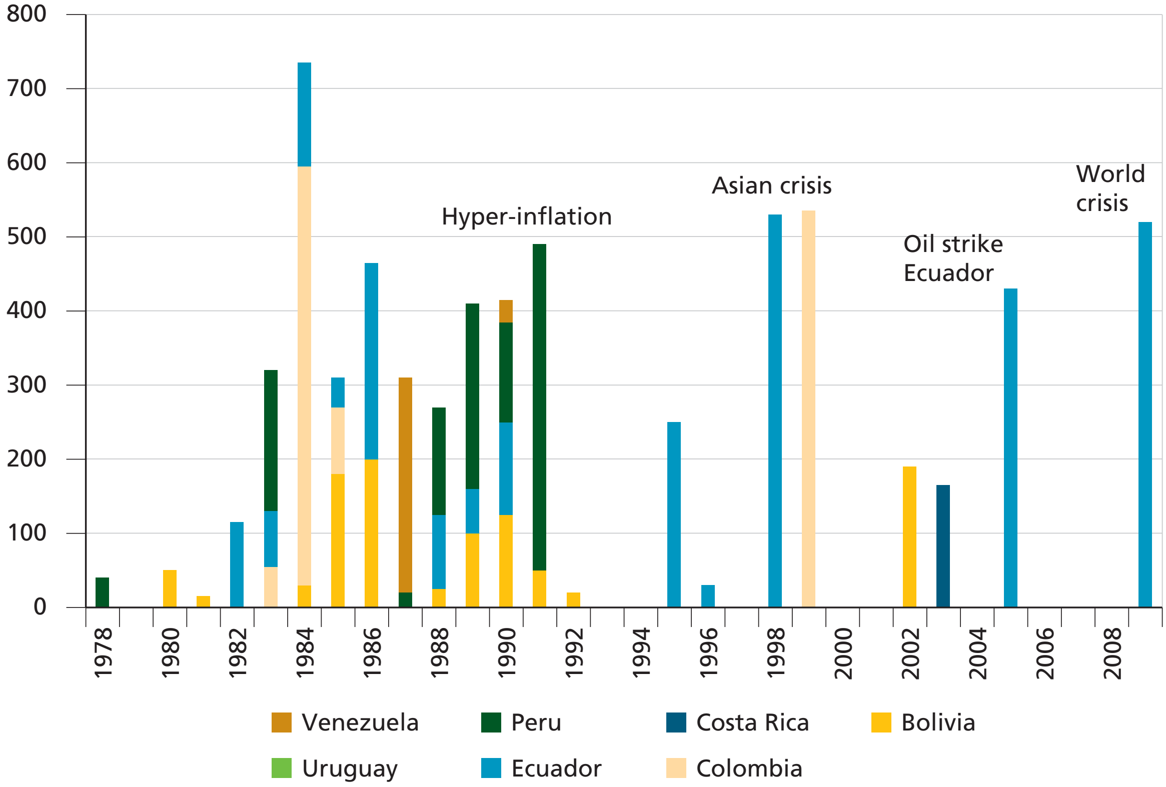
TABLE 4
Loan Modalities (1978-2012)

Modality	Amount (US$ million)
Balance of Payments	4,906
Liquidity	4,397
Contingency	470
Debt Restructuring	453
Total	**10,226**

Source: LARF.

In accordance with LARF financial statements, Ecuador was, in 2012, the only indebted country in the Fund that was honoring a US$ 500 million loan, with three years term, contracted in that very same year.

GRAPH 5
Credits approved during crisis episodes



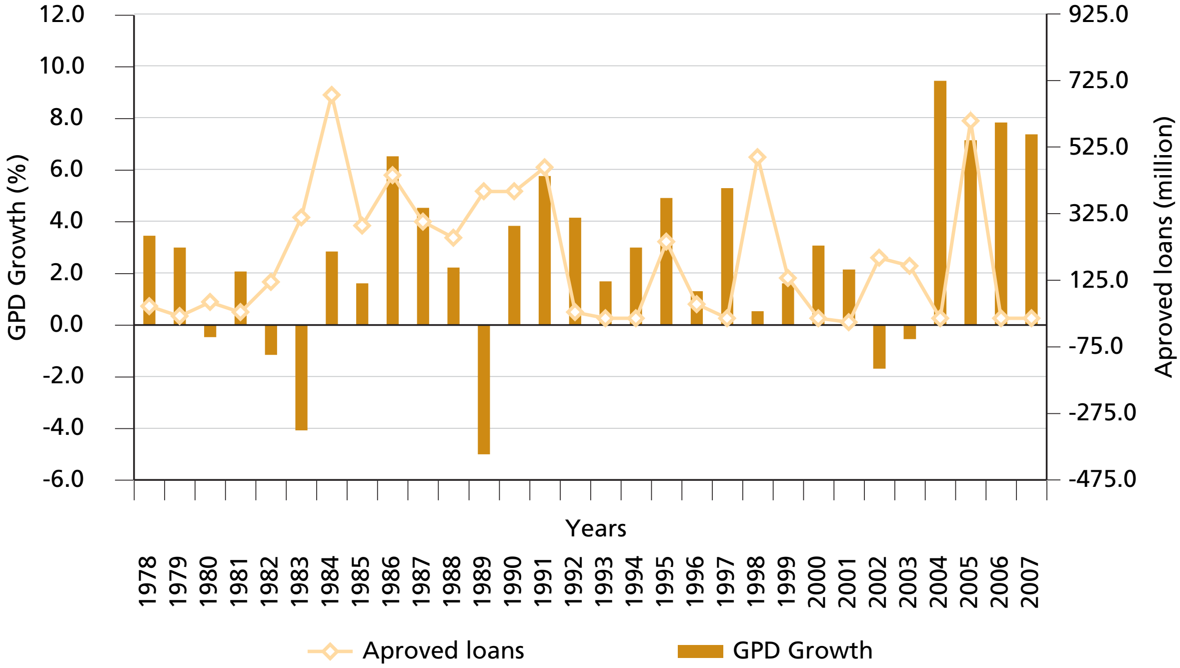
Source: LARF.

Funds obtained from the LARF were very important to ease liquidity restrictions for beneficiary countries. As examples, the Bolivian case, between 1985 and 1986, loans were equivalent to 30% of its exports and 35% of its foreign reserves; in 1998, in Ecuador, the equivalent to 28% of its foreign reserves, and in Colombia, in 1984, the equivalent to 30% of its foreign reserves.

Besides the fact that LARF financial capability is notoriously lower than that of the IMF, fast and timely granting of loans are major features and comparative advantages of the regional mechanism.[10] Usually, the IMF requires relatively long negotiating processes, which tends to aggravate crises and, consequently, expanding demand for new funds. In some instances, as stressed by Titelman (2006), LARF was the sole institution to contribute with countries in crisis situation. In 1988, when Peru recorded a drop in its GDP of 8.4%, LARF supplied US$ 130 million, while the IMF did not make funds available. It is possible to confirm that, in addition to timely releases, LARF loans perform a clear countercyclical profile.

10. Time for approving credits for balance of payments and balance of payments restructuring has been, in average, 32 days. See <www.flar.net>.

GRAPH 6
Member countries' GDP variation and loans approved by the LARF



Source: Ocampo and Titelman (2010).

Funds disbursed by the LARF are recorded by the central Banks as debts in their foreign reserves account, offering a high level of guarantees for loans pay back. The status of preferred creditor granted to LARF reflects a high pertaining feeling of member countries, which makes loss of reputation cost extremely high in comparison to eventual temporary advantages gotten with loans default. This feeling is also reflected in the timely manner in which disbursement requests by members are approved. The semi-automatic granting of LARF Liquidity and Contingence Credits have led the LARF to negotiate with the IMF the accounting of paid in capital by its members as foreign reserves assets.[11]

Historically, Fund members always pay their debts with the institution, even if under foreign debt moratorium situation. These facts have resulted in comments and in rating received by the LARF. In February 2009, during the most critical instance of the international crisis, Moody's agency rated LARF as "Aa2" and the Standard and Poor's as "AA" (investment grade in both cases), rating it as the institution with the best evaluation in all Latin America: "LARF reportedly has never had a default by any of its central bank borrowers nor been forced to restructure a loan to a central bank borrower (...) all of which reflect LARF's historical treatment as a preferred creditor" (Standard & Poor's, 2008).

11. Carlos Andrés Giraldo (DEE Deputy Director of the FLAR). Interview held by author. Buenos Aires, May 2010.

LARF excellent risk management allows it to make funds leverage in capital markets at competitive costs. Its investment policy foresees possibility of yearly losses of up to 5%, requiring, minimally, the following credit rating (Standard and Poor's/Moody's/Fitch): 1) long term: A-/A3/A-; 2) short term: A2/P2/F2; 3) mandatorily in dollars. LARF presents only two issuing: *i*) 2003: US$ 150 million, with fixed remuneration of 3% and 3 years term (certified as Latin America's best multilateral bond in 2003); *ii*) 2006: US$ 250 million, with five years term and quarterly remuneration of three months Libor + 20 basis points, issued at 100% of its face value. Bearing in mind the LARF leverage capability (2.5 fold its capital – US$ 5.85 billion), the reduced volume and number of issuing undertaken would target only the market's rating demarcation.

LARF has been showing active in supplying instrument in concerted way with other regional financial agencies. In the international crisis context, in October 2008, LARF launched, jointly with the Latin American Development Bank (LADB) and the Inter-American Development Bank (IDB), joint credit lines with total amount of US$ 11 billion, of which US$ 1.8 billion were LARF contributions channeled through Liquidity Credit Lines to the central banks. The agreement stipulated also that LARF could have available more US$ 2.7 billion through its Contingence Lines, according to market conditions evolution.[12]

5.2 Governance

LARF Constitutive Agreement sets forth the following decision-making bodies: the Assembly of Representatives, the Board, and the Executive Presidency. The Assembly is LARF maximum decision-making instance and it is comprised by member countries' Ministers of Finance. The Board is comprised by governor or member countries' central banks presidents. The Executive Presidency is the Fund's permanent technical body. The Executive President is LARF's legal representative, elected by the Board for a three years term, renewable for other three years.

Besides the distinction between required minimum paid in capital at countries' admission, each country has one seat and one vote, both in the Assembly and in the Board.[13] The Agreements of the Assembly are approved with ¾ of votes (six of the seven current members). Additionally, decisions considered as important (capital increase, establishment of special funds, changes of the Agreement and credit limits and terms) require that, in addition to approval by ¾ of votes, opposing votes do not surpass 20% of total issued votes. Until now, consensus is the tone in all decisions of the institution.

12. FLAR, Press Release, October 13th, 2008, <available at www.flar.net>.

13. Countries with "large economic dimension" (Colombia, Peru, and Venezuela) must present a minimum paid in capital of US$ 250 million, while those considered as "small economic dimension" (Bolivia, Costa Rica, Uruguay, and Ecuador) of only US$ 125 million. In case of contribution lower than set for its "economic dimension" the country may have a seat with other participants.

As it is noted, loan approval instances vary in accordance with the type of requested credit. If simultaneous demand for credits limits LARF loan capability, loans should be divided in the limit of available capability in amounts proportional do each country's paid in capital, reducing countries' indebtedness.

TABLE 5
Types of credit, conditions, and approval instances

Type of credit	Term	Interest rates	Limit of access[1]	Approval instance
Balance of payments	3 years with1 year of grace	3 months Libor + 400 points	2.5 times paid in capital	Board
Foreign debt restructuring	3 years with1 year of grace	3 months Libor + 400 points	1.5 times paid in capital	Board
Liquidity	Up to 1 year	3 months Libor + 150 points	paid in capital	Executive president
Contingency	6 months renewable	3 months Libor + 150 points	2 times paid in capital	Executive president
Treasury	1-30 days	_	2 times paid in capital	Executive president

Source: LARF.
Note: [1] The Central Banks of Bolivia and Ecuador count on access of additional 0.1 in relation to the other members (except for Treasury Credit).

LARF's Economic Studies Directorate (DEE) plays the role of Technical Secretariat for the Board and Executive Presidency. DEE carries out monitoring of each member country's macro-economic and financial systems performance, by regularly publishing a broad set of monthly and quarterly indicators and a semi-annual bulletin with macro-economic and financial information about each of its members. The strong closeness with the economic reality of countries and constant contact with central banks provided a remarkable comparative advantage regarding the IMF.

As we can observe, the majority of historically granted loans by the agency was centralized in Liquidity Credit and Balance of Payments Credit, despite the fact that Liquidity and Contingency Credits were the lines with most competitive interest rates. Additionally, the release of these last two lines is immediate, requiring only the approval by the Executive President. Finally, the lack of records of Treasury Credit requests would indicate the need of reevaluating its conditions, mainly its term.

The Balance of Payments Credit is the line that presents LARF's longest term and the broadest access limit, requiring a less agile evaluation process and demanding greater number of requirements. Due to its profile, this line is used as an interesting instrument to improve supporting conditions negotiated with the IMF. It is required that the country interested on it submit a report informing planned measures that will be taken in order to reestablish the equilibrium of its balance of payments, which shall not have imports restrictions related to products coming from the other members. The Executive Presidency, with DEE support, presents its evaluation on the request within thirty days for Assembly's final deliberation, which shall declare if the country really is in situation of insufficient foreign reserves. Analysis undertaken by DEE to determine if the type of macro-economic unbalance is due to structure or conjuncture nature and, then, establish the eventual need of adopting any adjustment measure. In that sense, the Executive Presidency requires a set of information from the requesting country (box 2).

BOX 2
LARF Credit Negotiation for Balance of Payments

- Amount of credit;
- Proposed amortization term;
- Proposed Schedule and scheme for disbursements;
- Explanation on nature and duration of imbalanced balance of payments motivating the request (must be supported by statistic information of foreign reserves, foreign trade perspectives and capital movement of the two years prior to request);
- Information of other financing already obtained or that is sought from other foreign sources to complete the requested assistance;
- Information about the ongoing economic policy measures or that are proposed in order to correct or ease foreign imbalance. The report should have quantitative targets and limits;
- Credit portfolio of the banking system, disaggregated by domestic and foreign currencies and terms;
- Disaggregated foreign debt of both public and private sectors;
- Disaggregated imports and exports amount by origin/destination and product;
- Central Bank balance;
- Projections for the coming three years of the main macro-economic variables (growth, GDP amount – in dollar and local currency; public sector balance; inflation; foreign sector; public debt, and currency exchange).

Author's own elaboration.

5.3 Feasibility of the LARF expansion

LARF positive experience and significant increase of foreign reserves accrued by the South American countries during the past years lead to analysis on the possibility of the regional mechanism expansion, both in its resources and its members. As seen, two of the most relevant variables for a country to have incentives to adhere to reserves fund are the volume of resource that the country will begin to have access and its volatility, both reflected in the *coverage index*. Considering these and other advantages, Machinea and Titelman (2007) evaluate the feasibility of LARF expansion toward a total of ten countries, including the existing members (except Uruguay) and the others four main financial markets in Latin America (Brazil, Argentina, Chile, and Mexico).

Firstly, authors sought to correlate the shocks between the mentioned countries during the period of 1990 and 2005, by using the following variables: *i*) dynamics of foreign reserves; *ii*) private capital inflows; and *iii*) variation in each country's exchange terms. The obtained results show that the correlation in foreign reserves variation, in some cases, was significant (temporal coincidence of emergencies, which plays unfavorably to countries association), but also indicate that the swings affected countries in different levels of intensity during the period. As there is a common behavior in foreign reserves accrual among several countries in the sample, some techniques were applied to reduce the trend effect.[14] Concerning the exchange terms, defined patterns were not observed, while private capital inflows presented a positive correlation, but not to unit. Other considerations add to favorable arguments for LARF expansion: *i*) loans granting at the beginning of a liquidity restriction period could prevent or ease the impact of crisis in a given country, reducing regional contagion, including the effects of the financial crises over the regional trade, intensive in aggregate amount; *ii*) capital expansion would also increase its capability of fundraising in the international markets, reducing its vulnerability to foreign reserves swings; *iii*) even if in face of positive correlations and contagion effect, the sequential demand for resources or differences of intensity would make feasible its expansion.

In a second instance, Machinea and Titelman (2007) computed the coverage index supplied by the ten countries' foreign reserves, as function of their size and volatility, for different levels of p sharing ($0 \leq p \leq 1$). As it is noticed, the results show that Chile and Colombia would tend toward a reduction in the coverage index, aggregating greater volatility to their reserves. Probably, the currency exchange policy of these countries absorbs, in large measure, the foreign shocks, and the collateral benefits should be explored associated to higher exchange stability. In the other hand, Mexico, Ecuador, Peru and Bolivia would present a strong increase in coverage index, been potentially the most beneficiary countries. For Brazil, in terms of coverage, participation in the fund would represent a modest gain, while Argentina would present a slightly higher result.

14. It was used the Hodrick-Prescott filter (a tool that ease short term cycles) and annual foreign reserves variations were computed.

TABLE 6
Foreign reserves coverage index (1990-2005)

Country	p=0	p=0.1	p=0.2	p=0.3	p=0.4	p=0.5	p=0.6	p=0.7	p=0.8	p=0.9	p=1
Bolivia	2.74	3.38	3.41	3.41	3.42	3.42	3.42	3.42	3.42	3.42	3.42
Colombia	4.06	3.69	3.57	3.52	3.49	3.47	3.45	3.44	3.44	3.43	3.42
Costa Rica	3.09	3.44	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.42
Ecuador	2.49	3.38	3.41	3.41	3.42	3.42	3.42	3.42	3.42	3.42	3.42
Peru	2.62	3.12	3.25	3.32	3.35	3.37	3.39	3.40	3.41	3.42	3.42
Venezuela	3.04	3.38	3.44	3.45	3.45	3.44	3.44	3.44	3.43	3.43	3.42
Argentina	2.89	3.47	3.56	3.56	3.54	3.51	3.49	3.47	3.45	3.44	3.42
Brazil	3.01	3.29	4.43	3.49	3.51	3.50	3.49	3.48	3.46	3.44	3.42
Chile	5.24	4.28	3.92	3.74	3.64	3.57	3.53	3.49	3.46	3.44	3.42
Mexico	1.79	2.18	2.48	2.71	2.9	3.04	3.15	3.24	3.31	3.37	3.42

Source: Machinea and Titelman (2007)

These outcomes show that the LARF expansion is possible, but should be hued. From coverage index point of view, there would not be any incentives for those countries presenting greater volatility in their reserves (Chile and Colombia). In their turn, Brazil and Argentina would have modest coverage gains. In the next section, potential course of action will be explored aiming at strengthening LARF operation.

5.4 LARF potentiality

In spite of its excellent background, it seems evident that LARF potential is been under used by the region. The significant increase of accrued foreign reserves by South American countries shows that the institution presents a great potential to be explored, with broad benefits for the entire continent.

Traditionally, the LARF has been an institution integrated by small and medium size countries. Among the Latin American countries, Argentina, Brazil, Mexico, Paraguay and Chile are the most evident cases of non-member countries. In the cases of Paraguay and Chile, it would not seem to have greater difficulties for their incorporations. Paraguay is a country not much integrated to the international financial markets (Paraguayan government made, in January 2013, its first issuing of sovereign bond in the international market) and it accrues one of the largest foreign reserves volumes related to the region's GDP (25%). Actually, Paraguay formally presented its adhesion request during the LARF 68th Extraordinary Board Meeting, held in July 2012.[15]

15. See <www.flar.net>. Accessed in December 19th, 2012.

Although Chile presents an expectation, at least initially, of greater volatility for its reserves, the country is the one that has more stakes in the region's financial integration. CAN countries, particularly Peru, and Argentina have a high stock of Chilean investments. Two events of particular importance are aggregated: the Trade Exchanges of Santiago (Chile), Lima (Peru) and Bogota (Colombia) signed, in 2010, agreement foreseen connectivity of their operations in a project called Integrated Latin American Market (MILA)[16] (BID-INTAL, 2010). With these agreements, stocks from the three Andean Exchanges began, from May 2011, to be jointly listed, opening to broker houses the possibility of reciprocal buy and sell orders. In clear support demonstration, Standard & Poor´s launched the S&P MILA 40 Index, aiming at monitoring the forty most liquid stocks in the three countries. Still in 2010, the Santiago Exchanged signed a bilateral agreement with Brazil's BOVESPA for routing orders.[17] Throughout the coming years, without any doubts, correlation between the financial cycles of Chile, Colombia and Peru, LARF member countries, and Brazil, major destination of Chilean investments abroad since 2010 will increase.[18]

Concerning Mexico incorporation, it should be highlighted that the country is the main beneficiary of NAFA (North American Framework Agreement) swaps network (Mckay, Volz, and Wolfinger, 2010). Additionally, the strong correlation between Mexico's economic and financial cycles with the United States and the high concentration and "denationalization" level of its banking system constitute not too favorable features,[19] reflected in the dashing variations of the foreign reserves coverage index (table 6). The convergence between Mexico and the United States in G20 is added to these points, with remarkable divergences related to positions advocated by Brazil and Argentina (La razón, 2010; Salazar, 2012). In principle, these considerations suggest that it would be more favorable that Mexico's integration begins bilaterally through the establishment of swap agreements with South American countries.

16. For more information, see <www.mercadointegrado.com>.

17. See <http://ri.bmfbovespa.com.br/upload/portal_investidores/pt/comunicados_noticias/comunicados_mercado/CM%20-%20Acordo%20com%20o%20Chile_13122010.pdf>. Accessed in December 15th, 2010.

18. See <http://www.ccs.cl/>. Accessed in December 16th, 2010.

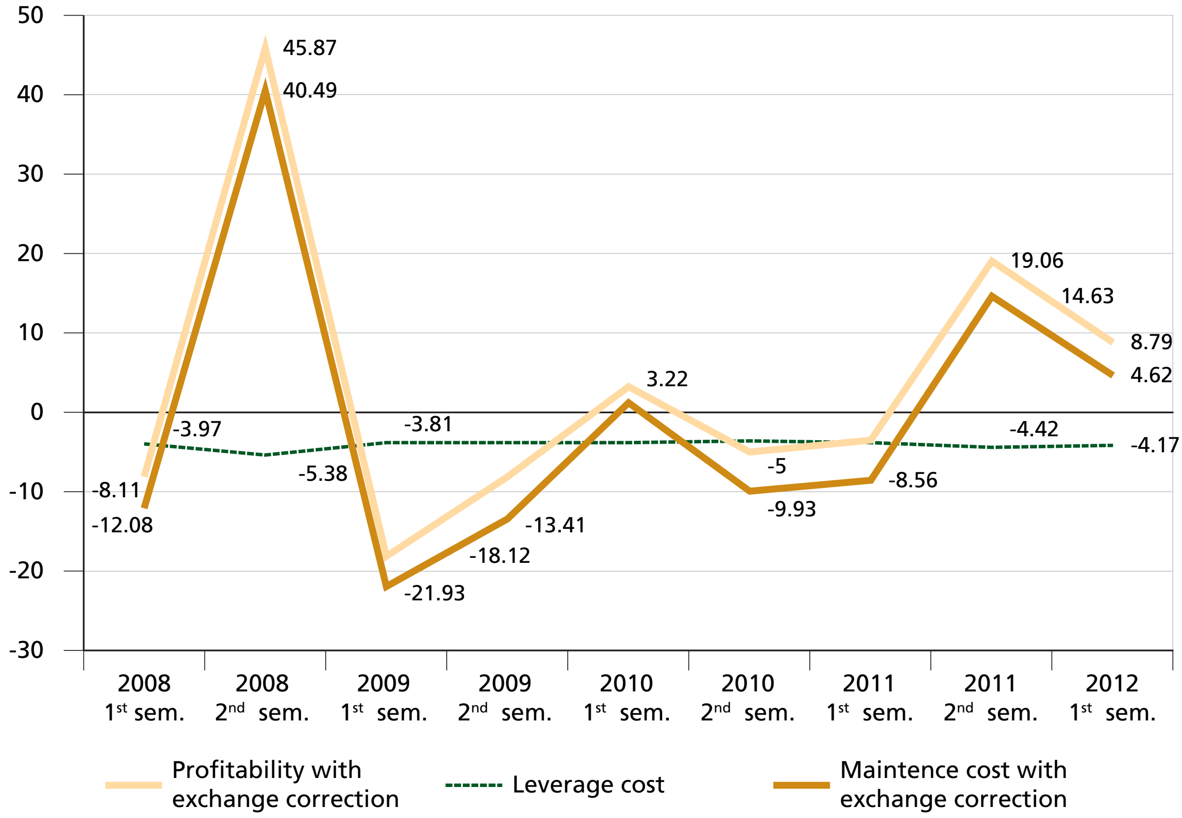
19. As pointed out by Brazil's Executive Director in the IMF, Paulo Nogueira Batista Junior (2008, p. 226): "As political concept, Latin America lost much of its relevance. Mexico and Central America seem to have irremediably fallen into the United States orbit. One cannot count on Mexican and Central Americans to build up an integration Project that intends to be autonomous and sovereign". It should be aggregated to these considerations that, according to Ipea (2010), in December 2009, 82.1% of the Mexican banking system assets were in the hands of foreign private capital institutions; 36.0% of Mexican total banking assets belong to only two Spanish institutions (BBVA and Santander) while the American Citibank had other 23.6%.

The situation would be different for the cases of Brazil and Argentina. Both countries were the major promoters in creating the UNASUR Finance and Economy Council in May 2010. Article of the Council Statutes foresees, among its objectives, "promoting pertinent strategies and studies to deepen Central Banks coordination measures concerning foreign reserves management". Brazil and Argentina could promote strengthening of the Council by getting gradually closer to the LARF. This approximation could be instrumentalized through the indication of permanent observers and putting part of their reserves under LARF management. In parallel, a technical cooperation agreement between LARF's DEE and UNASUR's Financial Integration Technical Group (GTIF) deserves to be evaluated, aiming at information exchanges and designing of joint technical works. This vote of trust from Brazil and Argentina, the only two South American countries to have Executive Director in the IMF and participating in G20, in the LARF and in UNASUR, would strengthen institutionalizing the regional financial cooperation process and coordinating positions between representatives and represented, increasing the legitimacy of both countries in the multilateral realm.

However, the participation of Brazil and Argentina would also require them to make adjustments to the LARF. Due to the weight of their economies, an eventual participation of Argentina and, particularly of Brazil, should result in the establishment of macro-economic conditionalities to be complied by the regional fund members. Economic activity and currency exchange evolution in Brazil has presented significant spillover effect on the other South American economies (Adler and Sosa, 2012). On the other hand, Brazilian foreign reserves carrying over cost is presenting important reduction since the beginning of the international crisis, caused by cuts in the domestic interest rates (Selic) and devaluation of the Brazilian Real (Chart 7 and SAFATLE, 2012). In parallel, the Central Bank of Brazil has been promoting, since 2008, a gradual diversification process of reserves (Annex 1).

Besides Brazilian foreign reserves had reached US$ 400 billion in end of 2012, they still respond only for 15% of the GDP, a ratio lower than those recorded by remnant BRICS and other Latin American countries (table 1). Reduction of carrying over cost and the existing expressive expansion margin of the Brazilian foreign reserves; South America greater economic stability and its interdependence with Brazil, the need to strengthen the regional integration process and the country's performance in multilateral financial realms, show a down turn in the cost of Brazil to integrate these initiatives. Without any doubt, negotiation of Brazil's participation in the LARF would provide an original macro-economic coordination exercise for the entire region.

GRAPH 7
Brazilian Foreign Reserves Carrying Over Cost
(Semi-annual rates – in %)



Source: Central Bank of Brazil

Another discussion related to the incorporation of new member is related to the increase of LARF funds. The possibilities of providing support to country members depend on the institution financial capability. The volume of its funds determines its possibility of indebtedness in the international markets. This raises several possibilities. The first, and most evident, would be that the LARF would begin to capitalize the utilities yearly yielded by its reserves. This decision would evidence countries' confidence in the institution, allowing for the LARF the capitalization without the need of new contributions. A second option would be to raise minimum capital paid in by countries, adjusting it both for future and current members. Part of this capital increase could be carried out through some contribution as collateral that would not affect the institution's credit rating.

A comparative analysis of South American countries' foreign reserves volume and their quotas at the IMF and in LARF evidences the existing potential for expansion and the need for governance reforms toward its effectiveness (table 7).

TABLE 7
Quotas and Reserves (December, 2010)
(US$ Million)

	BOL	COL	ECU	PER	VEN	CR	URU	BRA[1]	ARG	PAR	CHI[1]
LARF	234	469	234	469	469	234	234	-	-	-	-
FMI	261	1,176	459	970	4,042	249	466	4,645	3,239	153	1,309
%	1.5	6.9	2.7	5.7	23.8	1.5	2.7	27.4	19.0	0.9	7.9
Reserves	9,655	27,818	2,701	43,187	29,543	4,587	7,584	285,906	51,745	4,220	27,569
%	1.9	5.6	0.5	8.7	6.0	0.9	1.5	57.8	10.5	0.8	5.8
GDP[2]	19,640	288,782	57,978	157,324	239,620	35,831	40,265	2,143,031	370,263	18,298	203,443
%	0.6	8.0	1.6	4.4	6.7	1.0	1.1	60.0	10.3	0.5	5.7

Source: IMF, LARF and central banks.
Notes: [1] Both Brazil and Chile made additional contributions to the IMF through the New Arrangements to Borrow – NAB. Brazil contributed with 8.740 billion of Special Drawing Rights – SDR – equivalent to US$ 13.616 billion – while Chile contributed with 1.700 billion of SDR (corresponding to US$ 2.648 billion). See <http://www.imf.org/external/np/exr/facts/spa/gabnabs.htm>. Accessed in December 21st, 2010.
[2] Values referring to 2010 at current prices.

Increasing the number of LARF members and quotas would require the strengthening of its capacity of supervision and monitoring of members. To that end, it would be crucial to increase DEE work capability, granting it with greater autonomy, expanding the number of analysts (currently, they are only five), and establishing supervision missions to countries similar to those of Article 4 of IMF Constitutive Agreement. A major step toward this direction was taken in 2011, when LARF started its "Macro-economic Supervision Program", which includes carrying out supervision missions semestrally to each country, dialogue with the public and private sectors and preparation of classified analysis and recommendations to the LARF Board.[20] The possibility of carrying out joint missions with the IMF could also be studied. These measures would target establishing a prequalification mechanism, offering a precatory credit line to requesting countries and defining, according to their qualification, credit programs with waived conditionalities or not. Concerning the latter, it does not seem wise to apply strict conditionalities (or simply, applying conditionalities) to credits with amounts lower than the contribution made to the common fund by the requesting country.

The progress of these measures would allow formalizing an information exchange system, the dialogue among authorities and warning, foreseen eventual conjuncture problems in domestic economies and evolution of international environment. Also, the supervision mechanism would act as basis to foster an eventual coordination of policies, encompassing fiscal, monetary, credit, and macro-prudential regulation variables. Bearing in mind the Maastricht Treaty

20. Eduardo Morón, Director of FLAR Economic Studies. Interview held by the author. Buenos Aires, September 2012.

experience, it would not be wise to adopt explicit goals as the European case. Coordination of currency exchange, monetary and financial policies, one of the LARF objectives, should start from capital flows and macro-prudential regulation monitoring. The outset, in 2013, of Basel III requirements implementation could induce a greater coordination of macro-prudential regulation of the region's countries.[21] These measures would reduce the moral hazard associated to loans, enabling the access to greater number of reliable information to prepare diagnosis more adjusted to particular national realities. A greater supervision capacity of the LARF could allow, likewise, the release of greater volume of resource and at a faster pace.

A greater coordination of activities with the IMF would be also important to expand the regional mechanism's financial and supervisory capacity. Recently, technical staff from the multilateral agency (IMF, 2010) proposed that regional financial funds could be expanded through contracting of IMF's Flexible Credit Line (FCL). The measure aims at reducing stigma associated to the Fund's loans. Additionally, the proposal implies a reform in the IMF Statutes, which allows financing only to member countries, would result in a challenge of sharing loan risk among all participating countries of the regional mechanism. The technical cooperation supplied by the IMF could be especially interesting to strengthen fiscal monitoring of economies and identification of volatilities transmitted to global financial markets, topics where the IMF presents greater capabilities. These measures would increase the aggregated value by both institutions. On the one hand, they would integrate better the IMF supervision between the multilateral and bilateral levels[22] and, on the other hand, would open space for the regional supervision unit to concentrate in identifying specific regional vulnerabilities, proposing initiatives that promote collective action and regional spillovers.

The aforementioned measures would enable expanding LARF actions. The Asian experience calls attention for the possibility to make compatible the regional fund expansion with the establishment of swap agreements networks among their members. The LARF could make feasible the expansion of these agreements in two ways. In the first scenario, it would directly participate of agreements through short term operations of buying and selling local currencies. The country that would participate in the currency exchange would be obliged to buyback, within a previously preset term, its own currency supplied to LARF. A second alternative would consist in, as in the ASEAN+3, countries signing swap agreements in local currency among themselves, with a mandatory buyback clause. In this case, LARF could supply part of guarantees required in agreements

21. For an evaluation of Andean countries adequacy to the Basel III new capital requirements, consult Galindo, Rojas-Suarez and Valle (2012). For an evaluation of Latin American countries to Basel II and other macro-prudential issues, see BIS (2007).

22. For detailed information on integration deficiencies between multilateral and bilateral supervisions undertaken by the IMF, see IMF (2008) and Crow; Arriazu; Thygesen (1999).

and assist countries in promoting and organizing a bilateral swaps network, aiming at its multilateralization. The swap agreements could be conjugated with regional payment systems (Payments Agreement and Reciprocal Credit of the Latin American Integration Association – CCR-ALADI,[23] Local Currency Payments Systems – SML[24] and the Regional Payments Single Settlement System – SUCRE),[25] supplying financing lines to regional trade. It is worth recalling that, in 2009, Brazil offered the possibility of signing bilateral agreements in Brazilian Real to member countries participating in the Bank of the South[26] up to a total of R$ 10 billion. Until now, only Argentina showed some interest for the Brazilian offer. However, divergences related to charging *Impuesto de Bienes Personales* (Personal Goods Tax) to Brazilian capital firms settled in Argentina, reaching annual amount of US$ 150 million, and the guarantees presentation requirement would have frustrated signing a bilateral swap agreement of R$ 3.5 billion, leading both countries into signing only a understanding of future intentions.[27]

Concerning the "inward border" working agenda, the creation of a technical group gathering the GTIF and the DEE, in addition of helping the coordination of foreign reserves management, it should be involved, in coordination with stock exchanges and regulating agencies, in elaborating recommendations for developing regional financial markets through local currency issuing. A coordinated action between LARF and LADB toward supporting, by means of setting up a guarantee fund, bonds issuing in local currency of productive companies that seek fundraising to finance innovative projects could induce major synergies and complementarities between trade and financial integration.

Finally, in order to advance in these directions, it is required that the LARF builds up credibility. Without it, there is no possibility for an international, regional or multilateral agency to grow. Credibility depends on three factors. Firstly, transparency of LARF and member countries operations should be fostered. Without this, it is difficult to become trustworthy. Secondly, the adoption of international good practices is indispensable in asset management and condi-

23. For an overview of Payments Agreements and Reciprocal Credits operations of the Latin American Integration Association, see: <http://www.bcb.gov.br/rex/ccr/folheto_da%20aladi_sobre_ccr.asp?idpai=infoccr>. See also, Biancareli (2010).

24. For an overview of Local Currency Payments System between Brazil and Argentina, see: <http://www.bcb.gov.br/?SML>.

25. Created in 2010, Sucre (Regional Payments Single Settlement System) constitutes a virtual currency for trade among the Alba countries (Bolivarian Alternative for the People of Our America), aims at strengthening the economies of the block and to foster regional integration.

26. Until now, members of Bank of the South are the following countries: Brazil, Argentina, Uruguay, Paraguay, Bolivia, Equator, and Venezuela. Nevertheless, its Constitutive Treaty includes the incorporation of all South American countries. For discussion on the Bank of the South, see Carcanholo (2011) and Calixtre; Barros (2010).

27. See <http://www2.camara.gov.br/atividade-legislativa/comissoes/comissoes-mistas/cpcms/bdclipingespeciais.html/2010-ce/comercio-bilateral-brasil-argentina>. Acessed on December 12th, 2010.

tionality required from member countries. Lastly, management capacity of their liabilities, their indebtedness policy: to continue betting only in investments in dollars does not seem to be a wise asset and risk management policy in face of a global foreign reserves system that marches toward a greater diversification.

In summary, the LARF has broad perspective of development, whose materialization will depend much on the will and capability to advance of its own members.

6 FINAL COMMENTS

As mentioned, the objective of this article is assessing how a regional mechanism could complement existing credit lines and timely supply funds to prevent worsening of a liquidity crisis in one country and contagion of its neighbors. As regional liquidity mechanisms, foreign reserves funds and currency swap systems were selected.

Concerning the establishment of a foreign reserves fund in the pattern of LARF, the research showed that it is possible to reduce foreign vulnerability of a group of countries, but under certain conditions. The dimension of countries reserves that are willing to become members of a fund, as well as the volatility of these reserves, when compared to total reserves volume of the pool (intermediated by the resources sharing level) and to total volatility constitute determinant criteria for benefits deriving from association.

However, the benefits are not uniformly distributed among all member countries. Some, inclusively, may experience losses in their coverage indexes. Attention must be delivered also to the difference in absolute gains among participants. The creation of a regional reserves fund generates externalities that contribute to reduce foreign vulnerability, mainly by working in contagion mitigation of neighboring countries and generating scale saving in foreign reserves management. But the mechanism may also yield negative effects, such as the incidence of moral hazard or adverse selection.

Regarding currency swap mechanisms, it is probable that they reduce foreign vulnerability of countries. The Chiang Mai Initiative, case study of this work, was constituted from crises faced by Asian countries during the end of 1990s. During the current international crisis, the agreement was not presented as a financing alternative for member countries due to resistance coming from its linkage with the IMF, something politically stigmatized in Asia, and lack of an effective supervision mechanism. In spite of progresses seen in the design of the mechanism's future steps, the political resistance of countries of the region in granting a higher level of autonomy to the initiative represents the greatest challenge for its full operations.

As long term indirect effects of the regional liquidity mechanisms operation, growth of regional trading flows profiting from a greater currency exchange stability and economic activity may be considered. The reduction of crises occurrence throughout time would allow for expanding investments and trade targeted to member countries of the regional mechanism, with positive reflects in the regional financial and economic development.

Consulted literature suggests that gains, in the South American case, would not be uniformly distributed among the countries of the region, eventually leading larger and more stable economies, such as the Brazilian, to asymmetric contributions. This attitude would only make sense in a broader range of objectives (as listed in the last sections), in which regional stability was to be seen as a collective good that would also yield positive externalities for the larger economies.

Regarding the LARF specifically, this mechanism constitutes an excellent starting point for strengthening regional institutionality, since it has good reputation, significant operations, and functions expected from a regional liquidity fund. Its expansion, even if under differentiated incentives for each country, may be a fostering instrument of South America economic stability, allowing for sharing the costs of emergency liquidity assistance – with savings related to individual strategies –, the expansion of possibilities of regional economic policies coordination and the strengthening of South American countries negotiation power in multilateral arenas of financial negotiations, especially the G20 and the IMF.

In spite of its many advantages, risks should not be neglected. The execution of regional financial cooperation policy should consider that each country's fundaments become even more important, since they consolidate an institutional relationship among members. Participation in a regional entity should be followed by valuation of consistent macro-economic policies. Reinforcing supervision units of studied regional mechanisms is crucial for achieving this objective. Only then, a complementary competition exercise, of practices and ideas could be promoted with the IMF, which is something extremely valuable, both for regional and global financial stability.

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APPENDIX

APPENDIX A

TABLE A.1
Composition by currency of the international reserve assets of South America
(by currency– in USD million)

	Reserve currency	2006	%2006	2007	2008	%2008	2009	%2009	2011	%2011
	Dollar	2,561.2	80.5	4,499.1	6,870.6	89.0	5,868.3	68.5	7,475	62.2
	CAN dollar	-	-	-	-	-	-	-	336	2.8
	Euro	-	-	-	-	-	1,439.7	16.8	1,478	12.3
Bolivia	AUS Dollar	-	-	-	-	-	-	-	349	2,9
	Gold	579.8	18.2	759.9	802.6	10.4	1,000.8	11.7	2,127	17.7
	DEG	40.2	1.3	42.3	42.3	0.6	258.5	3.0	253	2.1
	Total	**3,181**	**100**	**5,301**	**7,715**	**100**	**8,567**	**100**	**12,018**	**100**
	Dollar				184,264.1	89.1	195,731.2	81.9	280,200	79.6
	Euro				19,439.8	9.4	16,729.2	7.0	17,248	4.9
	Pound				-	-	8,842.5	3.7	10,560	3.0
	CAN dollar				-	-	8,364.6	3.5	21,121	6.0
Brazil	AUS dollar				-	-	4,540.8	1.9	10,912	3.1
	Yen								3,520	1.0
	Swedish and Danish crown				3,102.1	1.5	4,779.7	2.0	8,448	2.4
	Total	**85,839**	**100**	**180,334**	**206,806**	**100**	**238,988**	**100**	**352,010**	**100**
	Dollar				20,434.8	85.0			27,458	85.0
Colombia	Euro				2,884.9	12.0			3,876	12.0
	Yen				721.3	3.0			969	3.0
	Total	**15,440**	**100**	**20,955**	**24,041**	**100**	**25,365**	**100**	**32,303**	**100**
	Dollar	13,682.5	70.4	10,538.2	14,088.9	60.8	14,969.2	59.00	20,947	49.9
	Euro	4,789.7	24.6	6,212.4	8,767.4	37.8	8,735.1	34.42	14,693	35.0
	Yen	782.8	4.0	-	23.5	0.10	-	-	-	-
Chile	Sterling pound	1.8		8.1	14.7	0.06	5.4	0.02	-	-
	Gold	4.3		5.4	5.7	0.01	8.8	0.05	-	-
	DEGs	167.8		141.8	225.1	0.97	1,429.5	5.63	-	-
	Other currencies	-		4.2	37.0	0.16	224.4	0.88	6,339	15.1
	Total	**19,428.9**	**100**	**16,910.1**	**23,162.3**	**100**	**25,372.5**	**100**	**41,979**	**100**

(Continues)

(Continued)

	Reserve currency	2006	%2006	2007	2008	%2008	2009	%2009	2011	%2011
Peru	Dollar	13,291.8	80.1	23,001.6	25,234.5	83.2	25,551.2	79.9	27,751	56.8
	Other currencies	2,953.7	17.8	3,412.6	4,610.2	15.2	5,755.2	18.1	18,566	38.0
	Gold	348.5	2.1	456.8	485.3	1.2	490.6	2.0	2,541	5.2
	Total	**16,594**	**100**	**26,871**	**30,330**	**100**	**31,979**	**100**	**48,858**	**100**
Paraguay	Dollar			1,300	1,800	75.0				
	Euro			100	400	16.6				
	Sterling pound and AUS dollar			-	200	8.4				
	Total			**1,400**	**2,400**	**100%**				

Source: Central Bank of each country
Elaborated by the author