

July 7th, 2002

**Per Jacobsson Lecture
Basle, Switzerland**

**Recent Emerging Market Crises - What have we learned?
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I. Introduction

It is an honor to be invited to deliver this lecture in memory of Per Jacobsson, a man who dedicated his life with great success to promoting international cooperation. I find this occasion particularly meaningful because this is the second time that the head of Mexico's Central Bank has been honored with an invitation to take part in this important event. Rodrigo Gómez, Director General of Banco de México from 1952 to 1970, delivered one of the inaugural lectures under the aegis of the Foundation in 1964. His insights on the importance of economic stability for the achievement of economic development explain the impressive economic performance of the Mexican economy during his tenure at the Central Bank, and continue to be very much valid today.

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Since the devaluation of the Mexican peso in December of 1994 and the ensuing financial crisis, emerging market economies have been subject to frequent crises. These crises share many features that distinguish them from those that struck emerging markets in the 1980's and early 1990's. Among these I would like to highlight the following:

¹ I would like to thank Alfredo Cuevas, Miguel Messmacher and Alejandro Werner of Banco de México for their valuable comments and suggestions.

- i) Many of the affected economies were considered star performers by market participants and international financial institutions.
- ii) Although, as it is always the case, there were some voices that warned of forthcoming problems, overall, many of these economies were considered fundamentally sound. Most of the crises, in fact, were not anticipated.
- iii) The magnitude of these crises, both in terms of capital account reversals and GDP contractions, was much larger than expected.

The novel characteristics of these crises prompted an intense debate on the appropriate policy response, both domestic and external, as well as on the reform of the international financial system.

The lecture is structured as follows. First, I will briefly describe the main analytical issues that have figured in debates on recent emerging market crises. Here, I point out that, although weak fundamentals did play a role, the main common feature of these crises is the financial panic that affected these economies. Based on this diagnosis, I stress that the combination of a strong domestic policy adjustment and a large international financial assistance package was the appropriate response to contain these crises. This section also discusses the possibility that these large packages generated moral hazard among domestic policy makers or international investors. Finally, I touch upon the possibility that in some of these crises there might have been an element of insolvency. Section 3 looks at crisis management. With this aim, the paper explores the experience from recent crises to justify that, in most cases, these were not driven by solvency considerations and that a strong and fast policy response complemented with a large international financial assistance package was able to restore a sense of stability to financial markets. I also emphasize the difficulty of identifying ex-ante those few instances in which default was the ultimate consequence. Afterwards, that section studies the domestic policy response. Finally, this section goes over the challenges faced by IMF programs due to the different nature of the current crises. Section 4 looks at the implications that these crises had on domestic policy management and on the design of the international financial architecture, with the aim of preventing future crises. Lastly, I conclude with some thoughts on the reform of the international financial system.

II. Main Analytical Issues Regarding Recent Emerging Markets' Crises.

Three issues have dominated the debate surrounding recent emerging market crises²:

- i) Whether these episodes can be explained by economic fundamentals or they represent examples of pure financial panics;
- ii) Whether the support packages put together by the international financial institutions (IFI's) generated moral hazard, and if so to what extent;
- iii) The possibility that some of these episodes represent true solvency crises.

The discussion about crises in emerging markets, from Mexico 1994-95 to Argentina 2001-2002, first concentrated on whether important fundamental imbalances were behind them or if they were the result of a pure creditor panic, similar to a bank run. Nowadays (although there are still some differences of opinion) a consensus has emerged around the notion that the majority of these economies were subject to a dual crisis.³ On one side, to different degrees, almost all of the crises' economies went through typical balance of payments problems where they needed to correct their overspending (in the private or public sectors) that led to large current account deficits and appreciated real exchange rates, caused mainly by substantial capital inflows in the pre-crisis stage.

² An abundant literature on these crises has developed. The following are only a few examples, ranging from narratives of the events to essays and even theoretical pieces motivated by the crises: John Boorman et al, "Managing Financial Crises: The Experience in East Asia", IMF Working Paper WP/00/107, Washington D.C., June 2000; Giancarlo Corsetti, Paolo Pesenti and Nuriel Roubini, "What Caused the Asian Currency and Financial crisis?," 1998, available at Mr. Roubini's personal web page; Barry Eichengreen, "Crisis Prevention and Management: Any New Lessons from Argentina and Turkey?," a background paper for the World Bank's *Global Development Finance 2002*; Atish Ghosh et al, *IMF-Supported Programs in Capital Account Crises* (IMF Occasional Paper 210), Washington D.C., 2002; Paul Krugman, "Balance Sheets, the Transfer Problem and Financial Crises," prepared for a volume in honor of Robert Flood, available at Mr. Krugman's web page; Michael Mussa, "Argentina and the Fund: from Triumph to Tragedy," 2002, available at the web page of the Institute for International Economics; Steven Radelet and Jeffrey Sachs, "The East Asian financial crisis: Diagnosis, Remedies, Prospects," *Brookings Papers on Economic Activity*, June 1998; Jeffrey Sachs, Aaron Tornell and Andrés Velasco, "The Collapse of the Mexican peso: What have we Learned?," NBER working paper 5142; and the many speeches and essays by Joseph Stiglitz, including "The Asian Crises and the Future of the International Architecture," in *World Economic Affairs*, Sept. 1998.

³ We are referring to the crises of Mexico (1995), Argentina (1995), Thailand (1997), Indonesia (1997), Malaysia (1997), South Korea (1997-98), Philippines (1998), Russia (1998), Brazil (1998-99), Turkey (2001), and Argentina (2001).

However, in almost all of the crises countries the imbalances -monetary, fiscal or the private sector's savings–investment balance- were not of such an important magnitude to explain the virulence of the crises that followed.

On the other side, many observers, although disagreeing on which economic fundamental or structural feature of the economy might have been out of line in each crisis, coincided in their assessment that the main common element was the financial panic that took place and the self fulfilling nature of the events that followed.

Thus, the recent crises should be characterized as capital account crises (as opposed to current account crises), where balance sheets issues are central in explaining the buildup, onset and propagation of the crises. These episodes are essentially refinancing problems, either of public or private debt. Thus, the magnitude, maturity and currency composition of debt are crucial.

In this context, a liquidity crisis occurs if a solvent borrower is unable to obtain fresh funds from capital markets in order to remain current on debt servicing obligations even though this borrower has the net worth to repay the debt in the long run. The unwillingness or inability of capital markets to provide fresh loans to the illiquid but solvent borrower is the key to this matter. If each individual creditor is too small to provide all the loans needed by the illiquid debtor, these creditors as a group would be willing to give a new loan, but individually it is completely rational for them not to lend if the other creditors do not lend as well. Thus, a liquidity crisis results.⁴

Due to the dual nature of the crises, the policy response was directed to address both types of issues. On the one hand, the implementation of tight fiscal and monetary policies,

⁴ These new factors present in emerging markets financial crises parallel the theories explaining bank runs, in which depositors of solvent banks suddenly demand their funds when they fear that other depositors will be withdrawing their money. This can drive the bank into illiquidity and eventual liquidation. Due to the maturity transformation function performed by banks, any bank in principle is subject to a bank run. In practice, the probability of an event of this nature developing will increase when the bank is in a weak situation. Theoretical models featuring multiple equilibria explain this phenomenon as in Douglas Diamond and Philip Dybvig, "Bank Runs, Deposit Insurance and Liquidity," *Journal of Political Economy*, June 1983. These type of models have also been used to study international crises of the type we are discussing. A traditional treatment of bank runs can be found in Mervyn Lewis and Kevin Davis, *Domestic and International Banking*, The MIT Press, 1987. An up-to-date collection of essays touching on bank runs and their similarities and relation to macroeconomic crises can be found in Charles Goodhart and Gerhard Illing, editors, *Financial Crises, Contagion and the Lender of Last Resort*, Oxford University Press, 2002.

together with the devaluation of the currency, contributed to correct the overspending aspect of the problem. On the other hand, the large international support packages were instrumental to stop the run on the countries assets, by assuring investors that the country had the liquidity to fulfill its financial obligations.

However, by acting as a quasi lender of last resort the IMF was judged to be creating moral hazard by setting an incentive structure in which investors did not pay due attention to default risk. The evidence supporting this hypothesis is extremely thin. However, based on this theoretical possibility, on the perception that the IMF's resources were not sufficient to deal with these kind of crises and on the political opposition in developed nations to this type of programs, there was a strong impulse towards the inclusion of "private sector involvement" (PSI) in some IMF programs⁵.

In the latest discussions on the causes of recent emerging market crises, the distinction between liquidity and solvency crises has played a major role, both among academics and policymakers.⁶ The crises in Russia, Ecuador and Argentina, highlighted that the run on assets could also be the result of fears of insolvency. A liquidity crisis arises because investors experience a confidence crisis, exhibit herd behavior, or because a country faces contagion from another emerging market. On the contrary, a solvency crisis is due to deterioration in the economy's capacity to fulfill its financial obligations. The focus on solvency gave way to the extension of PSI to cases in which partial default was deemed warranted and eventually led to proposals of a sovereign debt restructuring mechanism (SDRM) by the IMF. The current international financial architecture does not have an accepted framework to deal with insolvency, and thus a country confronting this type of situation faces enormous uncertainty. Therefore, this proposal would try to apply in an international context some of the principles governing debtor and creditor relations during corporate bankruptcy cases in domestic economies.

⁵ This initiative means to make the private sector contribute with funds to allow the country in trouble to meet its financing needs. For an in depth discussion of PSI see Fischer (2001).

⁶ See for instance Jeffrey Sachs, "Creditor Panics: Causes and Consequences," The Cato Institute, 1998; the Meltzer Report of the International Financial Institution Advisory Commission, included in Goodhart and Illing, *op.cit.*; and Enrica Detragiache and Antonio Spilimbergo, "Crises and Liquidity: Evidence and Interpretation," IMF working paper WP/01/2, January 2001.

But even if conceptually liquidity and solvency crises should be treated differently, there are few clear cut cases where we can be sure ex ante that a balance of payments crisis is of one type or the other. Analytically, the distinction is made using debt sustainability criteria. Nevertheless, these results are extremely sensitive to the assumptions made about the future behavior of several macroeconomic variables in the country, such as its rate of growth, the evolution of commodity prices and the level of future interest rates and exchange rates. There is always great uncertainty about the evolution of these variables, in particular because it might depend in part on the availability of resources from official sources. For example, if a country with a liquidity crisis is not given support the reaction of interest rates and the exchange rate --and the possibility of social and political instability-- could be such that the country is driven towards insolvency. More importantly, sustainability depends on the ability of the government to implement the required adjustment policies. Furthermore, the sustainability of a given situation depends, to a large extent, on unknown parameters such as investor's expectations, all of which can lead to the existence of multiple equilibria and self-fulfilling crises.

Therefore, although the analytic distinction between solvency and liquidity crises is a natural starting point to establish a taxonomy of recent emerging market crises, its applicability to sovereign debt faces several shortcomings, among which the following two stand out:

- i) To assess the probability of a sovereign defaulting, one should analyze the debt service requirements in relation with the capacity of the government to undertake the required adjustments without jeopardizing the country's political stability. This is a much more subjective assessment than the balance sheet analysis required for corporations. The difficulty relates not so much to the identification of a critical minimum level of the primary surplus but to the evaluation of the government's ability to generate the required surplus.
- ii) As has been stressed by Kenen (2002) and Tirole (2002), a liquidity crisis rarely occurs unless there are suspicions of insolvency. Also, a liquidity crisis could turn into a solvency one if it is not rapidly contained.

Hence, most recent emerging markets' crises fall into the multiple equilibria category. If the country is given the opportunity to address its imbalances in an orderly way --without a creditor panic-- and its internal political structure allows for the implementation of the appropriate policies, the crisis will prove to be one of liquidity. However, if the panic is not addressed it can easily evolve into a solvency issue.

Thus, to deal with these crises, two essential elements are needed: financing and adjustment. This does not sound very different from the traditional view behind Fund programs dealing with traditional balance-of-payments crises. The point here is that the dual nature of these crises, the fact that they involve balance sheet adjustments, requires much larger amounts of financing (and also of adjustment as I will argue later) than traditional crises. Packages, thus, have been much larger, triggering a strong response from creditor countries. Based on the argument of moral hazard, and the idea that IMF money should not be used "to bail out private creditors," the discussion on private sector involvement and a sovereign debt restructuring mechanism has evolved mostly as a political reaction to the use of Fund resources.

In the next section, I look at some lessons from the recent emerging markets' crises on issues related to the origins of these crises and the policies that were put in place to deal with them.

III. Some lessons from recent experiences with emerging market crises.

The crises experienced by emerging markets in the past decade have received considerable attention (including the response of the international financial institutions), starting with the controversy surrounding the size of the Mexican rescue package of 1994; the surprising realization that the Asian tigers were vulnerable too; that Russia was not, after all, too big to fail; that debt crises were not necessarily a thing of the past, as the current Argentine plight suggests; and that contagion was not dead, as the recent Brazilian episodes indicates. This section provides a brief overlook of recent crises to see what lessons can be drawn from these experiences regarding crisis management. The following issues are studied:

- i) The nature of recent crises.

- ii) The difficulty in predicting the outcome and how this outcome depends on the policy response.
- iii) Some issues related to the domestic policy response.
- iv) The challenges faced by the IMF and the incidence of moral hazard.

One of the main themes of this section is that, today as in the past, successful crisis resolution depends on finding the right balance between financing and adjustment. Capital account crises are no exception to this rule. But the virulence of the capital flow reversals that distinguishes these crises, resulting from sudden changes in expectations and herd behavior by investors, implies that in these cases crisis management demands extremely strong responses both in the adjustment and in the financing dimensions. In fact, strong adjustment has been undertaken by some countries, and IMF packages have been larger than before. This last trend has given rise to an outcry about moral hazard and investor bailouts that, as I will argue, is overblown, and in fact responds more to domestic political concerns in the G-7 countries than to any actual evidence from the international arena. Notwithstanding its weak foundation, this concern has been a force behind the search for effective forms of private sector involvement, and is also in part behind the discussion on the SDRM.

For this discussion, I will look at the crises of Mexico (1995), Argentina (1995), Thailand (1997), Indonesia (1997), Philippines (1998), South Korea (1997-1998), Russia (1998), Brazil (1997-1999), Turkey (2001-2002), and Argentina (2001-2002).⁷⁸ In looking at them, the following questions will be addressed. Did these crises stem from fundamental macroeconomic imbalances? Did they involve self-fulfilling elements? Was the policy response of the international community and of the national authorities in each case

⁷ These crises had in common the involvement of the IMF. Malaysia (1997), another example of a capital account crisis, did not negotiate IMF support, but followed for the most part policies similar to those of the countries with IMF arrangements. The most visible departure from this similarity was the use of capital controls in Malaysia. However, these were actually introduced belatedly, after the worst of the capital flight had taken place and the government had put together a strong adjustment package with “full ownership.” Malaysia’s commitment to its program stands in contrast with the Indonesian case, in which the proposed adjustment measures often were implemented halfheartedly because they were the result of tense negotiations between the government and the IMF, which did not agree on many issues, ranging from the required macroeconomic policy effort to the need to contain related lending and corruption more generally.

⁸ Appendix 1 contains information on the main macroeconomic indicators in these countries before and after the onset of their crises.

appropriate? Did the resolution of these episodes, especially that of the “first crisis of the 21st century,” as Michel Camdessus called the 1995 Mexican crisis, sow the seeds of major future problems by promoting irresponsible behavior among investors and policymakers in emerging markets?

I will briefly go over these issues, pointing to some of the most meaningful similarities among the major currency and capital account crises of the last decade. The main themes I will be touching upon are not new, but they bear reemphasizing. Perhaps the most distinct and important characteristic of many of these crises was the self-fulfilling nature of the (pessimistic) expectations driving capital outflows. In that sense, it is appropriate to think of those episodes as liquidity crises, a characterization with important policy implications. Acknowledging this feature of many of the worst crises of the last decade does not deny that those self-validating expectations interacted with specific vulnerabilities in the affected economies. The result of that interaction was deep economic dislocation that made it necessary to put together the most impressive financial rescue packages in the history of the IMF.

III.1. The capital account crises of the last decade.

Two common features of most major emerging market crises of the nineties were the enormous reversal in the capital account that prompted them and the presence of a fixed exchange rate arrangement of some sort. It was especially significant that the collapse of the capital account occurred in countries such as Brazil, Argentina, Mexico and South Korea, which were among the main recipients of international private capital. That is, in countries that seemed to be successfully taking advantage of the new globalization trends. But, as the crises were to show, their very success made them dependent on the continuation of these capital flows and vulnerable to a change of sentiment among foreign investors. For their part, the foreign exchange regimes of these countries, adopted in many cases as cornerstones of previous stabilization programs, fostered for years the expectation of a stable exchange rate. This expectation influenced the composition of the balance sheets

of banks and firms, which engaged in practices that derived in an excessive exposure to exchange rate risk and thus became highly vulnerable to movements in the currency.⁹

Balance of payment crises often are the result of persistent flow imbalances in the macroeconomic accounts. In the “classic example”, continuing fiscal deficits financed with money issuance weaken the central bank’s balance sheet, gradually depleting net international reserves until the monetary authority is no longer in a position to defend the domestic currency peg, which will then be successfully attacked by speculators. That is, fiscal policy is often suspected of lurking behind a macroeconomic disequilibrium.

However, private sector deficits can also lead to persistent external imbalances and to eventual crises. There was a widespread notion in several policy circles during the eighties and early nineties that increasing indebtedness by the public sector was a source of future vulnerability, but there was much less concern if the private sector, financial and non-financial, was the one accumulating foreign liabilities. The argument was that private agents are better at appraising the risk of their operations, both as lenders or borrowers, and that if payment problems occurred, these would be specific to a given firm and lender and need not generate any of the strong aggregate effects associated with sovereign default.¹⁰ Bankruptcies occur with frequency in industrialized countries and don’t lead to major macroeconomic instability.

This view turned out to be too simplistic, as investors realized that implicit or explicit deposit insurance implies that in the case of a systemic crisis, domestic (and sometimes foreign) liabilities of banks are effectively a contingent liability of the public sector. In addition, political pressures surely arise to bail out private non-financial firms and the government may cave in to them. This is more likely to occur when producers of non-tradable goods have foreign currency liabilities and an efficient bankruptcy procedure is not

⁹ The most dramatic example of this situation was the pervasive liability dollarization of the Argentine economy during the nineties, which made the eventual abandonment of the currency board especially painful. In the event, vulnerable balance sheets, exchange rate pegs and volatile capital flows were to prove a highly combustible mix.

¹⁰ This view, which one may consider complementary to the concern in the US over “the twin deficits” during much of the 1980s, is known as the “Lawson doctrine” because it was most clearly expressed by Nigel Lawson, British chancellor, who in 1988 stated that the current account deficits in the United Kingdom should not be a matter of concern, because no government deficit was behind them. (See Helmut Reisen, “Sustainable and Excessive Current Account Deficits,” OECD Technical Paper 132, February 1998.) Prior to 1994, Mexican officials subscribed to this theory.

in place. As a result of that intervention public debt will rise, often dramatically, and possibly feeding concerns about the solvency of the government or an eventual monetization of the public sector deficit. Thus, large foreign debt by the private sector will also tend to increase the vulnerability of the economy to shocks and to changes in perception. In fact, crises with roots in private overspending tend to be harder to address than those where the key vulnerability is in the public sector deficit, because the former type is more likely to cause disruptions in the banking system than the latter one.

Much of the private indebtedness was intermediated through domestic banks. In the absence of adequate prudential regulation and supervision coupled with a more open capital account, banks provided credit to risky projects and quite often provided credit for non-tradable goods production with resources coming from foreign sources. These unhedged positions taken by banks, as well as the fragility of the projects they lent to, implied that several of these capital account crises were associated with important banking crises, or even caused by them. Thus, when having an open capital account, regulation and supervision of financial intermediaries are key.¹¹

Therefore, the three places to look for fundamental weaknesses that might signal potential solvency problems are the fiscal stance of the government, private sector indebtedness and weak financial systems.

The main examples of situations where public finances represented a clear source of vulnerability are found in the cases of Brazil 1998, Russia 1998, Argentina 2000-2001, and Turkey 2001. At the outset, these cases did not look too different from each other, in the sense that they all showed high levels of indebtedness and continuing fiscal deficits. In Russia, although public debt was still relatively moderate at end-1997, when it reached some 35 percent of GDP, poor economic growth and high deficits of over 7.5 percent of GDP put the public debt to GDP ratio on an explosive path. In Brazil, public finances were also on a clearly unsustainable trajectory, and the high level of debt and its contractual characteristics made the government especially vulnerable to increases in interest rates. In

¹¹ Mexico's banking sector went through a process of consolidation and recapitalization after the banking crisis that followed the balance of payments crisis. In addition, it allowed full foreign participation in the banking sector. Nowadays, the capitalization ratio of the Mexican Banking system stands at 20.1 percent (taking into account credit risk), considerably above the minimum suggested by the Bank of International Settlements.

Argentina, the ratio of public debt to GDP rose continuously during the second half of the nineties to exceed 50 percent of GDP in 2001, with a consolidated deficit of over 3 percent of GDP in 2000 and 2001. Turkey's ratio of public debt to GDP reached 61 percent in 1999 and 57 in 2000, before jumping to over 90 percent in 2001 as a result of the steep depreciation of the Turkish lira that accompanied the crisis. In short, all of these countries presented highly worrisome fiscal outlooks going into their crises, which only got worse when the collapse of confidence hit them, closing their access to private financial markets.

However, key differences in the management of those crises made big differences in terms of outcomes.¹²

- Brazil (1999) and Turkey (2000) are two cases where determined fiscal adjustment made possible a return to private capital markets without needing to resort to any sort of default. In Brazil, the government pursued fiscal consolidation by increasing its primary surplus by 3.5 percent of GDP in 1999, an amount sufficient to stabilize public debt as a percentage of GDP. In Turkey, the government targeted an improvement in the primary balance of over 3 percent of GDP in 2001, and of an additional percentage point in 2002 to bring it to a surplus of 6.5 percent of GDP, a level consistent with declining debt ratios. So far, Turkey has delivered on its fiscal program, indeed over performing in 2001.
- By contrast, weak responses have lead to default. In Russia, the government failed to follow through on its fiscal commitments under an existing IMF arrangement, and the fall in world oil prices found it with a wide deficit and a demanding schedule for the rollover of short-term debt. An unsuccessful attempt to restructure that debt without an accompanying set of fiscal measures ended up in the default on GKO's that shook markets in 1998. In the event, however, the Russian government did take steps to increase revenue collection and to curb spending, and thus managed to turn its finances around, reaching overall surpluses of over 3 percent of GDP in 2000 and 2001. The Argentine story is still unfolding, but the main lesson so

¹² See Appendix 1.

far is that, as the government was unable to deliver on its fiscal adjustment commitments, rolling over public debt became increasingly difficult. The last effort was the zero-deficit law: the government would keep a strict balance, and the international financial institutions would finance falling maturities. Yet, the national and subnational governments continued to post deficits. Scared depositors tried to take their money out of a banking system with a large exposure to government default risk, the government responded by freezing deposits, and the Fund program went off-track. Argentina is now in default, and its government is yet to put forward a strong action plan to get it out of this situation.

The Argentine case deserves a few additional comments. Argentina made a remarkable comeback after tackling hyperinflation, and made significant progress in several structural reform areas in the first half of the nineties, including privatization and a first wave of social security reform. However, Argentina failed to eliminate important inconsistencies from its economic framework. Living under a currency board demanded reforms to achieve a flexible labor market, a hardening of the budget constraints facing provincial governments used to bailouts from the federal government, and fiscal discipline at the national level. But Argentina put off these reforms; in fact, privatization operations allowed the government to finance its growing spending, thus postponing the need for fiscal adjustment. All this while the Argentine authorities managed to stay on the good side of the international financial institutions, in no small measure thanks to the considerable good will they had gained during the first half of the nineties. Those international organizations, in their turn, insisted on the need for the required reforms, but did not negotiate hard enough for them because, perhaps, they were too concentrated on the Asian crises. Thus, the second half of the nineties represents a time of missed opportunities for Argentina. The result was stubborn unemployment and a gradually brewing public debt problem that were not addressed when there was time and political capital to do it from a position of relative strength.¹³ So, to some extent, the Argentinean case also illustrates the

¹³ Michael Mussa, a former Director of Research at the IMF, has written that one of the two mistakes the Fund made in dealing with Argentina was “failing to press the Argentine authorities much harder to have a more responsible fiscal policy, especially during the three high-growth years following the tequila crisis

shortcomings in the IMF strategy of large packages once a nation starts faltering on its adjustment effort and sliding into default, as there is no established “exit strategy” for the IMF to leave the country to sort out its own problems in an orderly way.

As I mentioned earlier, the story of the fiscal driven crisis does not fit all. In particular, it does not help understand the Mexican devaluation of December 1994 and the Asian crises of 1997-98. In those cases, public finances were mostly healthy. The most extreme examples of such health were Thailand and Korea, whose public debt-to-GDP ratios were, respectively, of 5 and 13 percent, and whose deficits were of 0.5 and 0.9 percent of GDP going into their crises. However, the private sector had been accumulating large debts.

The private sectors of these countries were running high deficits and becoming highly indebted in the run-up to their external financing crises. Therefore, along with fiscal consolidation, the Mexican program included debtor support programs, the extension of full deposit guarantees, the provision of liquidity to the banking system by the Central bank and a program to help banks clean their balance sheets of non-performing loans in exchange for new injections of capital by bank owners¹⁴. Strengthened supervision and liberalized rules for the participation of foreigners in the ownership of banks were the remaining piece of this comprehensive strategy to keep the payment system functioning while removing the main threats to its integrity. This made it possible for the corporate sector to remain viable and for activity to spring back in 1996, along with a resumption of private capital flows.

Mexico was not alone in facing complications from the impact of the crisis on private sector agents. As I have noted, private saving-investment balances had been strongly negative for many years in the Asian economies,¹⁵ and servicing their accumulated, and suddenly revaluated, liabilities became excessively onerous for numerous

of 1995.” (The second mistake was to continue lending to that country in the fall of 2001, when all hope had been lost.) See M. Mussa, *op. cit.*

¹⁴ The eventual cost of the bank rescue operations, meant to be spread over time, was as large as 19 percent of GDP.

¹⁵ See Appendix 1.

firms, leading to waves of bankruptcies and to a worsening of the delinquency rates among banking sector debtors.¹⁶

The last factor conditioning the possibility of a crisis was the degree of transparency and communication of the government with market participants. While limiting access to information from market participants may win some breathing space for a country when it is under pressure, market participants find out sooner or later. Even if a temporary disturbance has been solved, once investors learn that the government has discretionally changed the conditions for access to information due to a negative development, there is an automatic loss of confidence. In case the disturbance has not dissipated, the fact that investors find out later only increases the effects of the loss of confidence, as the external disequilibrium will have accumulated for longer, making the capital account crisis worse. Thus, the possible short-term advantage a policy maker has from having better information than the markets can turn into large costs once market participants perceive that information is being used strategically to influence market prices¹⁷.

Another element that was present in recent balance-of-payments crises was that of contagion. As is well known, during the late 1990's there were several episodes when a balance-of-payments crisis in a country was followed by intense pressure on the balance of payments of other countries. In this broad definition, contagion is not really new. The clearest previous example is the Latin American debt crises of the 1980's. However, there is a large difference in terms of some of the causes behind this process in the late 1990's.

The main factors that have been associated with contagion are the following:

- i) Common external shocks, such as a deterioration in the terms of trade of countries that produce or export similar types of goods, or an increase of interest rates in industrial countries;

¹⁶ In this connection, Indonesia provides an interesting counterpoint to Mexico. Early in 1998, an economic program was announced including measures to restructure the banking system. However, the government failed to implement them promptly and decisively, and the corporate debt problem was allowed to linger. The economic downturn deepened and the economy remained in a state of chaos, which led in short order to social unrest and to the fall of the government. Short narratives of the crises in Indonesia and other Asian tigers can be found in Appendix V of Ghosh, *op.cit.* See also S. Radelet and J. Sachs, *op.cit.*

¹⁷ For a detailed description of the policies followed to increase transparency and communication in México after the 1994-1995 crisis, see Ortiz (2002).

- ii) The adoption of similar policies in the affected countries, so when these turn out to be unsustainable in one case investors interpret that it will also be the case in the other countries;
- iii) Direct trade or financial links between the countries;
- iv) Institutional practices requiring that an investor cover a loss suffered in one market by liquidating positions in other markets;
- v) Panic and herd behavior.

The first two causes had been observed before. The Latin American debt crises of the 1980's were preceded by a deterioration in commodity prices, while the levels of indebtedness and the models of development were fairly similar across these countries. However, commercial and financial links between them were few and small. These types of linkages seem to have played more of a role in the East Asian crises than in South America. Nevertheless, this is also a fairly traditional channel of transmission of shocks from one country to another.

The fourth and fifth factors, institutional investment practices and panic or herd behavior, have received the most attention recently and, in a sense, are the most worrying. The reason is that they are unrelated to country fundamentals, contrary to the other causes of contagion. In addition, financial contagion driven by herd behavior may have a self-fulfilling component. Because of these reasons, policy discussions have centered on identifying the particular practices that give rise to unjustified fluctuations in a country's asset prices and the reasons why some investors do not discriminate correctly among countries with very different fundamentals.¹⁸

The clearest case of financial contagion occurred as a result of the Russian crisis in 1998. This led to a large increase in spreads for a very large number of emerging market

¹⁸ There is an ample literature on contagion, self-fulfilling runs on a country's currency, and herd behavior. The pioneering paper in this literature is Maurice Obstfeld, "Rational and Self-Fulfilling Balance of Payments Crises," *American Economic Review*, March 1986, but during the late nineties there was a slew of discussion on this matter. A good survey is Sebastian Edwards, "Contagion" (mimeo, 2000). This and other related papers can be found in the World-Bank-hosted contagion website (<http://www1.worldbank.org/economicpolicy/managing%20volatility/contagion>). See also the essays in Stijn Claessens and Kristin Forbes, editors, *International Financial Contagion*, Kluwer, 2001, especially the piece titled "Measuring Contagion: Conceptual and Empirical Issues" by Roberto Rigobón and Kristin Forbes.

countries. Among these, some were European transition economies, and in those cases there were rather fundamental linkages to Russia. Latin America was strongly affected too, but in this case there were no fundamental contagion channels, because there are hardly any direct linkages (commercial or financial) between Russia and emerging market countries in Latin America. This deterioration in asset prices was temporary for several countries of the region, but it may have been the element that tipped Brazil into its balance-of-payments crisis in 1999.

An element of the Russian crisis that seemed to have generated such large financial effects was the fact that it surprised investors and policy makers alike. In contrast, the recent Turkish and Argentine crises did not seem to generate major effects with the exception of countries that had more fundamental linkages with them.¹⁹ These two crises were widely anticipated, so investors were able to adjust their portfolios gradually in advance of the moment when the countries would devalue or declare debt service standstills.

The most recent developments in Argentina and Brazil, however, suggest that financial contagion is a complex, imperfectly understood phenomenon, and therefore there is a need for further analysis of its causes. For a short while there seemed to be a risk that the low rates of contagion from Argentina's current crisis might be lulling policy-makers in many countries into the belief that markets would discriminate more fully among different economies. Brazil is now in renewed difficulties, in part because it continues to have a high level of public debt (either indexed to the exchange rate or paying a floating rate) and is in the middle of a presidential campaign whose outcome may produce important economic policy changes, since important aspects of policy are not anchored in sufficiently strong institutions. The deterioration in asset prices recently observed in Brazil has also been observed in other South American countries that have important trade or financial linkages with Brazil. However, the effects from all this noise also have reached, albeit slightly, even Chile and Mexico, two countries with which Brazil has limited fundamental links and which have aimed in recent years to differentiate themselves from other emerging markets through the pursuit of prudent financial policies. The recent Brazilian situation has revived

¹⁹ A clear example is Uruguay in the Argentine case. In fact Uruguay has been affected by fundamental, financial and psychological channels and today is facing a very unstable situation.

the issue of contagion, as a country that has important links to the rest of the region and is considered, as recent data indicates, to be conducting its macroeconomic policy correctly, now has one of the highest implicit default probability in the world. Therefore, the situation in Brazil is contaminating the region through fundamental channels but also through the perception that default is now a much more likely outcome for emerging market debt than before.

The way financial contagion was dealt with in past crises was completely piecemeal. The country and the IMF would sign an agreement so a sufficient amount of resources was available to insure that investors following blindly institutional practices or herd behavior would loose in the medium term from selling the assets of the country with solid fundamentals. As the IMF programs designed to deal with more fundamental problems, these support packages were generally successful, as can be seen by the fact that spreads for many countries quickly returned to the levels seen before the Russian crisis.

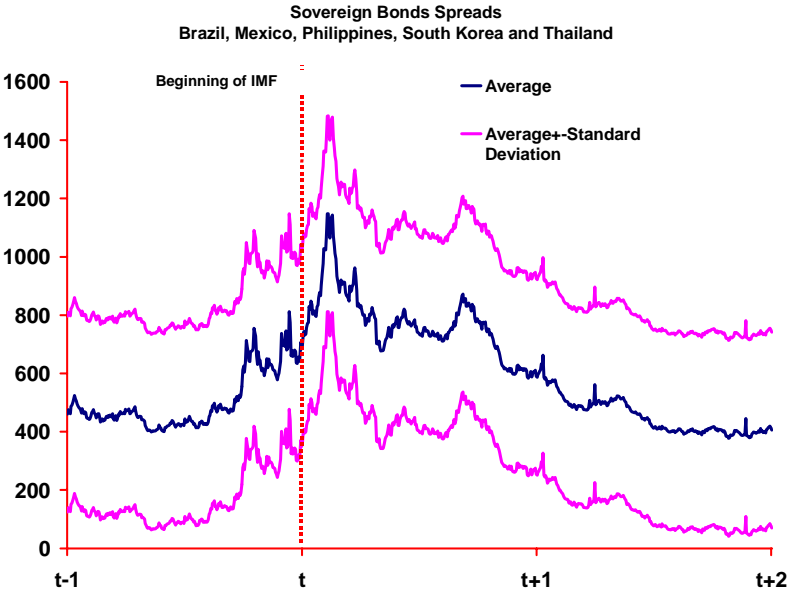
In spite of the quick reestablishment of orderly conditions in many of these countries, the temporary shocks led to a deceleration of economic growth, an increase in inflation rates, and in general to large welfare losses. Hence the search for a mechanism to prevent unwarranted contagion from occurring in the first place. As a consequence, the IMF designed the CCL, about which I will talk in detail in the following section.

Perhaps the main lesson from this brief overview is that, although crises may reflect vulnerabilities in the public or the private sectors, it is always up to the government to take the lead in order to face the crisis once it has erupted. Decisive action is what determined the ultimate outcome in each one of these crises. When the government adjusted its own budget as demanded by the situation, and provided early and firm support for private debtors and banks, the crises could be contained and in fact reversed. But when the government procrastinated, or was unable to put forward and implement a strong program of action, the crisis continued and even worsened. In these situations, the lack of a clear mechanism to restructure sovereign debt put the IMF in a difficult position that in some instances led to a very complacent attitude toward program countries.

Figure 1 shows the average sovereign spread as measured by the emerging market bond index (EMBI) around the time of some of the crises that were handled successfully.

As this figure indicates, two years after their crises, the governments of these countries had returned to voluntary debt markets and faced terms not too different from those they had enjoyed prior to their crises. Therefore, the assumption that these crises were mainly liquidity ones was on average correct. Moreover, at the start of each crisis it would have been hard to tell which were going to end as success stories and which were going to end in default. It was what one may call an “overshooting” of adjustment that made the difference for those countries that managed their crises successfully. Therefore, it is important to go over the main aspects of the policy response in more detail. That is the subject of the next section of the lecture.

Figure 1



III.2. A closer look at some policy issues

As I have noted before, the mix of adjustment and financing continues to be a crucial determinant of success when addressing a dual crisis, where capital account shocks play a major role. In these instances, one needs large amounts of those two ingredients. Some observers have criticized the policy response implemented by many of these countries and recommended by the IMF, as well as the participation of this institution in the response to the crises. These criticisms have come from focusing mainly on only one of the aspects of the dual nature of the crises. Therefore, the critics are also divided in two camps.

- i) On the one hand, from what might be called the financial panic perspective, criticism has centered on the degree of adjustment. The main problem this critique finds is that adjustment programs may have been unduly strict, arguing that adjustment measures were not needed and may have been counterproductive in the middle of a crisis by weakening governments and pushing vulnerable groups into poverty (for example, Joseph Stiglitz).
- ii) On the other hand, from a liberal perspective that only focused on the adjustment effort and on moral hazard the provision of financial support was criticized. In this case, the main focus of criticism is the alleged bailout of private investors, which in its turn will promote risky behavior and feed the appetite for more rescues (for example, Allan Meltzer).

Many of these comments face serious flaws, but they do reflect some dilemmas faced by policy makers in each country and by the international financial institutions. I am convinced that the financial panic element was present in almost all of these crises and that a large financial assistance package was needed to stop them. However, given that those few cases in which the crises turned into solvency problems were difficult –or almost impossible– to detect ex-ante and that to an important extent their fate was decided by the lack of adjustment, an overshooting of the policy response was needed. First, to correct any fundamentals that may have been out of line. Second, to restore the credibility of the authorities. In this section I will discuss the dilemmas faced by policy makers in each country, especially those regarding the handling of monetary and fiscal policies and the framework to deal with banking system problems. In the next section I will look at the dilemma faced by the IMF, since this is an issue that arises directly from the hypothesis that moral hazard is a serious problem.

The first policy dilemma had to do with the main decisions concerning monetary policy.²⁰ After the fixed parities were abandoned, the exchange rates plummeted in most

²⁰ In the cases we have been discussing, the real exchange rate had been appreciating prior to the eruption of the crises. Observers tended to concur that some degree of overvaluation was present and that the dual objectives of improving competitiveness and implementing short-term external adjustment could be advanced by a moderate real depreciation (see for example Dornbusch and Werner (1994)). However, there was fear that a sudden change in the exchange rate regime, or even the exchange rate level, might lead to instability and inflation, especially when policy-makers were aware of vulnerabilities to exchange

cases. The observed depreciations caused by the large capital outflows were much larger than anything that might be justified by real exchange rate misalignments prior to the crises. Therefore, after letting go of the exchange rate, central banks pursued a policy of high interest rates in the hope of containing the extent of the depreciation and its inflationary effects. Limiting the fall of the currency was essential to moderate any potential damage to the solvency of corporations with external debt.

But monetary tightening had problems of its own. It was feared by many observers, including Joseph Stiglitz (then Chief Economist of the World Bank), that high interest rates would stop investment and cause further deterioration in economic activity, possibly with long-term consequences for unemployment because of the risk of hysteresis. Moreover, a rising debt service burden might also drive into delinquency those borrowers with local-currency-denominated debt who had contracted floating-rate loans. This problem could, in its turn, end up having adverse effects on the banking system. This situation, then, called for complementing monetary tightening with debtor support provisions. In fact, in some cases, as in the Brazilian one, the domestic borrower with the largest exposure to interest rate risk was the government itself. In those cases, high interest rates had direct strong negative effects on public debt dynamics that could undermine the integrity of the program. In any of these cases the recommendation is that monetary tightening had to be accompanied by additional fiscal tightening, not that the tight policy response should have been abandoned.

In short, an active monetary policy was necessary, but it was crucial that it be supported by fiscal policy and enhanced protection for the banking system. Thus, it was hoped that the initial monetary tightening would not have to be maintained for too long, and that it would become possible to revert it as other elements of the economic program began to take root and produce a recovery of confidence.

rate risk in the private sector. In general, the initial policy response gave precedence to the preservation of exchange rate stability. This response was also justified by the initial assessment of the problem as temporary, which was consistent with the relatively strong fundamentals of many of these countries. Sterilized intervention, however, would prove ultimately unsuccessful in the face of strong pressures on the exchange rate. In the event, all the countries we are discussing ended up being forced to give up their exchange rate pegs (except for Argentina in 1995).

The second policy dilemma concerned the proper role of fiscal policy. In a few of the cases at hand, notably Russia 1998 and Argentina 2000-2001, there was a direct case for fiscal consolidation given the contribution to the crises of public finance problems, including concerns over government solvency. However, in crisis countries where the government finances were in better shape the case for fiscal retrenchment was of a more indirect nature. The initial programs did provide for fiscal consolidation on four grounds.

- First, that the government should start adjusting in order to face the carrying cost of the additional public debt that would likely result from domestic bank bailouts and other emergency operations to address the effects of the crises on the balance sheets of private sector agents.
- Second, if some degree of increase in domestic saving was needed to face the sudden unavailability of foreign savings, it might be appropriate for the public sector to contribute to the increase in domestic savings, even if it was not responsible for the original saving-investment imbalance.
- Third, these governments faced difficult cash flow situations with amortizations of short-term debt coming due and with substantial resistance on the part of creditors to rollover their holdings.
- And fourth, it was thought that, given market's doubts over the solvency of these governments, a stabilization program including fiscal consolidation elements would strengthen foreign investors' confidence in the prospects for the country, thus helping induce a turnaround in the capital account. The credibility problem signaled towards an over-adjustment. This is because the cost of falling short of the adjustment considered necessary to restore solvency is much larger than the cost of over-adjusting.

However, by imparting a negative impulse to aggregate demand, a policy of fiscal consolidation might damage the prospects of a recovery and fuel social discontent, ultimately damaging the confidence of foreign investors--exactly the opposite of what was intended. Confidence could be further damaged if Fund support appeared uncertain,

contingent on delivering a minimum degree of fiscal adjustment that, under the circumstances, might simply be unattainable²¹.

Partly in response to considerations such as these, but largely in recognition that economic growth was in most cases lower than anticipated, many programs were redesigned along the way, protecting essential social spending and relaxing the fiscal targets (allowing “automatic stabilizers” to work, as it was often phrased). This change occurred mostly in those countries where public finance problems were not important; but, it was also seen when the preservation of the original fiscal targets would have implied an actual tightening of fiscal policies²².

The crises that have been discussed affected private agents’ levels of indebtedness and thus created serious problems for the domestic financial systems. These issues had to be dealt with by supporting viable banks, closing unviable ones, and allaying the fears of depositors. It was also necessary to expedite the resolution of bankruptcy cases. All of these issues were, to different degrees, addressed in the economic programs put together by the governments. In fact, decisive implementation of these measures was crucial to ending the crises.

It is important to keep in mind that addressing banking problems is essential to protect the real sector for several reasons. I will just mention three: first, that the financial wealth of large segments of the population is held in the form of bank deposits; second, that individuals and corporations depend on a well-functioning payments system to conduct their daily business; and third, if depositors are not convinced that their funds will be available in the future, it is very likely that a bank run will be experienced, which in turn will probably translate into further capital outflows and a larger balance-of-payments crisis. Bank and debtor support programs, and bank rescue operations more generally, imply the

²¹ Moreover, a negative fiscal impulse, by deepening the recession, would have a direct impact on the well-being of the population. This line of criticism was especially loud in the Asian cases, which had been characterized by prudent fiscal policies prior to the crises, and less so in the Mexican, Brazilian and Turkish programs, surely because public finance problems had been recurrent in those countries. A Latin American case where this criticism was strong in spite of the importance of fiscal imbalances was the Argentine program of 2000-2001, in this case because the economy seemed to have lost its ability to grow.

²² An example of this type of redesign was the change in the overall deficit ceilings during the December 2000 review of the Argentine program, which accepted the postponement of the attainment of overall balance from 2003 to 2005 in light of the ongoing recession.

use of a substantial amount of fiscal resources, but in light of the importance of maintaining a functioning banking system, it is deemed necessary. Of course, for the banking support programs to work, this requires that the government is able to commit to generate the resources necessary to finance these operations.

In the Mexican case, the government carried out an important fiscal adjustment and undertook a comprehensive program to ensure that banking sector problems could be kept under control and thus maintain credibility with depositors. Acting mostly through the deposit insurance agency (FOBAPROA), the government strategy involved the following elements:

- Several programs for the restructuring of credits aimed at debtors, which gave a discount on the principal and allowed them to redenominate their loans in inflation-indexed accounting units to protect them from the surge in nominal interest rates. In this way, non-payment was reduced.
- A dollar liquidity facility aimed at banks with relatively high levels of external liabilities. The facility charged a high dollar interest rate in order to insure that the resources were only used for temporary liquidity shortages.
- A temporary capitalization program (PROCAPTE) to compensate for the loss of capital due to the increase in non-performing assets. In this program, FOBAPROA purchased subordinated and convertible debt issued by banks with low capital-asset ratios.
- Facilitating a more permanent recapitalization by buying credit portfolios and through the acceleration of the liberalization of the rules governing foreign ownership of banks in Mexico. The loans were only bought under the condition that the amount of resources provided by the operation would be matched by a certain amount from the owners. In addition, the loans that were bought were still to be collected by the banks and any loss would be shared between FOBAPROA and the original bank, thus giving incentives for the recovery of the largest amount of resources possible.

- Support for recapitalization was provided to those banks that were considered to be in good shape and that followed more conservative banking practices. Those banks that had deeper solvency problems or had followed more risky strategies were intervened by the National Banking Commission (CNBV). This was very important to reduce moral hazard in the future.

The cost of this program has been estimated at approximately 19 percent of GDP. As mentioned, it implies a substantial use of fiscal resources but the cost was smaller than that of other banking support programs such as Indonesia's, which cost 40% of GDP after its crisis in 1997, or Chile's, which cost 33% of GDP during the 1980's. But the success of the program was crucial for the quick recovery of the Mexican economy observed in 1996 and its subsequent growth. A significant measure of that success is that in Mexico there was not a single bank run during the crisis of 1995, and depositors had to bear no losses. The absence of bank runs is a direct consequence of the support programs implemented and of the overall policy response that backed this strategy fiscally and generated incentives to avoid a run to foreign currency by means of a tight monetary policy.

An important counterpoint to the genesis and resolution of the Mexican banking crisis is provided by the dramatic situation in Argentina. In that country, banks had gradually built up a large exposure to sovereign risk, and since early in 2001 the government exerted pressure to have banks rollover their holdings of public debt. After the large swap of government bonds of June, banks ended up with large amounts of long-term government bonds with high coupon rates, long grace periods, and an increasingly illiquid and depressed market. In fact, the government itself became the largest source of risk to the banking system. Fearing that a government default might lead to confiscation of their deposits, account-holders tried to get their money out of banks, which produced a continuous run until deposits were largely frozen by the government in December 2001. This measure signaled the end of the regime. Social protests over the freezing of deposits led to the downfall of the government and this, in turn, triggered the collapse of the currency board and the declaration of default. Both these events had dire consequences for the banks, which not only had government debt on the asset side of their balance sheets, but had an essentially dollarized liability side too.

So far a number of schemes have been tried in order to address the problem posed by the dollar deposits and the non-performing loans on the banks balance sheets. The crucial element in this story is the role of the government. Its own fiscal problems helped generate the banking crisis, and have prevented it from acting to solve the crisis once it broke out. The Argentinean government has been unable to find mechanisms to spread any losses over time and to protect depositors or put the burden of the adjustment on depositors in a politically sustainable way. As long as this problem remains unresolved, it will be difficult for Argentina to find its way to recovery.

III.3. IMF Programs and Moral Hazard

On the part of the IMF, recent crises lead to a reassessment of the size and timing of its disbursements. Traditional IMF programs involve limited, and evenly-phased, access to Fund resources. This practice, though rooted in that institution's experience, does reflect a number of important assumptions concerning the nature of the shocks suffered by a country and the best response to them. Typically, a country facing an adverse external shock or reaching the day of reckoning for unsustainable behavior must undertake some amount of adjustment. Fund assistance aims to allow for the needed adjustment to take place gradually, and in cases where the disruption is deemed temporary, to reduce the absolute amount of adjustment needed by helping the country finance its temporary problems on reasonably favorable terms. The gradual delivery of financial support takes into account the need to provide incentives for the country authorities to follow through in the implementation of their responses to the economy's problems. Normally, such phasing should not in itself constitute a problem, since the difficulties facing the country, as well as their solution, are of a flow nature, and gradually unfold over time. However, if a crisis is triggered by a change in investor attitude due to events unrelated to the affected country's fundamentals, as in the case of contagion or in a self-fulfilling speculative attack, the typical rules for the Fund's response can run into difficulties.

To begin with, there is no clear and simple concept of the size of the macroeconomic flow adjustment that may be necessary and therefore the flow accounts are not a sufficient guide to determine the size of support. Typically, Fund assistance is

determined on the basis of repayment capacity and balance-of-payments needs estimated under the assumption that some amount of adjustment is undertaken, that economic activity unfolds according to some reasonably conservative scenario, and that certain sources of financing remain available. But these dimensions get blurred in an expectations-driven crisis. As noted before, the volatility of the exchange rate during capital account crises and the fragility of macroeconomic forecasts make the evaluation of balance-of-payments needs especially difficult in these cases. Moreover, forecasting the non-official elements of the capital account is the main problem, given the binary behavior of private capital flows, which is affected by herd behavior. In fact, the measure of balance-of-payments needs and repayment capacity are endogenous to Fund financing itself. Undershooting the critical amount of official support will not elicit a favorable response from investors, leaving the program underfinanced. In contrast, meeting or overshooting that critical level of support might have the effect of making it unnecessary for the country to use all available official resources.²³

Phasing and conditionality (apart from size) are two elements affecting the ability of Fund support to act as catalyst of private capital flows. Here the dilemma is between being an effective catalyst of external capital reflows by assuring that sufficient resources will be available upfront to see the country out of its difficulties, and loosening the incentives for the proper implementation of the economic program. The latter possibility, in fact, entails a risk that markets will expect that important elements of the economic program will not be fully implemented. Such belief would again be an obstacle to the return of voluntary capital. Phasing and conditionality, therefore, do play an important role.

²³ The Mexican case provides a useful illustration. The size of the Mexican program had to be large (in fact, it approached 50 billion dollars when all bilateral and multilateral sources were counted) to restore confidence, as it did. The main reason was the pressure represented by maturities falling due and by the increasing difficulties rolling over the stock of short term government securities denominated in dollars (the “tesobonos”), which represented a gross financing need of almost 30 billion US dollars in 1995. On top of that, other financing needs of the government and those of the private sector meant that the overall gross financing needs in 1995 exceeded 60 billion dollars.

Table 1. Total Access to IMF Funds Under Some Recent programs
(in Percent of Quota)

Country and year	Total access
Mexico 1995	688
Thailand 1997	505
Indonesia 1997	490
Korea 1997	1,938
Russia 1998	449
Brazil 1998	600
Argentina January 2001	500
Turkey 2001	1,560
Argentina September 2001	800
Turkey 2002 (includes undisbursed amounts from 2001)	2,544

Source: IMF

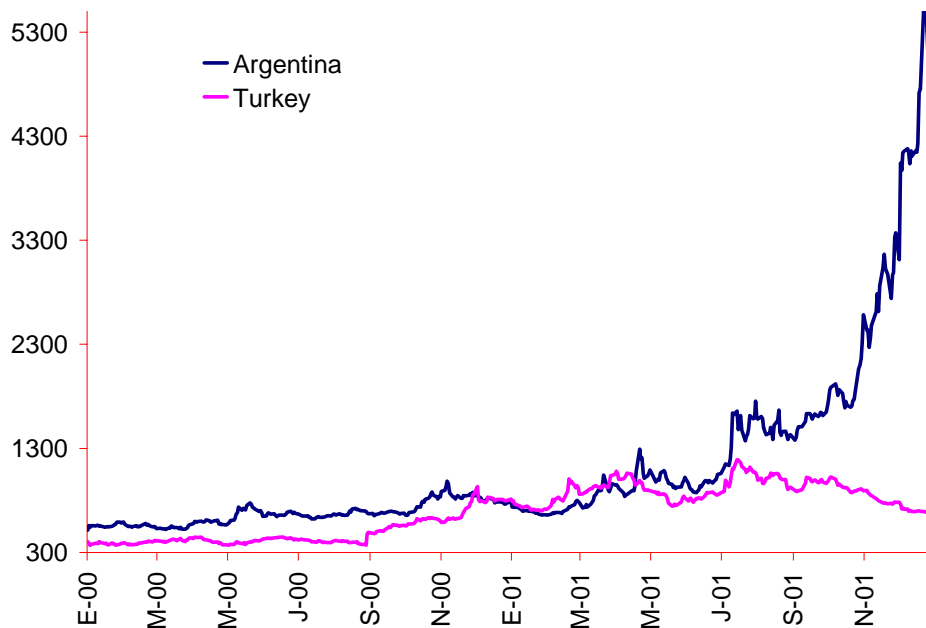
These facts have been recognized by the Fund. The size relative to quota of the programs studied in this section was unprecedented, as table 1 shows. In this regard, the most noteworthy cases are Turkey 2002, with 2,544 percent of quota; Korea 1997 with 1,938 percent of quota; the initial 2001 Turkey program with 1,560 percent of quota; and Argentina's revised program of September 2001, with 800 percent of quota. And not only were the sizes of access under these programs unusually high: they were often supplemented with other official resources. In many cases the overall rescue packages included large bilateral components. In addition, the calendar of IMF disbursements under these programs was considerably more frontloaded than usual, with over sixty percent of total resources scheduled to be disbursed during the first six months of the programs. However, the Fund did not go as far as to give up phasing.

I want to reemphasize the importance of a signal by the country itself and its government that problems are being addressed. In that regard, a significant adjustment serves a double purpose: to correct any flow imbalances and to rule out any suspicion that a country may in fact be insolvent. The reason is that insolvency is, to a large extent, a

function of the ability of an agent, a government in this case, to take the necessary steps to modify the trajectory of its debt. Such ability was made patent in the cases of Mexico 1995, Brazil 1999, and Turkey 2001 through the delivery of difficult and important improvements in their primary fiscal balances; by contrast, this ability to correct course seems to have been limited in the current Argentine crisis. It takes time to implement measures; it takes time to verify that measures are adhered to; and it takes time for measures to bear fruit. In fact, looking only at the sovereign spreads of the last two countries I mentioned it is remarkable how for a while the EMBI indexes for Turkey and Argentina tracked each other, and how they went their separate ways since mid- 2001 (Figure 3). It took markets some time to distinguish these countries, and for the countries themselves to show their ability to handle their crises. In any case, it is interesting that both country risk measures started diverging in August 2001. That month saw three contrasting announcements from the IMF: a new stand-by arrangement for Brazil, the successful completion of Turkey's mid-year review under its program, with a strong backing from the Funds' Executive Board, and the acceleration of disbursements for Argentina under its existing program to permit it to face maturities falling due. This suggests that what is seen in the divergent paths of the Turkish and Argentine spreads is that markets were reacting to the same information analyzed by the IMF. But might investors have been taking a clue from the differences of treatment by that institution? The latter hypothesis brings us to the issue of moral hazard, which I will discuss next.

Figure 3

EMBI+ (2000-2001)



However complicated the circumstances of an individual program may be, the Fund must also look beyond any given case and consider the consequences of its actions for the international financial system at large. From a medium- and long-term perspective, financial support that is sizable enough to easily reactivate private capital flows may be too large for prudence, breeding moral hazard. This concern has been at the top of the list of concerns of IMF officials, supporters and critics since the Mexican rescue package of 1994 seemed to set a new precedent for official support, and especially since the record-breaking Korean package. But what is the evidence in favor of the moral hazard hypothesis?

To start by the easier part of the answer, it is clear that no policy maker in the world likes to go to the Fund for help. As Stanley Fischer observed in his Robbins Lectures, 10 out of the 12 ministers of finance and central bank heads who presided over the onset of a major crisis were not there a short time later to work on its solution. Thus, they paid a price for whatever share they may have had in conducting policy imprudently. Let me add that the recession associated with the Mexican crisis of 1995 without a doubt contributed to the loss first of the majority in Congress and later of the presidency by the PRI, until very

recently the longest serving party in the world. These examples should suffice to dispel the notion that the availability of Fund support encourages government officials to pursue high-risk strategies.

The more contentious issue is whether the actions undertaken by the IMF and other official providers of emergency financing, including governments, have led to imprudent lending by international private investors. The proper departure point for the discussion of this issue is the acknowledgment that the absence of any prospects of official support during capital account crises would not lead to an efficient operation of world capital markets. There is considerable consensus among observers from the policy arena, academia, and the markets themselves on the proposition that market participants are prone to exhibit behavior capable of producing suboptimal outcomes. Herd effects and other coordination problems produce excess volatility and will, left to themselves, make the cost of international financing high –both the ex-ante cost paid in the form of interest rates and the effective, ex-post cost paid in the form of a liquidity crunch. Therefore, from a normative perspective, the existence of official emergency financing, by reducing the volatility of capital markets, can improve welfare and efficiency.²⁴

Then, the question is really whether, so to speak, we have “too much of a good thing,” and the availability of official financing does not just moderate existing market imperfections, but produces new and larger distortions by encouraging careless lending. This is clearly an empirical question. Beginning with an informal look at this problem, one cannot fail to notice that contagion and the typical run for the exit by herds of investors is itself a demonstration that private creditors do anticipate losses if they don’t leave a difficult situation in time. In fact, with the possible exception of very short-term investors, some early leavers, and a few vulture creditors, most private creditors have taken losses as a result of the capital account crises that occurred.²⁵

²⁴ This issue is well developed in J. Bradford DeLong and Barry Eichengreen, “Between Meltdown and Moral Hazard: The International Monetary and Financial policies of the Clinton Administration,” NBER working paper 8443, August 2001, and Bradford DeLong, Andrei Schleifer, Lawrence Summers and Robert Waldmann, “Noise Trader Risk in Financial markets,” *Journal of Political Economy* v.98 (1990), pp. 703-738

²⁵ Even in Mexico in 1995, where Tesobonos offered protection against exchange rate risk, discounts were high and original holders who tried to exit took losses. More generally, the practice of marking to market is especially useful in this regard, as investors have to show their accrued losses in “real time.”

Rigorous research on the subject of moral hazard is, unfortunately, still limited. However, the work that has been carried out has failed to uncover clear signs of moral hazard. Work done by researchers at the US Federal Reserve,²⁶ for example, found that sovereign bond spreads of emerging markets were actually higher after the Mexican crisis of 1994-1995 than in the preceding period, even after controlling for bond ratings. Also, the dispersion of those spreads across countries has been significantly higher in the period following the Mexican crisis, suggesting that investors are becoming increasingly sensitive to the particular prospects of different countries. Moreover, this is confirmed by the finding that the sensitivity of sovereign spreads to changes in credit ratings increased after the Mexican crisis, contrary to what the moral hazard hypothesis implies. Thus, investors seem to have been more wary of going into emerging markets after the first big support package than before. Similarly, controlling for other factors that determine creditworthiness, there is no evidence that spreads are lower for large countries, so moral hazard due to the perception that there are countries that are too big to fail and, therefore, will receive large support packages does not generally hold.²⁷

Economists at the IMF have also looked at the issue of moral hazard using statistical tools.²⁸ One of the tests they carried out is based on the idea that if the IMF has more resources at its disposal, the possibility of moral hazard should grow. Therefore, they test whether increases in the IMF's loanable resources have an appreciable influence on sovereign spreads, but find no important effects. The most promising piece of evidence in favor of the moral hazard hypothesis is the rise in spreads following Russia's default on its GKO's, which some observers attribute to a reduction in moral hazard. Now, if that interpretation is correct, it is still possible to wonder if observers have not interpreted the Russian crisis as a regime change, and the finding of moral hazard before the Russian default does not imply the continuing presence of moral hazard. Moreover, it is just as easy to argue that the rise in spreads observed after the default on GKO's was due to a "wake-up

²⁶ Steven Kamin, "Identifying the Role of Moral Hazard in International Financial Markets," mimeo, December 2001.

²⁷ One possible exception may have been the Russian case in 1998. In the run-up to the declaration of default, the purchase of GKO's was sometimes referred to as "the moral hazard play" among some investors who did believe the West would not let Russia fold down. Those investors took heavy losses, and their example should provide a harsh lesson to others.

²⁸ See Timothy Lane and Steven Phillips, "Does IMF Financing Result in Moral Hazard," IMF working paper WP/00/168 (October 2000).

call” effect rather than to a decline in moral hazard.²⁹ In sum, the available evidence does not allow us to assert with a reasonable degree of confidence that moral hazard induced by emergency financing is a serious problem.

This lack of convincing evidence notwithstanding, many politicians and observers in the West argue that moral hazard is a grave issue, and therefore advocate the adoption of a series of measures, including letting debtors fail to provide a lesson to future lenders.³⁰ This is a very delicate matter, for the welfare costs of providing such a lesson can be enormous. Therefore, very strong and persuasive evidence should be required before considering accepting this type of recommendation. Such strong evidence does not exist, and so the international community should not risk provoking concrete and real problems – including the transformation of a liquidity crisis into a solvency one—for the sake of preventing a potential problem whose importance has not been established, and which, on the contrary, has been found to be limited by the most rigorous empirical research available.

Finally, the concern with moral hazard and the perception of insufficient IMF resources on the part of G-7 countries and international financial institutions led to the involvement of private creditors in the resolution of capital account crises. In the cases mentioned in this section, perhaps the most successful example of private sector involvement was the preservation of private credit lines during the Korean and Brazilian crises. This was possible because the private creditors involved were foreign banks, over which their own monetary authorities could exercise some influence. Other attempts at PSI were largely unsuccessful, given the dispersion of international creditors, mostly anonymous bondholders. The most visible attempts at PSI were the voluminous debt exchanges carried out by the Argentine government in 2001. While they meant some relief

²⁹ See Giovanni Dell’Ariccia, Isabel Godde, and Jeromin Zettelmeyer, “Moral Hazard and International crisis lending: A Test,” mimeo, IMF November 2000.

³⁰ Moreover, they often argue that their taxpayers are directly subsidizing IMF-program countries, a situation that naturally creates discomfort among political constituencies. This view is incorrect for two connected reasons: a country receives a market-based remuneration on any positive net position held at the IMF, and conditionality, monitoring and phasing of financial support have ensured an impressive record of repayment by countries with IMF programs which fully justifies the low funding costs faced by the IMF. See Olivier Jeanne and Jeromin Zettelmeyer, “International bailouts, Moral Hazard and Conditionality,” in *Economic Policy*, October 2001

for 2002 and a few years more, these swaps were actually costly in cash terms, since they required the payment of accrued interest.³¹

III.4 Summing up

Emerging markets, by the very nature of their participation in world capital markets, are exposed to liquidity crises arising from changes in sentiment among investors. These changes in perception, by drying up external financing, create severe recessions. In addition, the exchange rate depreciation and interest rate hikes caused by those crises have adverse effects on the balance sheets of public and private agents in these countries, as these effects are compounded by underlying imbalances (reflected in large deficits, be it in the private or in the public sectors). Thus the emerging market crises of the last decade had a very negative effect on these economies.

Two factors were essential for the successful resolution of most of these crises:

- i) The determined response of the government and the pursuit of prudent, ambitious, and flexible stabilization programs.
- ii) The timely availability of significant financial support from official sources.

In other words, the need for overshooting adjustment and financing in response to severe capital account reversals is clear. Two phrases used at the time of the Mexican program illustrate this approach:

- i) Prepare for the worst and hope for the best, and
- ii) Treat negative shocks as permanent and positive ones as transitory.

In those cases where countries undertook significant adjustment, structural measures to protect the financial system and address balance sheet imbalances, and could count on strong support from official financing sources, relatively quick recoveries followed, both in terms of economic activity and in terms of the return to world private capital markets.

³¹ Moreover, they involved high costs in the medium and longer terms, since creditors would only take the swaps if they could lock in the very high yields implicit in secondary market prices. In fact, these swaps may have worsened the long-term prospects of the government. In short, the advisability of these swaps remains an open question. PSI remained, throughout these crises, an unresolved issue.

Considering the need for a strong policy response, countries are confronted with some dilemmas, in particular regarding the appropriate degree of fiscal adjustment. Should they pursue vigorous fiscal consolidation, or try to be mindful of the possible negative impulse thus imparted to aggregate demand? After looking at the contrast between the success of the Mexican strategy of 1995, the Brazilian 1999 program, and the Turkish efforts in 2001, on the one hand, and the dramatic problems caused by the initial hesitation of Russia in 1998 and the continuing paralysis of Argentina on the other, it seems to me that the balance of risks is clear. It is always better to err on the side of caution and to act resolutely to fix any public financial imbalances, ongoing or potential.

The same could be said of international support. Given the nonlinear response of credibility to the size of the packages, once the international financial institutions (IFIs) are satisfied with the intended policies by the country's authorities, a large and front loaded package has the largest probability of success.

Adjustment programs take time to implement, and at the outset it may be difficult to tell whether a country will be capable of following through. In this sense, a government must not postpone action, since any action will take time to bring about its intended results. In its turn, sufficient and early financial support from official sources is key to allow the government time to act and to convince external creditors, with results, that their initial flight should be reversed. In most cases, the debt sustainability criteria will not give an unambiguous answer. In these instances, international financial institutions and bilateral sources must not prejudge as to the actual insolvency of a government, a banking system, or a corporate sector when a crisis has erupted, simply leaving them to confront their creditors. Solvency is an endogenous property that depends on the ability to take adjustment measures, and policy makers need to be allowed the necessary leeway to execute those measures. The experience from the most recent crises clearly shows that, on average, the assumption that these economies were going through a liquidity crisis was correct. In addition, it would have been impossible at the start of each crisis to predict if it was going to end in default. However, as the current situation in Argentina highlights, the absence of an established framework for sovereign debt workouts, has also made things harder for the IMF when a program is going off track.

IV. Policy lessons in preventing and dealing with crises in emerging markets

Once the lessons regarding crisis management have been discussed this section looks at crisis prevention. This is an area where there has been significant progress and less controversy.

The careful analysis of the balance of payments crises that occurred since 1994 highlights that the increase in the magnitude of capital flows going to emerging markets during the last ten years, the speed with which these can revert and the linkages between assets of different countries due to investment practices have the following implications:

- i) a small deterioration in fundamentals or in the market's perception about these can lead to large capital outflows,
- ii) large capital outflows (or the sudden suspension of inflows) can take place, even if a country's fundamentals have not changed, because of sheer panic or, alternatively, contagion caused by the response of investors needing to cover losses arising from problems in other countries,³²
- iii) recessions are more severe and financial variables can be more volatile than in traditional current account crises, as the balance of payments shortage can be larger due to the potential size of fast capital outflows.

Thus, the discussions on the policy lessons and the reform of the international financial architecture have centered on how to minimize the vulnerabilities to capital outflows that may arise due to small, actual or perceived, shocks how to limit contagion and how to reduce the damage done to a country when these occur.

There is a wide consensus that in order to reduce the vulnerability to shocks, changes in sentiment, and contagion, the most important factors are sound domestic policies. Policy makers in emerging markets have very little room for maneuver and need to act with a lot of opportunity given that the response of the markets may be very swift.

These policies need to be supported by a strong liquidity position that guarantees investors of the country's capacity to pay even if financial markets shut down. However, it is not optimal to follow policies that reduce the probability of a crisis almost to zero. For

³² For an in depth analysis of this phenomenon see Calvo (2000).

example, accumulating international reserves is costly, and so is issuing only long-term debt. In the extreme, the probability of a capital account crisis could be reduced by establishing draconian capital controls or maintaining the current account permanently balanced but these may have high costs in terms of foregone growth. Thus, international cooperation is needed to reduce this probability further in a cost effective way and to assist countries to reduce the negative effects of these events when they happen. Not to mention, to avoid the negative externalities that emerging market crises have had on international financial markets.

The recognition that countries with strong domestic policies can be subject to speculative attacks and the greater potential cost associated with capital account crises have generated a wide discussion about the need for a reform of the international financial architecture. As I mentioned before, this discussion has focused on two extreme cases, the first being the establishment of mechanisms to prevent and solve liquidity crises, the second being the development of procedures that facilitate renegotiation in the case of solvency crises. I will later argue that I think these are not enough, as they are only dealing with some of the risks in this new environment of large private capital flows, but not addressing the most important cases of countries that have some fundamental weaknesses -therefore these are not pure liquidity crises- but that are not insolvent. With this framework in mind, I will discuss the domestic policies that need to be followed in more detail as well as the reforms to the international financial system that have been proposed, to reduce the frequency and negative effects of future crises.

IV.1. Domestic Policies

Sound monetary and fiscal policies are considered to be crucial to avoid any type of balance-of-payments crisis. It was already widely recognized that lax policies that led to an excess aggregate demand or an inconsistent policy mix could lead to a high current account deficit, an unsustainable external debt burden, and vulnerability to shocks. What is new about the more recent episodes is that they occurred even in countries where inflation was low, fiscal deficits were small or there even was a surplus, and the level of government debt was low.^{33,34} It is true that in most cases the crises were preceded by shocks, but in no case

³³ As a share of GDP, exports or international reserves.

did they imply a deterioration in policies such as those observed in the past, for example those seen before the Latin American debt crisis of the 1980's. Thus, it has become clear that good monetary and fiscal policies are necessary but not sufficient conditions to avoid a capital account crisis and that a slight change in policies can lead to a significant deterioration in the perception of a country's prospects. So what was behind this vulnerability to sudden mood swings among participants in international capital markets?

The abrupt changes in perception are conditioned by several other factors and not just by the stance of monetary and fiscal policies. The main elements that have been identified are:

- i) The liquidity position of the public and private sectors;
- ii) The level of public and private indebtedness, particularly foreign indebtedness;
- iii) Excessive risk taking behavior by banks; and
- iv) Lack of transparency and communication with market participants.

I will discuss each of these in detail as well as the implications they have on domestic policies.

The Mexican crisis of 1994-1995 made it very clear that investors focus on the debt amortization schedule, not only on its level. A large amount of short term liabilities compared with reserves levels drastically increases the probability that a temporary liquidity shortage translates into a massive capital account crisis due to a confidence turnaround. The solution is clear: increase the level of international reserves and reduce the amount of short term liabilities.³⁵

Probably, the main reason why this policy is not always followed is that a policy maker that is undertaking serious reforms and stabilization policies tends to believe that these will succeed, while market participants will have some doubts. This generates an important expectations wedge about where interest rates and exchange rates will be in the

³⁴ For example, fiscal balances as a proportion of GDP were 0.7% and -0.1% in Mexico during 1993 and 1994, 2.4% and -2.1% in Thailand, and 0% and -1.7% in Korea during 1996 and 1997, respectively.

³⁵ As I discuss further on, some cost-efficient ways to increase international reserves are through the CCL, by augmenting the allocation of SDRs, or by raising IMF quotas.

future, with the policy maker believing that the fixed exchange rate regime is sustainable, and thus the differential between domestic and foreign interest rates is due to erroneous expectations, and that interest rates will fall in the future by more than the markets expect. Thus, there would seem to be an arbitrage opportunity and a bias for issuing debt in foreign currency and also in the form of short term liabilities. However, the increase in the probability of a balance of payments crisis associated with these policies suggests that this arbitrage opportunity is largely an illusion. The potentially higher cost of issuing long-term domestic debt is an adequate insurance premium paid to reduce vulnerabilities and increase the probability of success. In addition, a proactive debt management strategy needs to be followed to insure there will be no amortization problems due to a sudden drying up of international capital flows.^{36,37}

In the previous section I mentioned that large external private sector indebtedness increases the probability of a crisis. This implies that there is a potential negative externality, as firms and banks do not internalize the effect that their additional debt places on the probability of a capital account crisis. In part, this phenomenon is related to the fact that firms and banks do not fully internalize their exchange rate exposure due to the implicit exchange rate insurance that exists in a fixed exchange rate regime.

Negative externalities are typically dealt with taxes, and correspondingly a resurgence of the discussion on the optimality of imposing levies on capital flows has reemerged. Taxes can be imposed both on outflows and inflows, and can be used to promote different types of investment. It seems that taxes on inflows are the best option, as the Chilean experience suggests. However, they seem only to work for a short period of time, as firms and investors tend to find ways around them with certain ease. This is likely to be the case always in the absence of very stringent regulations that would have the counter-effect of limiting the development of the financial system. In fact, Chile recently abandoned its implicit taxes on capital inflows.

³⁶ In the Mexican case, the ratio of internal public debt to total public debt changed from an average of 26.5% in 1994 to 48.1% in 2001. In addition, the average maturity of domestic debt has increased from 284 days to 646 days in the same period. As regards external market debt, Mexico's strategy has been to issue bonds a long time in advance in order to roll over the liabilities.

³⁷ In addition, there has been a substitution of foreign for domestic debt. Proponents of dollarization in emerging markets have argued that there exists "original sin", that is, an inability of emerging markets to issue long term debt in their domestic currency leading to either currency or maturity mismatches. However, Chile and Mexico have managed to issue long-term debt denominated in domestic currency.

A more efficient way to deal with this problem is by having a flexible exchange rate and better regulation and supervision of the financial sector. The floating exchange rate regime changes the composition of capital flows towards longer maturities and Foreign Direct Investment (FDI), as the volatility of the currency is higher in the short term than in the long term. This, in turn, limits the size of possible flow reversals.³⁸ In addition, the volatility of the exchange rate rules out the perception by the private sector of the existence of implicit guarantees and avoids one-sided bets against the currency. The fact that the exchange rate adjusts automatically under a flexible exchange rate limits the generation of political pressures to defend unrealistic levels of the exchange rate, to establish ex post capital controls, dual or differential exchange rates, or to implement bail outs of both foreign and domestic investors.³⁹

Finally, by allowing adjustments in the level of the nominal exchange rate in response to domestic and external shocks that affect the equilibrium level of the real exchange rate, the flexible rate limits the volatility of production and the level of external imbalances. A related point is that this regime allows the central bank to follow an independent monetary policy in response to these shocks. The number of emerging market countries adopting flexible exchange rates is a clear indication of the benefits associated with this regime. Even though most of the countries were forced to adopt it due to a loss of international reserves, they did not return to fixed regimes once the level of international reserves recovered.⁴⁰

There are several costs associated with a floating exchange rate. First, investors command a risk premium due to the higher volatility, increasing domestic interest rates. In turn, these higher domestic rates can give a relative advantage to large exporting firms, as these typically find it easier to obtain resources from abroad. Second, the informational

³⁸ The composition of the capital account in Mexico has changed dramatically from 1994 to now. From 1990 to 1994, portfolio flows represented 67.1% of the net capital account on average while FDI was 25.4%. In the period 1996-2000, these proportions changed to 37.3% and 91.3% on average.

³⁹ For a more complete discussion of the benefits of a floating exchange rate and the Mexican case, See Ortiz (2000)

⁴⁰ However, even in these instances when the flexible exchange rate regime works as a stabilizing device or allows independent stabilization policies, its role is clearly conditioned by the fact that it limits short-term capital flows. Otherwise, sufficiently large short term flows not guided fully by fundamentals can generate deviations of the real exchange rate as well as limit the ability of the central bank to determine monetary conditions in the economy. Thus, the first role of the exchange rate is a prerequisite for the adequate functioning of the other two.

content of exchange rates determined by market participants is limited if the market is thin or dominated by a small number of agents. Finally, the absence or low level of development of derivatives markets, which allow hedging of exchange rate risk, can imply high costs in the form of an inefficient allocation of resources as banks, firms and individuals need to limit their exchange rate exposures by themselves. The magnitude of these costs is compounded by the financial fragility of the country.

In order to reduce these costs, several measures to reduce financial fragility are necessary. The three most important measures are the following:

- i) Development of derivatives markets,
- ii) Adequate debt and liquidity management policies,
- iii) Development of markets for long term domestic debt, either with fixed nominal rates or through bonds indexed to the CPI.

Transparency and communication are key for the adequate functioning of a flexible exchange rate regime. One of the great advantages of this regime, which is to allow for a gradual and orderly adjustment in response to shocks, won't occur if markets don't receive gradual and orderly information. In addition, a policy of continuously explaining the government's actions is the best way to avoid misinterpretations of policy actions. It is also a two way channel of communication, by means of which policy makers can receive first hand feedback about the concerns of the private sector.⁴¹ These elements are crucial to avoid confidence crises.

Overall, in this more vulnerable environment, policies should aim at establishing a much more solid macroeconomic environment. In order to provide greater certainty, these should be institutionalized as much as possible. One example is to grant autonomy to the Central Bank. Another area in which significant progress has been made is the development and adoption of uniform standards and codes that impose discipline on policy makers through greater transparency.

⁴¹ Mexico established an Investors Relations Office in 1995. Its functions include continuous communication with analysts and investors and preparing conference calls and documents, initially quarterly and now monthly, to explain the economy's evolution as well as government policies. For a more complete description of Mexico's policies on communication and transparency see Ortiz (2002).

However, there are other institutional aspects that should be strengthened. One of the most important is to reform the legal framework in such a way that markets operate properly by reinforcing the protection of property rights, providing adequate regulation or market incentives when market failures are present and promoting competition. All these elements are important from the viewpoint of crisis prevention but also from the perspective of higher long term growth, as they allow firms and individuals to undertake projects with a medium term perspective in mind. In sum, one of the greatest challenges confronting emerging markets is to guarantee that appropriate policies will be followed in the future. Therefore building institutions to reduce the uncertainty regarding future policies is an important task.

In the Mexican case, an institutional arrangement that has contributed significantly in all these aspects by limiting the discretionary actions of the governments involved and reinforcing the institutional environment is NAFTA. It seems fair to say that this has led to greater certainty and stability as can be judged from the flows of FDI into Mexico and the important increase of Mexican exports in the years that followed the signing of the treaty. Also, the autonomy granted to several central banks in emerging markets is one of the elements that explains the significant reduction in inflation in many developing countries.

In summary, the lessons from the recent balance of payments crises have led countries to undertake the following policy adjustments:

1. Maintain very sound fiscal and monetary policies;
2. Implement proactive liability management strategies to reduce the proportion of foreign and short term liabilities of the public sector as well as limit concentrations of amortizations in a short period of time;
3. Establish adequate regulation and prudential supervision of the banking sector;
4. Provide market incentives to private agents so that they limit their indebtedness in foreign currency, among which the most efficient is a flexible exchange rate;

5. The adoption of flexible exchange rates to limit short term capital flows, to allow adjustment of the real exchange rate to shocks and carry out independent monetary policies;
6. Increase transparency by publishing timely information at fixed intervals as well as establishing channels of communication with the private sector.
7. Undertake institutional reform that increases certainty for the private sector both for operations with other private agents and by limiting discretionary actions of government authorities.

IV.2. Implications for the International Financial Architecture

As I mentioned before, the most important factor in crisis prevention is to follow adequate domestic policies. Nevertheless, while some of these policies could be carried out to their full extent unambiguously, others typically imply trade-offs. Accumulating international reserves is costly, imposing regulation that stifles all financial sector development implies potentially large costs in terms of growth, and maintaining a rigid fiscal stance implies that important social needs, such as investment in education and health, are under-financed even though they have high returns both from an economic and equity viewpoints. It is also likely that many of these extreme measures would meet with intense political resistance.

Thus, the discussion on the reform of the international financial architecture has to center on how coordination between countries and international financial institutions can lower the cost for countries of preventing crises, and how to reduce the cost of these when they happen in the current context of larger and more volatile capital flows.

Recent crises pose several challenges to the current international financial architecture due to several factors, among which the following should be highlighted:

- i) Countries may face a speculative attack even if their policies are adequate, mainly due to liquidity problems. Therefore, it has become more difficult to anticipate crises and prevent them;
- ii) The increase in the size of private capital flows implies that the currently available amount of official resources may fall short of what is needed to

stabilize the situation after a capital account crisis, not to mention the political stance towards large package of major creditor countries; and

- iii) The increase of indebtedness in the form of bonds implies that debt renegotiations in the context of a solvency problem are more difficult due to the complexity of coordinating a significantly larger number of parties.

The recognition of these three problems has conditioned the discussion on the reform of the international financial architecture, which has been structured around the dichotomy of liquidity versus solvency problems. The first case corresponds to those countries with adequate policies that suffer mostly unjustified speculative attacks (i.e. a pure liquidity crisis). The second case concerns countries that have serious fundamental problems and will require a partial default on their liabilities in order to return to a sustainable situation.

It is important to discuss these two extremes. However, this approach does not pay sufficient attention to the additional improvements that are needed to deal with those crises that are neither pure liquidity nor solvency problems. I believe this approach mainly reflects concern with the unwarranted contagion that followed the Russian crisis and the solvency problems of Ecuador in 1999 or Argentina today, while forgetting the lessons from the intermediate crises in Mexico, South East Asia, Brazil and Turkey. Thus, in what follows, I will discuss each of the three types of crises, the proposals that have been made to resolve them and my own impressions about further work to do.

IV.2.1 On liquidity crises

As mentioned earlier, several of the recent capital account crises occurred in countries that had some vulnerabilities but whose policies were widely perceived as adequate by domestic officials, international organizations, investment analysts and rating agencies. Thus, the situation in these cases was not a moral hazard problem of countries following on purpose inadequate policies or maintaining unsustainable disequilibria. It was more of a potentially self-fulfilling confidence crisis.

Given the speed with which these events can take place, and the lag in putting together IMF packages, an investor can decide it makes sense to take its money out even if it knows that IMF support is being negotiated. Thus, in order to deal with these cases where

the necessary policy adjustment is small, if one is needed at all, a fast response mechanism that is quasi-automatic is needed. This is the idea behind the CCL developed by the IMF in the aftermath of the Asian-Russian crisis of 1998, a mechanism for which countries pre-qualify on the basis of their economic policies and macroeconomic situation. In addition, its size is larger than the typical program and its disbursements faster. When a country needs the resources, it would generally obtain up to a third of the line of credit fairly quickly, with the rest made available after a revision of policies that is deemed to be less exhaustive than the one associated with a stand-by agreement.

Even though the creation of the CCL is a very positive development, there are four main problems that remain with the facility:

- i) The first is that it can only be used for contagion problems. Contagion is the clearest case in which no significant policy adjustments are needed to insure a recovery of economic conditions and assure repayment of the resources, as the shock is driven by panic or investment practices and not a deterioration of fundamentals. However, a country can suffer from a speculative attack not arising from developments in other markets, but due for example to a temporary deterioration of its terms of trade or adverse developments in industrialized countries' financial markets. There is also the need for a fast response mechanism to counter these potential crises, so countries that have followed adequate policies, have repaid the IMF with opportunity and have made the adequate adjustments when needed should be allowed to use the resources from the CCL for these other types of shocks.
- ii) Given that a gain or loss of the CCL has the potential of being similar to changes in an investment grade rating, it is necessary to have a clearer set of guidelines for market participants to react in an orderly and gradual way to potential changes in access to the CCL. An exit strategy for those countries that lose their CCL is of particular importance.
- iii) To make the CCL more attractive, the commitment fee should be reduced, perhaps to zero. This makes economic sense if there is a

perception that externalities exist in international financial markets, particularly if contagion is considered a real problem. Also, ways should be found to ensure that this mechanism should not carry the stigma of traditional programs.

- iv) The one year maturity of this facility is too short. This reduces the country's interest in it and the disciplining role it should have as the country and the IMF can just let it expire.

The CCL is mainly meant to be a mechanism to provide additional international reserves to a country when facing liquidity problems. As such, it should reduce the probability of a loss of confidence in a country's debt servicing abilities from occurring in the first place, and when they do occur it should help to solve temporary liquidity problems that require minimum policy adjustments.

Calls for private sector involvement in the case of liquidity crises have taken the form of establishing contingent credit lines with private banks and the inclusion of options in bonds that would allow a late repayment under certain conditions. These are actually considered by the IMF as desirable prerequisites to access its CCL.

The establishment of private contingent credit lines is desirable in itself and should be complementary to the CCL. However, having a working CCL in the first place could be very important in order to promote the development of private contingent lines. With the CCL in place, the private sector can take advantage of the monitoring abilities of the IMF, and the event that would give access to the resources in the private line could be obtaining access to the IMF's CCL. In this respect, there should be a wider dialogue between the IMF, private sector financial institutions and emerging markets.⁴²

As to the inclusion of options in debt instruments, these have not yet been tested in a significant way by emerging markets, with the exception of some Brady bonds, whose

⁴² The argument has been made that private CCL's don't work because the institution providing the line will probably hedge the risk associated with it, potentially transferring the risk to other domestic agents or reducing the amount of funds it gives to these. This argument is inaccurate, as it doesn't reflect the way a bank would typically cover its risk from such a line. Once it grants the line, it has to cover its current contingent exposure by shorting a certain amount of the country's assets according to the probability that the line is exercised, but this is something that happens today, not at the moment the line is exercised. This implies that by establishing the line, the amount of inflows will be smaller in good times and larger in bad times than otherwise.

payments were made contingent on the evolution of certain commodity prices for some countries. Even though the Brady's were relatively liquid instruments and the option was almost never in the money, they were more expensive than other types of bonds, suggesting that even less well known or exotic instruments without significant liquidity could be very expensive. This is another area where feedback from private market participants is very important so as to know how they view these different instruments and what are the characteristics than can be easily included in bonds.

IV.2.2 On intermediate cases

In the case of most balance-of-payments crises, the problem will remain between clear cut liquidity and solvency crises. IMF programs have been developed to deal with these intermediate types of problems. As they typically require important policy adjustments for the country to return to a sustainable situation in the balance of payments, there needs to be a more complex negotiation process with the IMF, so access should probably not be given in a quasi-automatic fashion. In spite of all the criticism the IMF has received recently, these programs have a good track record, allowing many of the countries that suffered crises in the 1990's to recover macroeconomic stability and return to capital markets in a short period of time, as was reviewed in section 3.

However, the new financial environment also has important implications on how these types of crises should be dealt with. The potentially larger flows imply that the depth of the crises may also be larger in these cases, and the importance of credibility and expectations in the recovery process suggests that as much certainty as possible should be given to markets about the implications of the programs.

In several of these cases, countries needed a larger amount of resources than the traditional size provided under IMF agreements. Some of them were provided by the Fund through the Supplemental Reserve Facility (SRF), but in some cases additional resources were supplied by industrial country governments and other IFI's. This is not a case of overkill, but rather a reflection of the challenges posed by open capital markets and globalization. As more capital flows to emerging markets, the larger is the potential reversal or the more damaging occurrence of a "sudden stop". The number of exceptions being made in the size of IMF's programs and the uncertainty regarding the size of the

packages has added uncertainty to the markets with respect to the potential assistance of the IMF and the motives driving its differential treatment between members. Thus, for IMF programs to be more effective they will typically require to establish certainty and a larger amount of resources per agreement than in the past. This is of particular importance given that industrial countries are likely to be less willing to provide financial support in the future given political pressures, even though the financial cost to their taxpayers of past support has been nil.

Much of the recent emphasis on private sector involvement (PSI) is not only due to the recognition that public resources may be insufficient but also in order to limit the perceived moral hazard problem. As reviewed previously, the empirical evidence indicates that the moral hazard problem is not significant. Therefore, I think that the moral hazard issue has been grossly overstated

Accepting this political reality, we should keep thinking about developing mechanisms that would allow for PSI in these intermediate cases. In this sense, we should consider all those market instruments that have been proposed, such as the inclusion of options that would allow deferment of debt service, a private sector CCL, and voluntary agreements such as the roll-over of bank credit lines⁴³. However, I think that PSI in these intermediate cases should only be that which can be carried out easily by voluntary agreements or that can be included as clear ex ante conditions in bonds.

In summary, in order to adapt the current IMF programs designed to deal with intermediate crises to the new international context of larger capital flows, there is a need to:

- i) Increase the size of quotas and possibly the size of programs relative to quota. In this sense, the current revision to IMF quotas should put more emphasis on capital account determinants than in the past.⁴⁴

⁴³ So far, the type and amount of PSI that has been imposed in different programs, as in the cases of Brazil and Korea, has varied significantly across countries in a discretionary way, and it is unclear how much of it will be required in future support programs. This is probably an important source of uncertainty in international financial markets nowadays.

⁴⁴ In the current discussions to enlarge quotas, it has been argued that as countries are following better policies, the likelihood of future credibility crises is smaller. I think this is too optimistic, as the recent

- ii) The front loading of IMF disbursements. In the typical capital account crisis, the need for upfront resources is larger than in the old current account crisis. To the extent that a SDRM is in place, the reduction in conditionality associated with frontloading will be substituted by the credible threat that there will not be additional funds and that if the current programs fail, the alternative will be an orderly default.
- iii) Allow for the level of PSI that could take place through the establishment of rescheduling options and collective action clauses on bonds and loans and the establishment of contingent credit lines. The perception with the establishment of the SDRM that the IMF has an orderly “exit strategy”, could set the right incentives for countries to develop additional instruments that foster PSI.

IV.2.3 On solvency crises

How to decide if a country is experiencing a solvency crisis that warrants a partial default and a subsequent renegotiation process? The decision is an important one, as the ability of a country to service its debt may depend on the amount of public support that is provided. As I mentioned earlier, in practice it is very difficult to judge whether a country is having a balance-of-payments problem that can be solved mainly by domestic policy adjustment or is facing a solvency problem that requires a partial default. In those circumstances in which the debt sustainability criteria does not give a clear cut indication of insolvency (as it is mostly the case), countries in trouble should initially be given the benefit of the doubt because it is more costly to treat a liquidity problem as a solvency one than temporary dealing with a solvency crisis as a liquidity crisis⁴⁵. However, it still might be the case that the country carries out domestic policy adjustment and receives all the resources from an extended program and still financial flows have not stabilized. If this happens, then I think it's adequate not to provide additional resources, and the country will

events have shown that crises respond to more complex circumstances and not just to a policy stance that in many cases was considered solid by academics and policy makers.

⁴⁵ Even in a situation in which we have a working framework for debt workouts, the disruptions caused on the debtor economy by the standstill, the possibility of the imposition of capital controls and a freeze on bank deposits will be associated with important economic costs. In the opposite case the cost is mainly associated with postponing the decision for a small period of time while the country is given the opportunity to put a comprehensive program in place.

need to renegotiate the principal of its outstanding debt. For this procedure to work, it is crucial that quotas are increased and, potentially, the size of programs to quota as well. Otherwise, there is the risk of cutting the support too soon by using quotas that were appropriate for a different environment in the current context of larger capital flows.

This approach has several advantages. It is simple and transparent, as market participants will know beforehand the amount of support a country can count on. It is also a compromise between two views, those that think that most recent balance of payments crises are of a liquidity or speculative attack nature and those that think there are serious moral hazard problems or that most crises are solvency ones. For sure, the probability of crises driven by credibility problems is larger than before as is the size of the capital flows reversal, and thus it makes sense to increase the amount of support a country can receive. On the other hand, it is important to establish a clear limit after which there will be extreme PSI in the form of a partial default and renegotiation. The fact that this is a compromise between the two extreme views held by many policy makers and academics would make this option much more likely to be accepted by the international community.

If a country needs to renegotiate, this would ideally be done in an orderly and consensual fashion. However, the larger proportion of debt in the form of bonds implies that there might be several cases when it is unlikely to be so under the current international financial architecture. This problem has led to two main proposals about how to facilitate a debt renegotiation process.

The first is to include collective action clauses in bonds, a proposal emphasized recently by the US Treasury among others. This is an interesting theoretical idea but can have significant problems in practice. These have been noted by the IMF as well. The problems are the following:

- a) clauses would require separate renegotiation for each different issue of bonds;
- b) the clauses may be interpreted differently in different legal jurisdictions;
- c) the inclusion of clauses in new issues does not solve the possibility of problems in the near future, as the substitution of old debt for new debt with the clauses is likely to take time; and

- d) the existence of pari-passu clauses may imply that even if there is a minimal amount of debt without clauses these are useless, as an unsatisfied minority of the bondholders with clauses might try to legally block payments if they are not treated in the same way as the holders of bonds without clauses.

Thus, I agree with the view expressed by the IMF that, while collective action clauses may be a good complement to other approaches and the idea should continue being explored there are important problems of implementation that limit their usefulness as a robust solution to a solvency crisis.

The second proposal implies an IMF statutory approach that would work by amending the Articles of Agreement of the IMF in order to establish a procedure for debt stand-stills where a qualified majority of creditors would be sufficient to accord the debtor relief from legal action and also to determine the terms of sovereign debt restructuring. In this sense, the new conditions would be determined by a negotiation between the sovereign and its creditors, not decided by a third party.

The more recent IMF proposal represents an important improvement on the initial one, but there are still two problems⁴⁶.

- First, the IMF would still validate whether a country can use the procedure or not.
- Second, the IMF could react by withholding new financing if it is not satisfied with the final restructuring, and in particular if it perceives the new level of debt as still unsustainable.

With respect to the concern on validation, for the mechanism to diminish uncertainty in a significant way, and in order to have clear rules, it might be better to have a set of explicit conditions under which a country would have access to the process (even when access is of a voluntary nature). Thus, there is a need for a three-way dialogue

⁴⁶ The IMF initially proposed a statutory approach with enhanced Fund authority in November of last year. It implied the design of an international institution modeled on a US domestic bankruptcy court, evaluating the conditions for sustainability of a country's debt and determining a haircut. This was criticized by both country governments and the private sector as giving too much discretion and authority to the IMF. Thus, there was a revision and an alternative proposal was made in March implying a statutory approach based on majority action. Thus, in this more recent proposal, the new conditions are determined by a negotiation between the interested parties, not imposed by the IMF.

between the IMF, the sovereign, and investors about the conditions under which countries could use the procedure almost automatically, while at the same time investors don't feel they are being colluded against.

The IMF threat that it could withhold new financing from the country if it is not satisfied with the results of the renegotiation process would impose several distortions on the process, going back to the criticism made to the IMF that it would have too much power over the outcome. It could turn the negotiation into guess work about what the IMF considers to be the sustainable level of debt. In an extreme case, it would be deciding the outcome of the negotiation as the country has incentives to get at least the haircut deemed necessary by the IMF, and private bond-holders may have incentives to give only the haircut needed for the IMF to continue providing resources.

A more appropriate scheme that provides the three parties with the proper incentives is that the IMF would supply a certain amount of financing at a minimum haircut, but then is willing to provide more resources as the haircut becomes larger. In this way, private investors may be willing to provide larger haircuts if the probability that their debt is repaid increases significantly. It also gives important incentives for the private creditors and the sovereign to have a constructive dialogue, so private creditors would be less likely to threaten the country with going back to domestic courts. As the IMF is forced to give more resources the larger the haircut, it does not have incentives to look for a haircut much larger than what is deemed to be strictly necessary.

It is also important to recognize that when (or even before) this mechanism would be activated, a run on the country's remaining assets (domestic bonds, banking system deposits, etc) would develop. To stop this, the use of capital controls has been suggested. Recent history in emerging markets shows that the use of these types of instruments is hardly effective, as agents find many ways to bypass them, and the economy ends up with significant economic distortions that in the medium run are not successful in avoiding capital outflows. In many instances, the imposition of capital controls is viewed as a way to avoid the inevitable correction of the price of the country's assets and therefore it is a signal of an eventual weakening of bank's balance sheets. This has in many occasions been the

trigger for systemic bank runs and therefore, capital controls may have to be complemented with a freeze on banking system deposits.

A generalized use of collective action clauses and the statutory approach proposed by the IMF could complement each other as the first mechanism strengthens a framework in which creditor and debtors can reach an agreement on their own without entering into the statutory approach. However, if this fails there is a predictable framework to rely on. In addition, a more generalized use of collective action clauses could also help in liquidity crises when what is needed is only to renegotiate the maturity of obligations.

V. Final Remarks

The current discussions about the reform of the international financial system have been strongly influenced by the proposition that moral hazard was being created by the international assistance packages put together to handle the financial crises in the second half of the 1990's. Until today this hypothesis has no clear empirical backing. In addition, as has been recently pointed out by Stanley Fischer, it is surprising to discover that after all the talk about moral hazard, the amount lent by the IMF in the period 1994-2000 was slightly smaller, relative to the global economy, than the loans it gave during the Latin debt crisis of 1981-1988.

However, once we accept that the current political circumstances in developed countries do not favor the type of programs followed in the second half of the 1990's, the current proposals for reform are moving us in the right direction. As I said in my presentation, the current discussion is shaping a new international financial architecture that will address emerging market crises depending on which of the three following categories each crisis falls into:

- i) Pure liquidity crises that would be handled with the CCL.
- ii) Solvency crises that would need, in addition to a typical IMF program, the restructuring of sovereign debt.
- iii) And the more typical BOP and financial crises in a solvent country. In these cases, the crises are frequently accompanied by a run on the countries assets. Let me say that most emerging markets crises will fall in this last category,

and in these cases we don't have anything better than the typical IMF adjustment programs with significant resources upfront and some PSI to renegotiate maturities.

One very important point is that the new schemes for sovereign debt renegotiation depend on an evaluation of a country's sustainable level of debt. There is a considerable amount of uncertainty in the calculation of this level, so there is a large risk that countries with liquidity problems are deemed as having a solvency crisis. In addition, whether a country is in one or the other situation is partly dependent on actions by the IFI's, as a liquidity crisis can turn into one of solvency in the absence of temporary support. In addition, given the fact that the distinction between liquidity and solvency crises is a difficult one to make, and the uncertainty associated with it implies that a value judgment is needed on whether countries should be given the benefit of the doubt in those cases where there is no certainty about the nature of a crisis. Whereas in the mid 90's most crises were considered to be liquidity crises, nowadays it seems that the opinion of many policy makers is biased towards solvency concerns. I think that the welfare costs are much larger if liquidity problems are treated as a solvency one, compared with temporarily treating a solvency problem as a liquidity crisis. Unfortunately, it seems the prevailing view is more biased towards the second approach.

Another element that is crucial in determining the depth and duration of a crisis, and to a large degree whether we regard it in the end as due to a liquidity or solvency problem, is the response of the domestic authorities. In those cases when policies were adjusted substantially and in a timely fashion, there was a quick recovery of economic activity, confidence and access to international financial markets. In fact, the self-fulfilling and confidence components of the capital account crises imply that there needs to be an over-adjustment of policies compared with what would be required to solve a more traditional current account crisis. However, as fast as they can be, the development of a comprehensive adjustment package and its implementation are much slower than capital flows. Thus, official support during this period is essential to give authorities the breathing space that is necessary to carry out these actions.

The previous arguments imply that there is a very large middle ground where a country would not qualify to obtain a CCL, and yet ex post it is clear that its problems were not of solvency given official support.

To make the CCL operational and to avoid the risk of sending too many countries to Mrs. Krueger restructuring mechanism we need to strengthen the way we deal with these liquidity and middle ground crises on several dimensions:

- i) Make the CCL a less risk adverse instrument on the part of the IMF by lengthening its maturity and broadening its scope beyond financial “contagion”.
- ii) Increase the IMF’s quotas, the predetermined size of Fund programs and make less frequent use of exceptions.
- iii) Both of these mechanisms should be complemented with funds provided by the private sector through refinancing options in bonds and loans and the inclusion of collective action clauses. Only after (ii) fails call Mrs. Krueger and her SDRM.

However, I would like to stress that recently in the discussions on the reform of the international financial architecture too much emphasis has been given to the design of the SDRM. Although, this is understandable in light of the features of the Argentinean crisis, it has also distracted the attention from the changes needed to address more common crises in a more efficient way. A similar problem happened after the East Asian and Russian crises, when we focused too much on the issue of contagion of solvent economies. As a result of that process we ended up with a CCL that has no willing participants.

Therefore, in parallel to the work that is being undertaken to develop the SDRM, we should also be directing our efforts to the development of more efficient mechanisms to deal with financial crisis in countries that are neither insolvent no sufficiently strong to have access to the CCL, and to deal with the reasons why countries that complied with the preconditions established for access to the CCL nevertheless decided not to apply.

However, the SDRM will have an important influence on how these intermediate cases are handled given that it will provide credibility to the IMF commitment to a limited amount of support, given that now there will be a framework to deal with sovereign

insolvency. Due to this the availability of this tool, incentives will be there for the development of market instruments that promote PSI.

We have to be aware that the current situation in international financial markets is a particularly dangerous one, as we have weakened important pieces of the old architecture, while the new elements are only in their design stage. The volatility that the Brazilian economy is going through is, in addition to the domestic economic and political vulnerabilities, a reflection of this uncertain environment faced by emerging economies. The most striking illustration of this, is that during the Argentinean crisis, country risk went beyond the 1700bp mark, more than 6 months after the start of the crisis.⁴⁷ Now, Brazil in barely two months went from a country risk of 720 bp to one of 1730 bp the 21 of June. This extreme uncertainty has many sources and I will only highlight those that I think are the most important ones:

- The current bias towards debt renegotiation perceived by market participants following the events in Argentina, has increased risk aversion.
- The increased risk perceptions that the current difficult geopolitical situation entails.
- The volatility in developed markets associated with corporate governance scandals.
- The strong recovery that took place in many emerging economies after their crises of the second half of the 90's was supported by a very dynamic world economy. Today, the business cycle in most developed countries is in the initial stages of its recovery phase and confronting many question marks, and
- Finally, there has been a conflicting message from G-7 countries on globalization, as this trend is promoted for emerging markets at the same time that protectionist policies are followed by them.⁴⁸

Due to the significant externalities that international financial markets suffer from this extreme volatility in emerging markets, there is an important leadership role for the IFI and the G-7 governments to play, to make the transition towards the new architecture a

⁴⁷ We mark the start of the crisis on the date of resignation of Minister Lopez Murphy, when the EMBI stood around 900bp.

⁴⁸ Well-known examples are the recent increase in steel quotas and the approval of agricultural subsidies in the USA and the continuing policy of support to farmers in the European Union.

smooth one. If we fail in this attempt, we run the risk of shutting emerging markets off international financial markets and generating a political backlash in developing countries against trade and financial integration. In this scenario, even if the new architecture is an improvement, it would have arrived too late, as emerging economies and investors' interest in intermediating savings from developed towards developing countries would have greatly diminished.

References

Beddington, Francis. (2002), "Reform of International Financial Architecture Back on the Agenda," JPMorgan, Emerging Markets Research, Emerging Markets Today, March.

Boorman, Jack; Lane, Timothy; Schulze-Ghattas, Marianne; Bulir, Ales; Ghosh, Atish R; Hamann, Javier; Mourmouras, Alexandros; Phillips, Steven. (2000), "Manging Financial Crises: The Experience in East Asia," International Monetary Fund, Working Paper 00/107, June.

Calvo, Guillermo and Carmen Reinhart (2000), "When Capital Flows come to Sudden Stops: Consequences and Policy," in Peter Kenen and Alexander Swoboda, eds., Washington DC, International Monetary Fund.

Cline, William R. (2000), "The Role of the Private Sector in Resolving Financial Crises in Emerging Markets," Institute of International Finance, Paper for the NBER Conference on Economic and Financial Crises in Emerging Market Economies, October.

Corsetti, Giancarlo; Pesenti, Paolo; Roubini, Nouriel. (1998), "What Caused the Asian Currency and Financial Crisis?," Federal Reserve Bank of New York, January.

Detragiache, Enrica; Spilimbergo, Antonio. (2001), "Crises and Liquidity: Evidence and Interpretation," International Monetary Fund, Working Paper 01/2, January.

Diamond, Douglas W.; Dybvig, Philip H. (1983), "Bank Runs, Deposit Insurance and Liquidity," Journal of Political Economy, Volume 91, Issue 3, June.

Dornbusch, R.; Werner A. (1994), "Mexico: Stabilization, Reform and No Growth". Brookings Papers on Economic Activity, 1: 1994.

Edwards, Sebastian. (2000), "Contagion," Revised Version of the 1999 World Economy Lecture Delivered at the University of Nottingham on October 28th, 1999, February.

Eichengreen, Barry. (2001), "Crisis Prevention and Management: Any New Lessons from Argentina and Turkey?," World Bank, Global Development Finance 2002, October.

Eichengreen, Barry. (2002), "Crisis Resolution: Why We Need a Krueger-Like Process to Obtain a Taylor-Like Result," University of California Berkeley, Paper for the Institute for International Economics Conference on "Sovereign Debt Workouts: Hopes and Hazards", April.

Eichengreen, Barry; Pardee, Helen N. (2001), "An End to Argentina's Misery," University of California, Berkeley, December.

Feldstein, Martin. (2002), "Economic and Financial Crises in Emerging Market Economies: Overview of Prevention and Management," National Bureau of Economic Research, Working Paper 8837, March.

Fischer, Stanley. (2000), "Strengthening Crisis Prevention: The Role of Contingent Credit Lines," International Monetary Fund, Paper for the 75th Anniversary Conference of the Banco de Mexico, November.

Fischer, Stanley. (2001), "The International Financial System: Crises and Reform," International Monetary Fund, Lectures prepared for delivery at the London School of Economics, October.

Forbes, Kristin and Roberto Rigobon, "Measuring Contagion: Conceptual and Empirical Issues," in Stijn Claessens and Kristin Forbes, eds., *International Financial Contagion*, Kluwer, 2001.

Fraga, Arminio; Gleizer, Daniel L. (2001), "Constrained Discretion and Collective Action Problems: Reflections on the Resolution of International Financial Crises," Central Bank of Brazil, November.

Ghosh, Atish; Lane, Timothy; Schulze-Ghattas, Marianne; Bulir, Ales; Hamann, Javier; Mourmouras, Alex. (2002), "IMF-Supported Programs in Capital Account Crises," International Monetary Fund, Occasional Paper 210.

Goldstein, Morris. (2000), "IMF Structural Programs," Institute for International Economics, Paper for the NBER Conference on "Economic and Financial Crises in Emerging Market Economies," October.

Goodhart, Charles; Illing, Gerhard. (2002), "Financial Crises, Contagion and the Lender of Last Resort," Oxford University Press.

Haldane, Andy; Krueger, Mark. (2001), "The Resolution of International Financial Crises: Private Finance and Public Funds," Bank of Canada, Working Paper 2001-20, November.

International Monetary Fund, External Relations Department. (2002) Statement of the Monetary and International Finance Committee of the International Monetary Fund Board of Governors, International Monetary Fund, April.

Kamin, Steven B. (2001), "Identifying the Role of Moral Hazard in International Financial Markets," Federal Reserve Board, December.

Kenen, Peter B. (2000), "Financial Sector Reform in Emerging-Market Countries: Getting the Incentives Right," Princeton University, Remarks Prepared for the Panel Discussion on Strengthening the Resilience of Global Financial Markets Sponsored by the Per Jacobsson Foundation, June.

Kenen, Peter B. (2000), "Introduction to the Round Table on a Comparative Analysis of Central Banks in the World," Princeton University, Independence and Accountability Developments in the Business of Central Banking, Bicentennial Symposium of the Banque de France, May.

Kenen, Peter B. (2002), "New Strategies for Dealing with Debt Crises in Emerging Market Countries," Department of Economics Princeton University, June.

Kenen, Peter B. (2002), "The International Financial Architecture Old Issues and New Initiatives," Department of Economics Princeton University, March.

Krueger, Anne. (2001), Statement by IMF First Deputy Managing Director, Anne O. Krueger on "International Financial Architecture for 2002: a new approach to sovereign debt restructuring," International Monetary Fund, Conference at the National Economists' Club Annual Members' Dinner, American Enterprise Institute, November.

Krueger, Anne. (2002), "A New Approach to Sovereign Debt Restructuring," International Monetary Fund, April.

Krueger, Anne. (2002), Statement by IMF First Deputy Managing Director, Anne O. Krueger on "New Approach to Sovereign Debt Restructuring: An Update on Our Thinking," International Monetary Fund, Conference for the Institute for International Economics Conference on "Sovereign Debt Workouts: Hopes and Hazards", April.

Krueger, Anne. (2002), Statement by IMF First Deputy Managing Director, Anne O. Krueger on "Sovereign Debt Restructuring and Dispute Resolution," International Monetary Fund, Bretton Woods Committee Annual Meeting, June.

Krueger, Anne. (2002), Statement by IMF First Deputy Managing Director, Anne O. Krueger on "Sovereign Debt Restructuring Mechanisms," International Monetary Fund, Executive Board Seminar, March.

Krugman, Paul. (1999), "Balance Sheets, The Transfer Problem, and Financial Crises," Paper for the Festschrift Volume in Honor of Robert Flood, January.

Lane, Timothy; Phillips, Steven. (2000), "Does IMF Financing Result in Moral Hazard?," International Monetary Fund, Working Paper 00/168, October.

Lewis, M. K.; Davis K. T. (1987), "Domestic and International Banking," MIT Press.

Mussa, Michael. (2002), "Argentina and the Fund: From Triumph to Tragedy," Institute of International Economics, March.

Ortiz Martínez, Guillermo (2000), "How Should Monetary Policy makers Respond to the New Challenges of Global Economic Integration," in Federal Reserve Bank of Kansas City, *Global Economic Integration: Opportunities and Challenges*

Ortiz Martínez, Guillermo (2002), "Comment," in Martin Feldstein, ed., *Economic and Financial Crises in Emerging Market Economies*, Chicago: University of Chicago press (forthcoming)

Perry, Guillermo; Servén, Luis. (2002), "The Anatomy of a Multiple Crisis: Why Was Argentina Special and What Can We Learn from It?," World Bank, May.

Porzecanski, Arturo. (2002), "A Critique of Sovereign Bankruptcy Initiatives," ABN AMRO.

Radelet, Steven; Sachs, Jeffrey. (1998), "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects," Harvard Institute for International Development, April.

Rogoff, Kenneth; Zettelmeyer, Jeromin. (2002), "Early Ideas on Sovereign Bankruptcy Reorganization: A Survey," International Monetary Fund, Working Paper 02/57, March.

Roubini, Nouriel. (2002), "Do We Need a New International Bankruptcy Regime?: Comments on Bulow, Sachs and White," Stern School of Business New York University, NBER and CEPR, April.

Sachs, Jeffrey. (1998), "Creditor Panics: Causes and Remedies," Harvard University, Note Prepared for the Cato Conference on Money in the New Millennium, October.

Sachs, Jeffrey. (2002), "Resolving the Debt Crisis of Low Income Countries," Harvard University, Prepared for the Brookings Panel on Economic Activity, "Symposium: A Bankruptcy Court for Sovereign Debt," March.

Sachs, Jeffrey; Radelet, Steven. (1998), "The Onset of the East Asian Financial Crisis," Harvard Institute for International Development, March.

Sachs, Jeffrey; Tornell, Aaron; Velasco, Andrés. (1995), "Lessons from Mexico," National Bureau of Economic Research, March.

Sachs, Jeffrey; Tornell, Aaron; Velasco, Andrés. (1995), "The Collapse of the Mexican Peso: What Have We Learned?," National Bureau of Economic Research, Working Paper 5124, June.

Sachs, Jeffrey; Tornell, Aaron; Velasco, Andrés. (1996), "Financial Crises in Emerging Markets: The Lessons from 1995," National Bureau of Economic Research, Working Paper 5576, May.

Sachs, Jeffrey; Tornell, Aaron; Velasco, Andrés. (1996), "The Mexican Peso Crisis: Sudden Death or Death Foretold?," National Bureau of Economic Research, Working Paper 5563, May.

SDRM Executive Board. (2002), "A Sovereign Debt Restructuring Mechanism: Further Reflections and Future Work," FO/DIS, February.

Taylor, John B. (2002), Statement by John B. Taylor on "Sovereign Debt Restructuring: A U.S. Perspective," The Department of The Treasury, Conference for the Institute for International Economics Conference on "Sovereign Debt Workouts: Hopes and Hazards", April.

Tirole, J. (2002), "Financial Crises, Liquidity Provision and the International Monetary System," Princeton University Press (forthcoming).

White, Michelle J. (2002), "Sovereigns in Distress: Do They Need Bankruptcy?," University of California San Diego, Paper for the Brookings Panel on Economic Activity, April.

Appendix 1. Selected macroeconomic indicators in crisis countries, in percent.

	t-2	t-1	t	t+1	t+2
Argentina (1995)					
Real Growth	6.3	5.8	-2.8	5.5	8.1
Current Account Balance	-3.4	-4.3	-1.9	-2.4	-4.1
Government Balance	-0.2	-1.8	-2.3	-3.2	-2.1
Public Debt	29.2	31.1	35.9	37.4	36.2
Argentina (2001)					
Real Growth	-3.4	-0.5			
Current Account Balance	-4.4	-3.3			
Government Balance	-4.1	-3.5			
Public Debt	47.4	50.8			
Brazil (1998)					
Real Growth	2.7	3.3	0.2	0.8	4.2
Current Account Balance	-3.0	-3.8	-4.3	-4.7	-4.2
Government Balance	-5.9	-6.1	-7.9	-10.0	-4.6
Public Debt	33.3	34.6	42.4	47.0	49.2
Philippines (1998)					
Real Growth	5.8	5.2	-0.6	3.3	3.9
Current Account Balance	-4.8	-5.3	2.4	10.0	12.4
Government Balance	-0.4	-0.8	-2.7	-4.3	-4.7
Public Debt	53.2	55.7	66.2	59.1	
Indonesia (1997)					
Real Growth	8.2	8.0	4.5	-13.1	0.8
Current Account Balance	-3.3	-3.2	-1.7	4.2	4.1
Government Balance	0.8	1.2	-1.1	-2.3	-1.5
Public Debt	30.8	23.9	72.5	53.3	44.4
Korea (1997)					
Real Growth	8.9	6.8	5.0	-6.7	10.9
Current Account Balance	-1.7	-4.4	-1.7	12.7	6.0
Government Balance	1.3	1.0	-0.9	-3.8	-2.7
Public Debt	8.4	8.0	10.4		
Malaysia (1997)					
Real Growth	9.8	10.0	7.3	-7.4	5.8
Current Account Balance	-9.7	-4.4	-5.9	13.1	15.9
Government Balance	2.2	2.3	4.1	-0.4	-3.7
Public Debt	41.1	35.3			
Mexico (1995)					
Real Growth	2.0	4.4	-6.2	5.2	6.8
Current Account Balance	-5.8	-7.0	-0.6	-0.7	-1.9
Government Balance	0.7	-0.2	-0.2	0.3	-1.0
Public Debt	25.3	35.3	40.8	31.1	25.8
Russia (1998)					
Real Growth	-3.4	0.9	-4.9	3.2	7.5
Current Account Balance	0.9	-0.1	-0.6	12.4	18.4
Government Balance	-8.9	-7.5	-7.0	-0.2	-4.5
Public Debt	32.3	31.0	54.8	79.9	65.6
Thailand (1997)					
Real Growth	9.3	5.9	-1.4	-10.8	4.2
Current Account Balance	-7.8	-7.9	-2.1	12.8	10.2
Government Balance	3.0	2.5	-0.9	-2.6	-2.9
Public Debt	4.6	3.7	4.6	10.8	20.4
Turkey (2001)					
Real Growth	-6.1	6.3	-9.4	3.0	
Current Account Balance	-0.7	-4.9	2.3	-1.2	
Government Balance	-12.4	-6.9	-1.2	-3.5	
Public Debt	61.0	57.4	93.3	77.2	

Source: A. Ghosh et al, op.cit.; International Financial Statistics, various years.