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IMF Policies for Financial Crises Prevention in Emerging Markets

Fernando Lorenzo and Nelson Noya

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PREFACE

The *G-24 Discussion Paper Series* is a collection of research papers prepared under the UNCTAD Project of Technical Support to the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development (G-24). The G-24 was established in 1971 with a view to increasing the analytical capacity and the negotiating strength of the developing countries in discussions and negotiations in the international financial institutions. The G-24 is the only formal developing-country grouping within the IMF and the World Bank. Its meetings are open to all developing countries.

The G-24 Project, which is administered by UNCTAD's Division on Globalization and Development Strategies, aims at enhancing the understanding of policy makers in developing countries of the complex issues in the international monetary and financial system, and at raising awareness outside developing countries of the need to introduce a development dimension into the discussion of international financial and institutional reform.

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IMF POLICIES FOR FINANCIAL CRISES PREVENTION IN EMERGING MARKETS

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Abstract

In emerging markets, policies for preventing and managing financial crises should be understood following the standard open economy macroeconomics text treatment. This, however, will prevent us from fully comprehending how to deal with these crises. To deal with financial crises in emerging markets, this paper brings about more promising theoretical tools borrowed from the interdisciplinary field of optimal policy design. It also considers the possibility that more than one market failure may occur simultaneously. The theoretical tools discussed here should serve to improve existing prevention and management policies. Admittedly, the interdisciplinary field of optimal policy design is comparatively young, thus offering scarce empirical support for disentangling competing models. Given this inability to decide upon the best possible model, we should consider at least two constraints that policy makers will deal with in the real world of financial crises. First, given that policy makers make crucial choices between parsimonious and innovative measures, this paper recommends parsimony because of the uncertainty about the true model. Second, high political implementation costs will always be present, and these are positively correlated with supranational institutional requirements. Considering issues of both parsimony and political constraints, we argue that any attempt to internationally harmonize rules and codes must be done with caution. With this framework in mind, we review some of the recent proposals about emerging markets crisis prevention. From the point of view of emerging countries and creditor countries taken as a whole, and benevolent IFIs, we conclude that promoting GDP indexed sovereign bonds is the best available proposal for crises prevention. In this paper, we leave aside the debate of the political economy or governance reform issues of the IFIs.

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IMF POLICIES FOR FINANCIAL CRISES PREVENTION IN EMERGING MARKETS

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This essay reviews key items in the current debate about the new international financial architecture. Specifically, it examines the policies for crisis prevention in emerging markets (EM), analysing them from the point of view of an international financial institution like the International Monetary Fund (IMF).

During an evolving EM financial crisis, it is often said that the crisis would not have occurred if the respective government had pursued fiscal and monetary policies consistent with exchange rate commitments. Also, it is argued that the government's expansive behaviour should not be validated by giving more access to external credit, particularly that from the IFIs or developed countries' Treasuries. For the illustrated macroeconomist leading with EM issues, these answers belong to the now labelled "first generation" EM financial crisis theory (Krugman, 1979). Nowadays it is accepted that this

theory does not account for most cases of financial crises.

This perspective presents important diagnostic mistakes because EM financial crises are actually examined with a toolkit relevant for understanding modern developed countries. These countries have liquid and deep capital markets, nearly full enforcement of rule of law, credible central banks and politically strong legitimate governments. By contrast, EM economies rarely present all these features.

A standard open economy macroeconomic analysis of policy response suggests that macroeconomic policies can absorb external shocks. The optimal mix depends upon the nature of the shock, whether it is real or nominal, and transitory or permanent. If it is permanent, then macroeconomic policies need adjustment. Alternatively, if it is tran-

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sitory, private agents trading in well functioning capital markets will have enough instruments to smooth the shock.

In EM countries, we argue, the institutions supporting the “invisible hand” of financial markets are incomplete. Further, institutions frequently interact in a perverse manner with extreme real shocks. Additionally, on average, the frequency and magnitude of the exogenous shocks that EM countries face are higher than those in developed countries. The most obvious mechanism explaining these shocks relates to the EM countries’ trade specialization in natural resources, intensive goods and their less diversified productive structure. A higher share of a few commodities in the international trade specialization pattern means a higher exposure to the inherently higher volatility of commodity prices. Admittedly, unsustainable macroeconomic policies are frequently found in EM, representing an additional cause of macroeconomic imbalances and crises.

Higher trade volatility demands more hedging instruments to move towards a more efficient risk management. If domestic or international markets do not provide this basic insurance function to domestic private agents, governments become the sole provider. Considering the difficult task of distinguishing between transitory and permanent changes in commodity prices, it would be easy to predict that this kind of “insurance business” will be subject to higher risk. As a result, in EM countries, a sort of “actuarial unfair calculus” frequently explains the political support for their unsustainable macroeconomic policies.

The paper is organized as follows. In section 1, we seek to highlight the abstract nature of the policy problem of crises prevention in EM countries. In doing so, we will assess the value of alternative proposals for different policies that either the IMF or other institutions could eventually implement. Sections 2 and 3 present recent proposals for enhancing crises prevention instruments. Specifically, section 2 makes the case for a general international harmonization of good practices and standards, by discussing macroeconomic policies issues. Section 3 addresses the IMF’s Credit Contingency Lines, trying to explain why it failed. Section 4 considers new solutions for better preventing EM’s financial crises. In particular, we examine the feasibility of replicating the Chiang Mai Initiative in other regions. Also, we strongly suggest the need to develop a market for

GPD indexed bonds, where the IFIs can play a significant role. Finally, we conclude in section 5.

1. The nature of the problem

1.1 *Grounding the debate in solid theory*

In the last three decades, financial crises (either currency crises, banking crisis, or simultaneous crises also called twin crisis) increased, becoming a well-known feature of the global economy. These crises are all the more dramatic for developing and transition countries, either middle-income countries (like some Latin American and former socialist economies) or fast growing countries (like some Southeast Asian economies). In all likelihood, the link between these problems of EM and the increasing international and domestic financial liberalization is at the core of the numerous crises. Consequently, understanding the international capital markets for EM economies is the key for finding solutions to these problems. Despite this basic agreement, the field intersected by international macroeconomics, financial economics, institutional design, and developing studies, does not offer a consensual diagnostic or solution. In the meantime, policy makers either belonging to EM’s national governments or the International Financial Institutions (IFIs), make crucial decisions daily in the midst of turbulent episodes.

Naturally, the practical consequences of EM crises should induce a change in the role of the IFIs as the only institutional framework for providing supranational support. Within increasingly integrated international markets, the IFIs are the only political mechanism available at the international arena to perform the analogous role of the State in building rules and institutions for mitigating domestic market failures. Such a role is not devoid of problems. In fact, the IMF’s current practice is based on the standard macroeconomic theory available at the time of its founding. Simply, Bretton Woods institutions (including the IMF) were designed for a world characterized by pegged albeit adjustable exchange rates and without significant private international capital movements.

A popular sport played by cutting-edge academic open macroeconomist was to criticize the IMF’s practices – even among those far from

supporting the leftist complains against the IMF's conditionality social consequences. Whereas some progress has been made, it has been at a low pace compared to the new risks that international capital markets pose for both EM countries and the global economy.

The game the IMF plays evolves. In the 1960s and 1970s, the IMF dealt with apparently populist Latin American governments pursuing unsustainable fiscal or monetary policies, eventually defaulting against Paris Club members or some syndication of private international banks. Between 1997 and 1998, the game changed. The IMF had to deal with East Asian miracle economies, then presented as the examples to be emulated worldwide and suddenly convicted to indict of crony capitalism. During the Mexican and Asian crises, the IMF and other IFIs made huge bail-outs with partial United States Treasury funding, covering speculative short-term capital losses. Clearly, the nature of the EM financial crises posed a major systemic risk.

A promising intellectual avenue to provide improved policy suggestions is to put the new international financial architecture debate in the framework of modern microeconomic neoclassic policy design. In doing so, we follow Tirole (2002). We hope this approach could be instructive despite our doubts about extending the neoclassical paradigm to accounting for financial and institutional matters. Still, we believe that this intellectual manoeuvre could possibly build a bridge between different proposals, and minimize differences that do not arise from preferences in the basic trade-offs between abstract goals such as equity and efficiency.

1.2 Theories of financial crises in emerging countries

Broadly speaking, there are two families of theories explaining EM crises, with different policy implications. These theories have a parallel tradition in the domestic financial crises. Once a "first round" of policies is set up, they introduce new distortions in incentives, demanding new policy reformulations.

The first group of theories is known as the "fundamental view" or insolvency hypothesis. Simply stated, an EM country faces a financial crisis be-

cause of its government's unsustainable macroeconomic policies. In turn, these unsustainable policies respond to political pressures against economic adjustment and/or negative external shocks. In other terms, there is something wrong with the economic "fundamentals", thus leading to the crisis. While the recommendations for dealing with this crisis largely vary with particular circumstances, they tend to agree on the need to implement policies that should restore long-run equilibrium.

The second group of theories is the "panic view", also known as the negative liquidity shocks or multiple equilibria hypothesis. The argument is the following. Something unexpected changes radically the confidence in the value of some asset value or financial institution. Then, the interlinked chain of credits and debts combined with asymmetrical information and herd behaviour spread the distrust among the assets and financial institutions. If the banking system is the subject of speculative attacks, even sound institutions will suffer a depositors' run. A depositors run is a self-fulfilling prophecy in this context. Contagion then naturally occurs. In the midst of the panic it becomes nearly impossible to separate good assets from bad assets, since the flight to liquidity leads to a general fire-sale. Three broad policy responses providing some kind of insurance policy are available to domestic economies: (i) lender of last resort (LOLR) as a liquidity insurance scheme, (ii) deposit insurance, and (iii) financial regulation.

As any insurance, policies for management liquidity risks change incentives to the insured and often to third agents, possibly producing moral hazard behaviour. For mitigating moral hazard, then further measures are needed. The classical insurer reacts to counterveil moral hazard, which in turn depends on the degree of the insured actions' extent of observability. The more unobservable the insured actions become, the more the insurer will rely on coinsurance such as co-payments, deductibles, randomization of indemnity, etc. When the insured's actions become costly to observe, according to the degree of enforcement of rules, the insurer introduces restrictions on the behaviour of the insured such as prohibitions, obligations, and the like. Prudential banking regulations often introduce moral hazard countervailing measures, at least within the context of LOLR or deposit insurance schemes.

The fundamental hypothesis for EM financial crises can be extended beyond macroeconomic

policy failures and should serve to account for the moral hazard effects associated with insurance policies.

In the real world, both theories at least partially explain some facts, because crises are driven by some elements of the fundamentals and panic theories respectively. Yet, policy makers should disentangle which of them dominates in their circumstances.

Financial crises have existed for centuries in the domestic economies. To deal with them, central bankers and economists have developed certain tools. It is useful to review these tools in order to draw lesson for international capital market crises.

1.3 Market failures in international capital market and the IMF lending. Agency problems in international debt and the IMF role in case of arrears

From the perspective of the analogy of domestic financial crises in national economies and the EM financial crises, it is natural to borrow theory and practice frameworks from the analogy between IFIs and national states from one side, and domestic market players and sovereign debtors, and international private capital market players from the other side. The IMF's role should be assimilated to that of a primitive government with strong resource constraints and lacking enforcement capacity. One can analyse the debate on the IMF's role as if the IMF played the role of judiciary and legal infrastructure for private bankruptcy or as it were a lender of last resort (LOLR) for the financial system, with the corresponding prudential regulation system (other domestic schemes, like deposit insurance policies considered part of the same insurance mechanisms against liquidity risks at the disposal for an supra-national entity).

It is common knowledge in both cases, an international judiciary court for sovereign bankruptcies or international LOLR, that the specific policy design faces a classic temporal inconsistency problem. In fact, some action paths are optimal before the event, but in almost all cases incentives change dramatically when the event occurs. This often requires radical departures from initial plans. That means a crucial balance between crisis prevention measures and crisis management measures. This time incon-

sistency arises from the presence of moral hazard in the structure of incentives of debtor and creditors.

Tirole (2002) summarizes what he thinks is consensual about EM crises prevention and management into what he calls "seven pillars". These pillars are: (i) currency mismatches where banks and firms borrow in foreign currency should be eliminated; (ii) maturity mismatches between short term foreign debts and long-term domestic bank lending should be eliminated; (iii) better institutional infrastructure, like adoption of IOSCO recommended regulations and IASC accounting standards, should be encouraged; (iv) prudential supervision of banks should have a better enforcement; (v) country-level transparency about guaranteed debt and off-balance-sheet liabilities should be increased; (vi) some degree of bail-in of private foreign creditors is desirable after crises; and (vii) pegged exchange rates should be avoided, specially soft pegs.

In summarizing the disagreements, Tirole suggests the "topsy-turvy" principle, i.e., a trade-off between ex-ante (pre crisis) incentives and ex-post efficiency (best crisis resolution). At the risk of oversimplifying, he divides the disagreements between those who stress ex-ante incentives (hawks) and those who stress efficient resolution measures (doves). As an example, Doves' opinions favour higher IMF liquidity provision, moving it in direction to a LOLR meanwhile hawks fluctuate between opposing an IMF with LOLR functions and highly restricting these functions. The heavy empirical and theoretical debate of the convenience of short-term capital controls can be understood from the point of view of the conflict between ex-ante and ex-post incentives. Taxing short-term foreign investors reduces ex-post the probability of a crisis and ex-ante increases the cost of foreign funds. In the same vein, doves favour mechanisms that facilitate renegotiation and orderly workouts for sovereign debts under distress, like common action clauses (CACs), creditor committees, and IMF proactive crises management policies. Meanwhile, hawks worries about the effect of easier renegotiation procedures in raising sovereign default risks.

Tirole considers two kinds of problems accounting for markets failures in the EM crises: dual-agency problems and common-agency problems. First, dual agency arises in private sector borrowing from international capital markets because of the presence of government. This "third player" shares some interest with domestic borrowers and its actions can

potentially influence the flow of funds between them and international creditors. Such an influence occurs by introducing capital controls or taxes, pursuing macroeconomic policies, particularly exchange rate policies, etc.

Second, common-agency problems arise because there are several lenders to a single borrower (a domestic private agent or the government) where each lender faces an externality coming from other lenders' actions not countervailed by similar contract clauses commonly used in the domestic corporate financial domain. A classical example of this externality is the presumption that foreign short term investors free ride foreign long term investors as the formers have the option to rebuild their position against the sovereign at a shorter horizon. For Tirole, the best institutional response for both market failures is that some institution like the IMF, capable to contract with government, acts as delegated monitoring on behalf of foreign creditors in case of arrears.

We do not intend to formally reply to Tirole's arguments. Nonetheless, there are at least three lines of possible criticism against his proposals.

First, we argue that in many cases the IMF acts as a creditor delegate. Due to the formal powers and the effective governance mechanisms of the IMF, G-7 members (and often "G-1") are in true command of the institution.¹ For anyone who has closely monitored the recent Argentina sovereign debt rescheduling, hearing that the IMF must be more active in the representation of creditor interests would sound untenable. The IMF contradicts its own official recommendation of bail-in the creditors, when calling on the Argentinean Government for a better treatment of the holdout bondholders.

Second, in line with Allen's (2004) review of Tirole, his hypothesis should explain non-EM financial crises, like the Scandinavian banking crisis of the 1990s. More interestingly than trying to see how the Tirole's hypothesis works in the contemporary world it is to see how well the hypothesis fits the 18th and 19th century banking crises. In early industrialized countries, bankruptcy codes were present and fully enforced, but they did not impede financial crises. After the adoption of the well-known Bagehot "Lombard Street" doctrine of the 1860s, with the central bank playing the role of LOLR, banking crises were less severe. Bordo et al. (2001)

analysed the pre-1930s crises. In the same direction, the Latin American debt crises of the early 1980s initiated with the Mexican sovereign default of 1982 have some signs of contagion, even when capital inflows were mainly canalized via syndicated bank loans. As syndicated international banks are supposed to be better equipped to deal with common agency issues than bondholders, one should expect a more efficient aftermath in this crisis.

Third, Tirole quickly discards the general validity of the "panic view" theory, arguing that there is enough liquidity available at the international level. Additionally, he argues that there are institutional instruments and resources at the disposal of the IFIs and G-7 countries to act in the midst of a currency attack against an EM country. Empirical studies show that we cannot refute the panic view theory. Besides, the mere existence of some kind of liquidity insurance at the international level may indeed merit relevance in inducing other distortions or at least, its efficiency in dealing with EM crises.

Fourth, our main argument is that the incomplete contract environment of international capital markets is an important source of market failures behind EM financial crises. Given such incompleteness, we should not be surprised that alternative policy designers focus on enforcement issues. It is well-known that the role of judiciary is one the best institutional frameworks for solution of incomplete contracts in the domestic domain. It is obvious, at least *a priori*, that there are other even more "market-friendly" ways of moving towards an efficient solution, particularly for stimulating some kind of insurance contracts (we will return to this in section 4).²

1.4 Is moral hazard overestimated in IMF lending?

The IMF and the LOLR differ in nature and scope. We should consider the IMF as a credit union (Kenen, 1986), with substantial different shares in capital as well as with asymmetrical power distribution. As the IMF lends to members with liquidity needs, there is a proximity to a LOLR role, in so far as the IMF facilities are at the disposal against liquidity shocks.

The IMF lending, however, is not only implemented in the face of liquidity shocks. It also goes

to countries where “fundamentals” are wrong, this is, countries with an “insolvency” problem. Besides, the IMF lending comes with conditionality, can be interpreted as a contract between the IMF and the government of the country member. As long as conditionality is related to a program, designed in cooperation with the IMF and applied under the IMF surveillance, the IMF is closer to the institution of a creditor delegate under an agreement of reorganization with creditors (like under the Chapter 11 Bankruptcy Act of the United States).

As long as new funds are available during a country agreement with the IMF (even for countries in arrears), some degree of LOLR functions are present. This situation can lead to the emergence of moral hazard behaviour in governments or foreign creditors.

Buler and Rogoff (1988, 1989) advance the theoretical argument. Critics like Roubini (2000: 26) say that these authors oversimplify, for they assume that “a sovereign would follow reckless policies that lead to financial distress for the country in order to end up receiving IMF assistance”. Roubini adds, “it is also true that, while a sovereign may not purposely follow reckless policies to get IMF support, its policies may be at the margin be biased towards risky and unsound behaviour if there is some expectation of external financial support in case of trouble”. Recent empirical research by Jeanne and Zettlemeyer (2000, 2001) finds little scope for an implicit subsidy in the IMF lending. In almost any EM financial crises the domestic taxpayer foots the bill.³ It is widely known that even Rogoff, during his term as the IMF Chief Economist, did not take the view that costs are empirically relevant (Rogoff, 2002).

Lenders of last resort (LOLR) are providers of an insurance against liquidity shocks. As any other kind of insurance, moral hazard problems arise once the insurance is present. In order to countervail inefficient moral hazard behaviour, insurance schemes introduce a variety of contract clauses and regulatory mechanisms. The most common analogy used to illustrate how moral hazard emerges is the fire insurance (Eichengreen, 2002, 51–52). Once covered by an insurance company, people behave carelessly, meaning that they reduce their effort in fire prevention or take imprudent actions. Some argue

that even when people are covered by fire insurance, they incur in high losses, some of them non-material, if their houses are burned. Due to these behaviours, moral hazard behaviour under full insurance may be reduced. The classic replica is that marginal efforts in prevention are relevant. This argument can be extended to sovereign or private debtors in international capital markets: a financial crisis is too costly for any economy and any responsible government has reasons to avoid it. Nonetheless, as marginal behaviour is relevant, extensive insurance may induce reckless decisions once a sovereign enters in a risky path (for example, the classical “bet for redemption”).

In a case where moral hazard effects are negligible there is another interesting metaphor. The mechanism behind moral hazard behaviour in the presence of LOLR is analogous to the insurance nature of the function that a public levee provided to farmers settled down by the river (Solow, 1982). Once the levee is working, people can harvest and build in the previously flooded plains with more safety.

There are two main differences between the two analogies. First, riskier behaviours after insurance do not arise because farmers provoke the casualty (unusual flood or broken levee), like complete fire insurance covered individuals make fire near or inside their houses. Second, even when the private and social losses will be higher in the presence of shocks, on average, a public levee still presents net social benefits. If the level of the levee is insufficient to contain a high flood, or if there is an event (like Katrina) that breaks the levee, the farmers’ losses will be higher than in the absence of any levee. This extreme case is not an argument against the social desirability of the levee.

Liquidity insurance provided by LOLR plays the same role without significant moral hazard as the levee: an environment free of liquidity risks by means of an elastic supply of funds. Financial intermediaries and other agents in the financial markets will feel free of liquidity risks, letting them concentrate their effort on assessing insolvency risks. In the rare occasion that liquidity risk cannot be contained by the LOLR, the damages will be the highest. These extreme high losses cannot be an argument against an international LOLR.

2. Codes and standards

One of the preventive measures against financial crises that has gained respect recently is the need to define and harmonize codes and standards of good practices from macroeconomic policies to legal and governance matters.

Market liberalization policies and technological progress lead to an increasing integration of world markets. This gives new opportunities to make profits that indeed improve global welfare by trading goods and financial promises between private and public agents. But profit opportunities also arise from differences in regulations, from the most obvious ones of tax treatment of contracts, to the most complex ones due to different legal institutional frameworks and enforcement environments. The latter arbitrage process is not obviously welfare improving, even from a global economy point of view. It obliges the respective governments to choose between introducing compensatory costs to prevent the arbitrage process or to harmonize their institutions and practices to those of the rest of the world.

In this line of reasoning, national states are in tension with globalization and condemned to extinction. Pursuing autarkic national policies do not have good survival chances. Even if this were true, this process of institutional convergence would be far from smooth as to avoid any political disruption that can cause a path dependence reversal. This common sense argument should warn the political economy effects of the external borrowing codes and standards.

Still, the reasoning has some flaws. It is debatable that there is only “one best institutional response” universally valid in any environment. Researchers coming both from development economics and institutional economics are aware that this is not so (Rodrik, 1999; and Pistor, 2000). Legal experts recommend that legal institutional changes are and should be parsimonious, arguing that the interactions arising between the corpus inherited and the new arrangements are complex and unpredictable. Furthermore, “the supply of ready-made standards to domestic law makers does not facilitate, and may actually impede, the acquisition of this knowledge” (Pistor, 2000: 3).

We warn against a simplistic adoption of codes and standards. We do not say that macroeconomic

management should not be improved, including regulatory and legal practices in EM. Admittedly, these are far from being optimal by any point of view. Still, this is not the same as saying that codes and standards can be linearly transferred from one country to another.

There are perils in the idea that there is one best standard or code solution for every economy at any time. Developing countries frequently complain about the asymmetric power distribution inside the IFIs. The issue is stronger in lesser accountable agencies like Basel Committee or IOSCO (Wade, 2005).⁴ The procedures used to determine some good practice codes are not only influenced by the more researched reality of developed countries, but also by their higher representation in some of the international commission dealing with the determination of the content of international codes and standards.

Notice the changes in the position on the value of codes and standard convergence of such a scholarly expert as Eichengreen. Eichengreen (1999) argues that the only feasible approach to improve the quality of financial systems of EM is that IFIs must stimulate EM governments and the private sector to identify and adopt minimum standards. He recommends the reliance on international private sector organizations such as International Accounting Standards Committee (IASC), International Organization of Securities Commission (IOSCO), Basel Committee on Banking Supervision, IGN (International Corporate Governance Network). In contrast, Eichengreen (2002) still gives support for adoption of codes and standards but he also warns against some perils. “At some level, there is no dispute over the need for international standards as a focal point ... Standards provide a point of reference for national initiatives and a mechanism for the application of peer pressure. They provide a framework for the surveillance exercise of the multilateral financial institutions and insulate those institutions from the charge of arbitrage and capricious judgments. The dangers associated with this approach should not be neglected: they include limiting the incentives to do better, giving one-size-fits-all advice, and discouraging innovation and experimentation. The key to success is to focus on standards that bear on institution and capacity building. Efforts to comply are likely to take the form of, say, adopting an insolvency statute that conforms with international principles rather than strengthening the independence of the judiciary responsible for enforcing it, since

the latter is likely to be immensely harder. ... Prudential standards that discourage connected lending may limit one immediate source of financial problems, but can also remove the only viable basis for financial transactions in an economy where the information and contracting environment is weak” (Eichengreen, 2002: 49–50).

Next, we review some of the existing good practices and standards related to macroeconomic policies and banking regulation. We show the risks involved in an accelerated strategy of adoption any kind of international standard. Some of the issues reviewed suggest a cautious adoption of “good practices”, leaving some room for experimentation and for taking a coherent view about all aspects of domestic institutional building.

Some of the examples are not exactly codes or standards, but contents of key targets of macroeconomic policies, sometimes being part of an informal consensus.

2.1 Is there a unique optimal inflation target for all countries?

Among policy makers, there is some consensus in that the optimal inflation target is around 2 per cent and 3 per cent for all countries but the empirical basis for this cut-off point is far from solid. The arguments for a 2–3 per cent annual inflation target have several components. First, the measurement of inflation is biased in the long run due to the better quality in the new goods, which can account for a 1 per cent inflation increase in the regular consumption price index. Second, since there is some degree of uncertainty because the economies are subject to random shocks or because we lack a precise model of how real economies work, it is prudent not to bear the risk of deflation. As deflation is more costly than inflation, and at a zero interest rate monetary policy has no instrument to downturn the nominal interest rate in order to foster aggregate demand, it is prudent to be a little away from zero inflation, which account for an additional 1 per cent. Third, some people assign monetary policy some room of manoeuvre to act contracyclically, accounting for about 1 per cent inflation increase. The same can be said for an inflation target band of 1 per cent if there is a need to smooth non cyclical short term movements in interest rates or in exchange rates.

If EM economies suffer more frequent and wide business cycles than industrialized countries, a quick conclusion is that they will need more flexibility in the targeting of inflation. A common replica is that the use of macroeconomic policies to act contracyclically is highly conditioned on the credibility of the policies. If the commitment of macroeconomic policies to long run stability has low credibility, the use of macroeconomic policies to fight against the business cycle not only will be ineffective but also costly.

This question belongs to the more general problem of the optimal inflation determination. A common albeit abstract point of departure is the Friedman rule. If government can finance public expenditures with non-distortionary taxation, inflation being a tax on monetary assets, in an Arrow-Debreu world the optimum is a zero tax rate, i.e., a zero inflation rate (Friedman, 1969). When distortionary taxation is introduced, the application of Ramsey rules for optimal taxation leads to a positive optimal inflation rate (Phelps, 1973). Kimbrough (1986) and Correia and Teles (1996) provide arguments for zero inflation even in presence of distortionary taxation, under the basis that inflation is a unit tax on a costless good. Other arguments to advocate for a positive optimal inflation rate even in an Arrow-Debreu world are collection cost of taxation (Aizenman, 1987; and Végh, 1989a), informal sector (Nicolini, 1998) and currency substitution (Végh, 1989b). All these arguments lead to a higher optimal inflation in developing countries.

Another strand of literature refers to the “greasing of the wheels” effect of inflation. (Akerlof, Dickens and Perry, 1996 and 2000). Two mechanisms account for a “greasing of the wheels” effect, focused on labour markets – potentially extended for goods markets. The first is the old Keynesian hypothesis of some degree of nominal rigidity in wage setting. The second is the near rationality in the formation of expectations of prices and wages. The intuitions are that at very low inflation, a fraction of price and wage setters ignore or underweight anticipated inflation in setting future prices. As inflation increases, the cost of such behaviour increases and price setters began to fully anticipate inflation. Using the United States data, Akerlof, Dickens and Perry find that a large permanent reduction in unemployment may be obtained by moving from either a high or a very low inflation rate to a moderate inflation of 2–4 per cent. Wyplosz (2001) obtained similar re-

sults analysing the cases of France, Germany, the Netherlands and Switzerland. He finds that long-run unemployment reaches the minimum at an inflation rate of 4–5 per cent, well above the ECB target of 0–2 per cent. Loboguerrero and Panizza (2003) extend the empirical analysis to cover some developing countries, searching for an interaction with labour regulation. Their preliminary results point to a higher greasing effect in presence of labour regulation. This interaction effect diminishes in developing countries, probably because of the lack of regulation enforcement.

Another common perspective on the issue is the growth effect of inflation. Although both evidence and theory support the claim that high inflation is harmful for long-run growth, a well-structured empirical and theoretical argument assessing why an inflation of 2 per cent is better for growth than an inflation of 4 per cent is pending. Empirical literature shows three key findings: (i) a non-linear effect of inflation on growth; (ii) a threshold effect at levels ranging from 1 per cent to 12 per cent; and, (iii) a threshold level higher for developing countries. Khan and Senhadji (2001) report a threshold for developed countries of 1 per cent and 11 per cent for developing countries. Vaona and Schiavo (2005) find the threshold to be around 12 per cent for all countries, but when the sample is split in two groups (developed and developing countries), they find a threshold of 12 per cent for developed countries. Meanwhile, the high variability of growth performances in developing countries does not allow finding a threshold level for inflation.

2.2 Institutional design for monetary policies

During the last three decades, emphasis has been put on the institutional design of monetary policy making, recommending moving from discretionary agencies, thus minimizing the danger of potentially of being captured by opportunistic fiscal policy makers. This signals a shift of mind about the best institutional framework of monetary policy making, theoretically grounded on classics works such as Barro and Gordon (1983) and Kydland and Prescott (1977). Currently, this view is present in economic textbooks and the theoretical and practical literature in enormous. Still, its empirical validity remains at best ambiguous. This is a typical result of nearly all the policy recommendations that are

intensive in institutional design or redesign. Despite this lack of empirical support, a careful reading of the theoretical literature can show some warnings of practical significance for EM. First, there are a lot of authors which see enforceable accountability as the necessarily counterpart of central banking independence (Roll, 1993; Walsh, 2000; and Cukierman, 2002). In a political or general rule of law environment with low enforcement, a cautious access of the risk of unenforceable accountability rules is crucial. A classical Southern Cone historical example for this point is the Brazilian debate in the late 1960s on the usefulness of the central bank autonomy features introduced in 1964, in the context of a notorious military dictatorship, without the elemental judiciary independence. If such a big piece of the modern state legal architecture of countervailing powers is absent or at least not functioning at comparable international levels, why should one expect central banks to be different? It is obviously understandable that officially IFIs have no chance to give differentiated advisory treatment to their members on such delicate national issues. This political reality must not be absent when defining the general strategy for design the monetary policy institution framework.

2.3 Which exchange rate regime is the best for EM?

Perhaps there is no better issue to observe the changing experts opinion about what macroeconomic policy is the best one for an EM country than the choice of exchange rate regime issue.

The surveys of the literature written since the end of Bretton Woods, either academic or policy oriented, show strong waves of changing opinions.

In the early eighties, two experiences were crucial to determine the experts view: the collapse of the Latin American Southern Cone experiences with pre-announced exchange-rate-based disinflation programmes and the successful growth record of the Asian tigers. With both inputs, many researchers from both the IFIs and academy recommended not only not to peg national currencies but also to try to sustain depreciated real exchange rates (under PPP or any other benchmark of long run equilibrium) in order to promote an export led growth strategy. The recommendation was so strong that Williamson made it one of the components of his famous synthesis

labelled “Washington Consensus”. Interestingly, this is the only one Washington Consensus item with an apparently consensus reversal during the 1990s, when supposedly all the policy reformers countries implemented the full packet recommendations with varying degrees.

The crises of the 1990s, beginning with the collapse of the European Monetary System of crawling bands, the Mexican crisis of 1994, and the Asian Crisis of the 1997 (with the long strand of sequels in the Russian Federation 1998, Brazil 1999, Turkey and Argentina 2001), put the issue at the forefront of the debate. In all of these episodes, speculative attack against some currency peg can be seen, even if the pegs were very soft. Since an easy way of avoiding any currency speculative attack is not to defend the peg, a common way out was free floating. The other way was to defend the currency peg by buying credibility with costly potential reversals from the committed peg, such as currency boards, full monetary denationalization (dollarization or euroization) or joining a monetary union (hard pegs).

Some experts advanced the theorem of “impossible trinity”. In a world with perfect international capital mobility, the monetary policy maker cannot simultaneously fix any monetary aggregate (or any short term interest rate) and the currency peg. From the financial crisis prevention strategy, the recommendation is straightforward. Any country that wants to avoid a speculative attack against its currency must move to one of the so called “corner solutions”: free floating or hard pegging. Obviously, the menu can be widened if some kind of effective capital control is introduced, as capital controls erode one of the sides of the impossible trinity: perfect capital mobility. A corollary of the “impossible trinity” is that intermediate regimes are vanishing, also known as the “shrinking middle” or “hollowing out theory” (Eichengreen, 1994) or “bipolar solution” (Fischer, 2001).

Calvo and Reinhart’s (2002) most striking finding is that the shrinking middle is alive, and in addition, it accounts for the lion’s share of practices. Levy-Yeyati and Sturzenegger (2003, 2005) refine the methodology of classifying *de facto* exchange regimes, confirming Calvo and Reinhart’s results.

A discomfort problem arises: if the theory predicts that the best central banks can do is to move to either hard pegs or pure floating, what can explain the actual behaviour of central banks?

Bofinger and Wollmershäuser (2003) attempt to find a rationale grounded in open economy macroeconomics to these central banking practices without any normative foundations. They argue that the apparent overwhelming misconduct of central banks is not so, if one takes into account that a basic standard proposition in open economy macroeconomics has no empirical support: the uncovered interest rate parity. Once a departure from perfect arbitrage between international and domestic financial assets is allowed, optimal monetary rules must contain both short term interest rate and exchange rate path as operating instruments. Of course, this world is different from the one of the “impossible trinity”, since a systematic departure from uncovered interest rate parity means that there is no perfect capital mobility.

Bofinger and Wollmershäuser (2003) also point out another distinctive feature of foreign exchange intervention in EM: meanwhile central bank interventions in developed countries can only be a very small fraction of the market turnover, the case is exactly the opposite in EM, where central bank is always the big player. This allows for a strong signalling effect of interventions, even with little central bank effort.

A quick overview of the “fear of floating” empirical literature leads to the uneasy problem of classifying intermediate regime, especially those closer, *de facto* or *de jure*, to the floating corner. Any kind of peg, even the softer ones, is relatively easy to detect as one can see the exchange rate in the market. It is true that as the peg regime is *de facto*, and furthermore, if it is a crawling peg against a basket of currencies or it has some non public pre-committed band, the task is not easy. For the taxonomists, matters go even worse when the currency is suspected to belong to the floating side. The task here is to differentiate between fully floaters, independent floaters and managed floaters, taking the IMF’s International Financial Statistics classification of exchange regimes as the reference. Meanwhile, full floaters let the exchange rate be completely determined by market forces, whatever its volatility; independent and managed floaters do some foreign exchange intervention in order to smooth exchange rate movements. The difference between independent and managed floaters is that the former smooth only transitory shocks, in the extreme, only purely stochastic shocks. The taxonomy criteria require the simultaneous observation of ex-

change rates and monetary aggregates or short term interest rates under direct control of the central bank, and any operating criteria can be put in terms of relative volatility of exchange rate interventions and exchange rates observed during a definite time horizon. The possibility of unannounced regime switches obviously exacerbates the difficulties of the taxonomy task.

An excellent example of the difficulties that can arise in applying textbook macroeconomics to analyse the complex reality of an EM is a trivial error committed in this “fear of floating” empirical literature. Calvo and Reinhart took variations in international reserves as a measure of intervention in the foreign exchange market. They also use a very rough measure of exchange rate variations to make their classification. Levy-Yeyati and Sturzenegger (2003) criticize the Calvo and Reinhart measure of intervention, and make some corrections to IMF figures in International Financial Statistics.

Although the authors are aware that it is wrong to equate international reserves variation with foreign market interventions, the corrections are not enough to obtain a good measure of effective interventions. In dollarized economies, international reserves frequently vary as a consequence of variation in dollar denominated liabilities of private domestic financial intermediaries. Such dollar-denominated liabilities are frequent, domestic deposits. If dollar-denominated deposits received by financial intermediaries vary, the correspondingly reserve requirements, usually a liability of the central bank, must vary. Another effect in the central bank international reserves variations is present if other public agency, including Treasury, takes foreign currency liabilities and sells the international currency liquidity to the central bank at a certain exchange rate. There is no intervention in foreign exchange markets, but if central bank accounts are not specially designed to separate these transactions, international reserves vary.

These effects can account for some weird results in Levy-Yeyati and Sturzenegger (2003). For example, for the informed observer it is something difficult to accept that the Latin American Southern Countries during 1978–1981 were not always classified as following a peg, when it is well known that Argentina, Chile and Uruguay use a pre-announced exchange rate as a disinflation device during these years.

2.4 *Procyclicality of banking regulations*

The first one and better known of international standards is the Basel Accord for banking regulation and supervision, which started to be implemented in 1988. This first Basel Accord was a set of prescriptions about banking supervision practices and, essentially, a capital adequacy regime for financial intermediaries. Each class of banking assets has a different, though constant, regulatory capital requirement, accordingly to its risky features. Some of the failures in this early accord and the financial crises of the 1990s lead to a process of revision during the second half of the 1990s. The process of revision ended in a more sophisticated system, the so-called Basel II Accord. The main innovations of Basel II are the introduction of more flexibility for the regulated banks to choose the procedures to classify and value the risky assets (the so called Internal Ratings Based approach) and the use of public disclosure of information in order to enhance market control over financial intermediaries (pillar 3).

Though primary designed for developed countries, Basle II will undoubtedly have enormous influence in regulatory practices in EM, as IFIs would take its contents as the benchmark for best practices.

The delayed process of discussion and revision of Basle II reveals some conflicting views among the G-7 countries about issues that probably are even more complicated in EM countries. Particularly interesting is the potential procyclicality embedded in some Basle II prescriptions. If banks use the same tools for classifying and accessing risky assets, and the results of these procedures are more frequently and less costly informed to the market, the outcome will reinforce downturns and upturns in banking credit. Taking into account that EM countries have higher business cycles and thinner capital markets than developed countries, the procyclical consequences of the new Basle Accord would be costly. Among others, Kashyap and Stein (2004) simulate the regulatory capital requirements and find higher ratios in EM countries.

2.5 *Where to find codes and best practices?*

With so many problems in the institutional design and the risk of harmonization towards inadequate international standards, can we find an

alternative solution to codes or standards? Again, drawing lessons from the microeconomics of contract theory could be useful. If a principal (the IMF) wants to write a contract (conditionality) with an agent (EM sovereign) in order to obtain best performance in applying some programme (adjustment), the best clauses will depend on the knowledge of the process by the principal and the observability of inputs and outputs. If the process is highly uncertain but instead inputs and outputs can be measured with low cost, then the optimal contract must contain a well-specified and accountable manner to measure inputs and outputs. In this context, if some surveillance of procedures is needed, it must not be very detailed *ex ante*. In other words, the IMF must stick to its original mandate of pursuing international financial stability and macroeconomic stabilization of members.

Laterally, it is worth noting that this warning is in line with the increasing advice to the IMF to keep to its role in preserving macroeconomic stability. The source of this recommendation is not the same as ours. The IMF is suffering from “mission creep” in the contents of conditionality (Goldstein, 2001).⁵ The IMF could incur in diseconomies of scale and scope by entering in issues that are far from its past experience.

3. The experience of the IMF Contingency Credit Line

Clearly, the IMF Contingency Credit Line (CCL) is a policy advice that belongs to the family of moving IMF towards central bank functions. Now in the IMF reform agenda, this idea came from the United States Treasury during Clinton’s administration.

The rationale for a CCL is the same as the central bank credit assistance to private banks under a speculative attack. Financial intermediaries provide an efficient maturity transformation function by lending long-term credits financed by issuing short term bonds (deposits). During a run against some bank of the system, it is optimal for the central bank to provide funds to solvent but transitory illiquid institutions because of informational asymmetries between banks and their lenders, or because herd behaviour in some of group of deposits holders. For as the central bank provides an insurance mechanism, moral hazard emerges, usually mitigated by requiring the risk free assets as a guarantee, pricing rates higher as amounts increase, or imposing some regulations

(reserve requirements, capital adequacy) among other measures.

Translating this logic into the international arena faces many difficulties.

First, it would require more resources in the IMF facilities. Although the IMF is not an international central bank (because it does not issue international currency), there is some room for a LOLR function. Fischer (2000) suggests that this case may have resonance both in theory and in practice. Economic historians remind us that European central banks emerged from private institutions, the Bank of England being one the classic examples. The problem is whether the current IMF resources are enough to play such a role. Taking the amount of IMF resources in 1945 as a benchmark, the current situation is quite restrictive. If the 1945 IMF resources/world GDP ratio must be attained, the size of the IMF should quintuple. If, instead, we consider a ratio to global trade, the multiplier should be over nine. On the other hand, nowadays there are a small number of countries potentially demanding funds, since it is reasonable to think that except for the United States and Canada, any other country was at risk in 1945. The overwhelming growth in the size of international capital markets since the 1970s surely countervails this reduction in the number of potential members needing IMF assistance (Fischer, 2000).

Second, a clear cut between liquidity and solvency crisis is needed, something that is more difficult to assess in case of a sovereign debtor. Fischer (2004) reports that as Deputy MD of the IMF during Asian crisis, he finds all four possible cases crossing the diagnostic of the IMF with that of the country member government, and points out that sovereigns are more reluctant to default in case of insolvency than it is suspected.

Third, a strict analogy with CB practices would imply a radical change in the IMF’s view of conditionality. Conditionality plays the role of moral hazard mitigation mechanisms in CB liquidity assistance. An essential feature of current conditionality mechanism in all the IMF credit lines are of *ex-post* nature: conditions are defined after the country member requires funds and IMF gives access to them if conditions are fulfilled. The closest analogy in domestic CBs practices is the business plan assessment by supervisory authority. By definition, CCL requires a sort of *ex-ante* conditionality. The nearly infinite

possibilities of exact content of clauses in ex-post conditionality give an idea that there is an incomplete contract scene. This incomplete contract problem arising in negotiating an ex-ante conditionality between the IMF and a country member practically inhibit the CCL idea, as it is impossible to cover all the contingencies. The well-known fact that the IFIs' evaluation of Mexico in 1994 or nearly all countries affected by the East Asian crisis overlooked the risks even a few months before the crisis, reminds us about the risk of the task of precisely determine the nature of policies needed to prevent a crisis. International private credit rating agencies also failed to anticipate both crises. Eichengreen (2002) points out that IMF staff was reluctant to the general CCL idea because of these problems.

Fourth, the size of contingent liabilities must have been enough to effectively counteract liquidity crisis. These financial needs for the IMF would be far from its actual funding possibilities. Thus, either CCL must be limited in size to the point of becoming ineffective in stopping a speculative attack during liquidity crisis or country members (in practice, developed countries) must substantially capitalize IMF. Alternatively, we could modify the IMF Articles in order to allow it to issue some kind of international accepted currency, like Special Drawing Rights, certainly something far from the political will of G-7 countries.

Finally, the mere fact of a country applying for a CCL gives a bad signal to the markets. In contexts of asymmetrical information, there would be an adverse selection effect: only countries at very difficult conditions would be willing to apply for a CCL, raising the negative signalling effect. The Meltzer Commission Report (2000) also addresses the argument that applying for a CCL would be interpreted as a bad signal.

4. Alternative solutions

4.1 *New institutions: Can the Chiang Mai Initiative be replicated?*

Chiang Mai Initiative is a kind of regional agreement to cover some of the functions of IMF at a regional level. Countries of ASEAN+3, resentful with the treatment received by the IFIs during the 1997 crisis, began to build a regional cooperative

institution to deal with international financial problems. In principle, their initiative did not pretend to be a substitute of the IMF, but a complement. Of interest to us is the swap agreement of the Chiang Mai Initiative. Member countries agreed to swap international currencies against national currencies under specific conditions. Such swap facility is at immediate disposal up to a limited amount. Beyond a given threshold, additional regional financial assistance can be obtained, but only under an agreement with the IMF. The unconditional first tranche is setting up to 20 per cent of all funds available. But even this unconditional first tranche has some uncertainty due to discretion. The swaps were bilateral and have been multi-lateralized, and the creditor country retains the right to put some specific conditions, in a case by case framework.

Clearly, as long as the unconditional tranche remains at a low level, the Chiang Mai Initiative does not introduce any new element in our previous discussion of EM crises prevention. From a traditional finance perspective, which means institution free, the insurance function of this kind of arrangements can be understood as a trade off between the benefits of pooling liquidity and the risk of a negative shock in at the aggregate, undiversifiable, regional level. Also, such regional funds need a supranational institutional infrastructure. From the point of view of political feasibility, if members are closer to fulfil some of the conditions of common monetary areas, the pressures coming from economic interest driven national politics probably support this kind of agreement. In a world where the number of regional trade block is increasing, it is natural to expect increased political feasibility of this kind of arrangement. Ultimately, the insurance function provided by this supranational institution can be seen as a very special case of fiscal federalism.

The financial feasibility of this kind of regional institutions is obviously conditioned by the amount of international reserves that potential member countries hold and eventually commit to these projects. The present situation of high and persistent growth of international reserves in some Asian countries can be seen as a factor that facilitates the emergence of such an initiative. At the present international conjuncture of higher international financial asset accumulation in Pacific Bay Asian Countries, it is not surprising that the opportunity cost of this commitment must be low. Strong macroeconomic fundamentals, such as traditional Asian high national

savings ratio (of more than 30 per cent of GDP) also account for these low opportunity costs. Another specific feature of Chiang Mai members is that one of them, Japan, issues one the international reserve currencies. Because these particular regional features are not easily founded elsewhere, the replication of the Chiang Mai Initiative would confront enormous difficulties in other regions.

A slight review of parameters for Latin American countries must warn us that these conditions are not the same for the whole region and may face difficulties even in economies with better fundamentals and prospects.

The membership of a strong currency member in the Chiang Mai Initiative may evoke to analysts another experience of international monetary cooperation between developing countries: the African Franc Zone. During the Bretton Woods period, some West African countries constituted a monetary union, pegging their currency to the Franc. They managed to survive forty years, some of them despite crises arising from highly negative terms of trade shocks. The experience cannot be replicated without the implicit support of Banque de France as a LOLR.

The Chiang Mai Initiative is more than a network of swap for international convertible currencies. It is also a monitoring mechanism of short term capital movements, a regional surveillance and a training personnel network. This soft side of the Initiative can be easy to replicate. Indeed, several other institutions play similar roles in Latin America, like CEMLA, IADB, ECLAC, etc.

4.2 *New instruments: Debt indexation to GDP*

Searching for solutions to address market failures in international capital markets for EM should not be restricted to the bankruptcy procedures or insurance against liquidity shocks provided by the domestic market experience. The design of supranational institutions and policies can borrow from tools used in domestic economies. Governments are not constrained to the monetary and supervisory authorities and the bankruptcy procedures to resolve financial markets failures. Also, they stimulate the introduction of new financial products. The following paragraphs propose the development of an

international market for GDP indexed bonds as a way of providing insurances against GDP shocks.

Optimal public debt management implies that public debt must be indexed to public expenditures (Barro, 1995), when the government seeks to smooth public sector consumption. This recommendation, however, should change due to the incentives that governments have to act opportunistically. An alternative recommendation is to index public debt to fiscal revenues instead of public expenditures. An additional recommendation to further minimize the moral hazard associated with the government's behaviour is to issue public debt indexed to the GDP. On this point proposals abound, from Friedman to Shiller's recent big push. Nowadays, Borenzstein and Mauro (2004) offer an excellent discussion, from which we borrow heavily in the discussion that follows below. For various reasons, this proposal has prestigious adherents, like Drèze (2000), Williamson (2005)⁶ and the Chairman of the United States Council of Economic Advisers (of the President), Gregory Mankiw (2004).

Financial innovation faces complex problems. In successful cases, either a specific "climate of trust" is needed among market agents or a big push from the larger players. The record of public interventions to innovate financially is not very promising, though we can still identify success stories. Consider the Brady Bonds case. For many observers, the creation of a liquid bond market for the EM was one of the factors explaining the new surge of capital inflow to these countries in the 1990s. The IFIs played a role in the Brady Plan, leading to a successful "public intervention" in international financial innovation.

The most common argument against a supranational public intervention in international capital markets is that it is inconvenient unless the market discovers the benefits of the innovation by itself. Implicitly, this argument assumes that there is no such a thing as a market failure. Our departing point is just the opposite: market failures often, account for EM financial crises.

Certainly, financial innovation is difficult to predict. As Borenzstein and Mauro (2004) argue, financial innovation is a haphazard process. Whenever there is room for an efficient financial product innovation, there is some form of market failure. The list of potential market failures behind the financial innovation process is large. There are collective ac-

tion problems, network externalities, etc. First, the financial innovator cannot patent the innovation, and because of this, the high incentive of monopoly profits for innovators disappears. Second, a low liquidity premium in the new asset needs a network of potential buyers and lenders, something difficult to create for a new instrument. Third, some sunk cost investment on information, expert valuation, and producing the new instrument must be done, and the innovator has to afford it nearly alone.⁷

Often, public intervention efficiently deals with market failures for innovation. A typical example is the low cost of coordination to act against a collective action problem.

GDP indexed bonds present several potential benefits. First, they can better diversify risks due to the low GDP correlations between countries. Second, pension funds worldwide could demand these bonds, since they match their long-term liability durations.

For us, the most relevant benefit is that GDP indexed bonds act as an insurance against GDP downturns. Their asset price moves counter-cyclically, improving the fiscal balance and allowing for some degree of countercyclical macroeconomic policies.

An orthodox argument against the introduction of nominal GDP indexed bonds is that they create incentives for inflationary policies. This is so because these bonds should reduce the cost of high inflation. Barone and Masera (1996) cite the Bundesbank as a source of this orthodox critique against nominal GDP or price level indexed bonds, but they find arguments that go precisely in the contrary direction. Latin American Southern Cone countries' long experience with price indexed domestic debts certainly provides good examples that confirm the orthodox judgments. All of their disinflation programmes face severe restrictions with backward looking inflation indexed debt. The so called heterodox disinflation plans of the 1980s in Argentina and Brazil (Austral, Cruzado, Collor) eventually broke financial contracts in order to countervail the negative effects of a sudden disinflation. However, this is a problem that disinflation faces also with foreign currency denominated debt. At moderate or lower inflation levels, inflation indexed bonds are not an obvious obstacle to price stabilization.

In the last few years, financial innovations have become more frequent, including financial innova-

tion in products and bond markets (Miller, 1986 and Tufano, 2003). A possible objection to our proposal is that the market actually carries out a lot of financial innovations in bonds. Still, the kind of financial innovation we propose is not "incremental". Rather, it is "drastic" or "sudden", meaning that it alters significantly the relationship between monopoly prices and costs (Tirole, 1988, ch. 10).

Within this proposal, which role is left for the IFIs? An obvious one is the need for an international respectful auditing agency for the GDP national accounts. The long experience of the IMF as promoter, collector and technical assistance provider for national accounts, makes this institution the best candidate for the task. There is no other multilateral agency (except for some UN organizations) or private provider doing a similar task because there is no demand for the service of auditing national accounts. Once the market for GDP indexed sovereign bonds is created, this will not necessarily be the case. Besides, it can be argued that as the IMF is sometimes simultaneously a creditor of sovereigns and an auditing agency some conflict of interest could arise. Furthermore, the common prescription for private corporations also applies for national governments: it is sound to have more than one auditor.

The IFIs and the IMF in particular could pursue several other actions. The most trivial proactive action is to charge lesser interest rates in the IMF programs for countries that issue GDP indexed bonds. The less trivial proactive action supposes a different role for the IMF and other IFIs that they intermediate in GDP indexed instruments: funding themselves in mixed GDP indexed bonds and lending to countries in their specific GDP indexed instruments.

5. Overall conclusions

Developing countries face domestic and exogenous sources of high volatility in GDP, exacerbated by international financial markets. Commodity prices are more volatile than manufactured industrial goods or services prices. Faced with negative shocks in terms of trade, EM are frequently obliged to pursue deflationary fiscal or monetary policies. Reactions from international capital flows add further pressures on the balance of payments.

In the last decades, we see an upturn in the frequency and costs of financial crises in the EM. The debate should be placed within solid theory in order to identify the basic market failures of international capital markets for the EM. Competing theories explaining EM financial crises belong to the older tradition of discussing financial crises within domestic realms.

Recent proposals to reform the international financial architecture imply that the IMF or other IFI must move either toward an international bankruptcy court or an international creditor delegate, or even to a more extended LOLR function. Other recommendations suggest an international harmonization of codes and standards, which can be adequate for some EM countries but risky for others.

A policy recommendation that does not need substantial changes in supranational entities is the promotion of nominal GDP indexed sovereign bonds.

Nowadays, the boom phase of the global economy business cycle seems to reduce the risk of an EM financial crisis, at least partially - but perhaps mistakenly. The current state of affairs hinders major institutional innovations. History tells us that radical innovations emerge more frequently during crises. It also seems that quiet times provide a better environment to rationally discuss the pros and cons of different alternatives. Then, it is time to reach some consensus.

Notes

- 1 The literature for this issue is unattainable, but Barro and Lee (2005) is a very good piece of empirical research.
- 2 Tirole (2002: 43) makes further remarks about “other fundamentalist theories”, i.e., theories which do not emphasize the effect on government bailouts, insights actually closer to our point. He mentions Caballero and Krishnamurthy’s (2001) hypothesis. There is a private sector underinsurance optimal behaviour in contexts of domestic financial underdevelopment. When this feature is combined with specific external shocks, it gives room for an overreaction behaviour that resembles a financial panic.
- 3 Still, even if all the IMF loans are fully repaid, some moral hazard could remain. In this case, the IMF could be seen as providing a bridge loan to make domestic taxpayers absorb local private borrowers’ losses. Anyway, this is a complete different scenario from the usually present in the media discussions of G-7 countries, either

during a large bailout of EM creditors or during an increase in IMF quotas.

- 4 “‘Moral hazard’ handicaps the Fund’s ability to advance a common good whose characteristics are defined by debate between state representatives on the Fund’s board of directors. First, the G-7 sets standards for others knowing they will not have to meet the same standards. Second, the G-7 often insists that the Fund requires developing countries to act in ways that clearly advance G-7 interests but less clearly advance the developing countries’ interests. For example, the G-7 is likely to set rules and requirements that err on the side of ‘international best practice’, making no allowance for the range of state capacities that the Fund has to deal with. This then opens up unlimited opportunities for critics of the Fund (think the United States Congress) and of a particular Fund member (think China), to attack the Fund and indirectly the member government for failure to comply, while overlooking similar lapses on the part of states that are important for the United States strategic objectives at the time (think Turkey, Iraq, Afghanistan, Pakistan, Jordan)” (Wade, 2005: 108–109).
- 5 As Wade (2005: 113) notes “The number of conditions multiplied from an average of around eight ‘performance criteria’ per loan during the 1980s to some 26 during the 1990s. Of course, the Fund’s staff and management are aware that the multiplication of conditions on loans can have diminishing returns and undermine the effectiveness of conditionality. The recent *Guidelines on Conditionality* call for streamlining the conditions to those essential to the program; and there has indeed been some reduction latterly. The recent stand-by arrangement with Turkey had about 100 structural benchmarks and conditions.”
- 6 Williamson (1990: 7–38) takes on step further. He argues that the IFIs must lend in GDP indexed units or in any other unit of account linked to the country member prices, while funding themselves in capital markets with bonds denominated in a basket of these units of account. In this manner, they would play a role as financial intermediaries. Additionally, the bank’s supervisors of creditor countries must stimulate credits between private sectors of different countries indexed in this kind of unit of accounts.
- 7 Allen and Gale (1994) provide a useful discussion in their chapter 3.

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