

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.

Keywords: financial crises, emerging markets, financial crises prevention, IMF, GDP indexed sovereign bonds, new international financial architecture.

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), analyzing them from the point of view of an international financial institution like the IMF.

During an evolving EM financial crisis, it is often mentioned 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 behavior 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 labeled "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 rules 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 transitory, 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 GDP 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 fact 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 fastened growth 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 daily crucial decisions 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 policies. 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 its founding time. Simply, Bretton Woods institutions (including the IMF) were designed for a world characterized by pegged albeit adjustable currencies and without private international capital movements.

It was a popular sport played by cutting-edge academic open macroeconomist 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 lower speed compared to the new risks that international capital markets pose for both EM countries and the global economy.

The game IMF plays evolves. In the 60 and 70s, 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 cases to be emulated worldwide and suddenly converted to indict of crony capitalism. During the Mexican and Asian crises, the IMF and other IFIs made huge bail-outs with partial US 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 maneuver 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 because of its government’s unsustainable macroeconomic policies. In turn, these unsustainable policies obey 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 to deal 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 on some asset value or financial institution. Then, the interlinked chain of credits and debts combined with asymmetrical information and herd behavior spread the distrust along the assets and financial institutions. If banking system is the subject of speculative attacks, even sound institutions will suffer depositors’ runs. 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 obliges to a general fire-sale. Three broad policy responses providing some kind of insurance policy are available to domestic economies: a) lender of last resort (LOLR) as a liquidity insurance scheme, b) deposit insurance, and c) financial regulation.

As any insurance, policies for management liquidity risks change incentives to the insured and often to third agents, producing moral hazard behavior. For mitigating moral hazard, then further measures are needed. The classical insurer reacts to counteract 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 insured actions become costly to observe, according to the degree of enforcement of rules, the insurer introduces restrictions on the insured behavior 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 explain at least partially 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 real circumstances.

Financial crises have existed for centuries in the domestic economies. To deal with them, central bankers and economist have developed some 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 role should be assimilated to that of a primitive government with strong resource constraints and lacking enforcement capacity. One can analyze the debate on the IMF role as a if the IMF must play the role of judiciary and legal infrastructure for private bankruptcy or as it must be a lender of last resort (LOLR) for the financial system, with the corresponding prudential regulation system (other domestic schemes, like deposit insurance policies can be considered as part of the same insurance mechanisms against liquidity risks at the disposal for an supranational entity).

In both cases, an international judiciary court for sovereign bankruptcies or international LOLR, it is common knowledge 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 passed. This makes radical departures from initial plans frequently optimal. That means a crucial balance between crisis prevention measures and crisis management measures. This time inconsistency 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: 1) currency mismatches where banks and firms borrow in foreign currency should be eliminated; 2) maturity mismatches between short term foreign debts and long-term domestic bank lending should be eliminated; 3) better institutional infrastructure, like adoption of IOSCO recommended regulations and IASC accounting standards, should be encouraged; 4) prudential supervision of banks should have a better enforcement; 5) country-level transparency about guaranteed debt and off-balance-sheet liabilities should be increased; 6) some degree of bail-in of private foreign creditors is desirable after crises; and 7) 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, dovish opinions favor higher IMF liquidity provision, moving it in direction to a LOLR meanwhile hawks fluctuate between opposing to 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 favor 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 former 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 claiming to the Argentinean government for a 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 90. More interestingly than trying to see how the Tirole's hypothesis works in the contemporaneous 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) analyzed the pre 1930's crises. In the same direction, the Latin American debt crises of the early 80s 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 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 IFI's 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.

¹ The literature for this issue is unattainable, but Barro and Lee (2005) is a very good piece of empirical research.

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 at enforcement issues. It is well-known that the role of judiciary is one the best institutional framework solution for 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 “insolvency”. 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 USA).

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 behavior in governments or foreign creditors.

Buler and Rogoff (1988, 1989) advance the theoretical argument. Critics like Roubini (2000: p.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 behavior 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

² Tirole (2000: 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 behavior in contexts of domestic financial underdevelopment. When this feature is combined with specific external shocks, it gives room for an overreaction behavior that resembles a financial panic.

EM financial crises the domestic taxpayer foots the bill.³ It is widely known that even Rogoff, during his appointment as the IMF Chief Economist, does not currently address the view that costs are empirically relevant.

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 behavior, 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 behaviors, moral hazard behavior 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 responsive government has reasons to avoid it. Nonetheless, as marginal behavior 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 behavior 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 behaviors 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 a casualty (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

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.

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 increasingly 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 law 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 its 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” to any environment, universally valid. Researchers coming both from development economics and institutional economics are aware that this is not so (Rodrik, 1999, and Pastor, 2000). Legal experts in law changes 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” (Pastor, 2000: p. 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 Basle 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 about the value of codes and standard convergence of such scholar expert as Eichengreen. Eichengreen (1999) argues that the only feasible approach to improve the quality of financial systems of EM is that IFI's 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), Basle 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. We show the risks involved in an accelerated strategy of adoption any kind of international standard. Some of the issues reviewed

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 set standards for others knowing they will not have to meet the same standards. Second, the G-7 often insist that the Fund require 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 are 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 US 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 US strategic objectives at the time (think Turkey, Iraq, Afghanistan, Pakistan, Jordan)". Wade (2005: pp.108-109).

allow concluding for 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 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% and 3% for all countries but the empirical basis for this cut-off point is far from solid. The arguments for a 2-3% 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% 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%. Third, some people assign monetary policy some room of maneuver to act contracyclically, accounting for about 1% inflation increase. The same can be said for an inflation target band of 1% if there is a need to smooth non cyclical short term movements in interest rates or in exchange rates.

If EM economies have 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 there is low credibility to the commitment of macroeconomic policies with long run stability, 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, being inflation 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 1989b), informal sector (Nicolini 1998) and currency substitution (Végh 1989a). 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 labor 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 a very low inflation a fraction of price and wage setters ignores or underweight anticipated inflation in setting future prices. As inflation increases, the cost of such behavior increases and price setters began to fully anticipate inflation. Using US 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%. Wyplosz (2001) obtained similar results analyzing 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%, well above the ECB target of 0-2%. Loboguerrero and Panizza (2003) extend the empirical analysis to cover some developing countries, searching for an interaction with labor regulation. Their preliminary results point to a higher greasing effect in presence of labor 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% is better for growth than an inflation of 4% is pending. Empirical literature shows three key findings: a) a non-linear effect of inflation on growth; b) a threshold effect at levels ranging from 1% to 12%; and, c) a threshold level higher for developing countries. Khan and Senhadji (2001) report a threshold for developed countries of 1% and 11% for developing countries. Vaona and Schiavo (2005) find the threshold to be around 12% for all countries, but when the sample is spitted in two groups (developed and developing countries), they find a threshold of 12% 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 read 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 1999, Walsh 2000, Cukierman 2000). 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 lately 60's Brazilian debate over 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 for its 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 changing opinions waves.

In the early eighties, two experiences were crucial to determine the experts view. First, the collapse of Latin American Southern Cone experiences with pre-announced exchange rate based disinflation programs. Second, the successful growth record of 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 lead growth strategy. The recommendation was so strong that Williamson made it one of the components of his famous synthesis labeled "Washington Consensus". Interestingly, this is the only one Washington Consensus item with an apparently consensus reversal during the 90s, when supposedly all the policy reformers countries implemented the full packet recommendations with varying degrees.

The crises of the 90s, 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 Russia 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 when 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 “corned solutions”: free floating or hard pegging. Obviously, the menu can be widened if some kind of effective capital controls is introduced, as these 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 (2002, 2005) refine the methodology of classifying de facto exchange regimes, confirming Calvo and Reinhardt’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 behavior 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 overwhelming apparently 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 signaling effect of interventions, even with little central bank efforts.

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, fully floaters let the exchange rate to 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 exchange 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 translating basic macroeconomic analysis from textbooks to the complex reality of an EM is a trivial error committed in this "fear of floating" empirical literature, at least from the point of view of any local practitioner. Calvo and Reinhart took as a measure of monetary policy interventions in the foreign exchange market the international reserves variations. Also, use a very rough measure of exchange rate variations to make their classification. Levy and Yeyati (2003) criticize Calvo and Reinhart measure of interventions, and made some corrections to the publicly available figures of International Financial Statistics of IMF. Although authors are have conscience 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 central bank international reserves variations is present if other public agency, including Treasury, takes foreign currency liabilities and sells the international currency liquidity to central bank at a certain exchange rate. There is no intervention in foreign exchange markets, but if central bank accounts are not specially design to separate these transactions, its international reserves vary.

These effects can account for some weird results in Sturzenegger and Levy-Yeyati (2003). For example, for the informed observer it is something difficult to accept that Latin American Southern Countries during 1978-81 do not always were classified as following a peg, when it is well know that Argentina, Chile and Uruguay use a preannounced exchange rate as a disinflation devise during these years.

2. 4. 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 find 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 program (adjustment), the best clauses will depend on the knowledge of principal about the process and the observability of inputs and outputs. If the process has high uncertainty 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 are needed, it must not be a very detailed ex ante. In other words, the IMF must stick at its original mandate of pursuing international financial stability and macroeconomic stabilization of country members.

Laterally, it is worth noting that this warning is in line with the increasing advice to the IMF to keep 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 his 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 US 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 behavior in some of group of deposits holders. For the central bank provides an insurance mechanism, moral hazard emerges, usually mitigated by requiring the risk free assets for guarantee, pricing higher rates with increasing amounts, or imposing some regulations (reserve requirements, capital adequacy) among several measures.

Translating this logic into the international arena faces many difficulties.

First, it would require more funds available in the IMF facilities. Although the IMF is not an international central bank (because it does not issue international

⁵ As Wade (2005: pp) 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.”

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 refresh us that European central banks emerged from private institutions, being the Bank of England 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 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 US and Canada, any other country was at risk in 1945. The overwhelming growth in the size of international capital markets since the 70s 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 (2000) reports that as Chief Economist 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 IFI's evaluation of Mexico in 1994 or nearly all countries affected by the East Asian crisis overlooked the risks even just some month before the crisis, reminds us about the risk of the task of precisely determinate 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 away 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 statutory in order to issue some kind of international accepted currency, like Special Drawing Rights, certainly something far away from the political willingness of G-7 countries.

Finally, the single 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 signaling effect. The Meltzer Commission Report (2000) also addresses the argument that applying to a CCL would be interpreted as a bad signal. Eichengreen argues that the last

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, begun 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 10% of all funds available. But even this unconditional first tranche has some uncertainty due to discretion. The swaps are bilateral, and the creditor country retains the right to put some specific conditions, in a case by case framework.

Clearly, as far 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 institutional 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 fulfill 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 more 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 to the amount of international reserves that potential member countries can accumulated and eventually commit to these projects. The present situation of high and persistent growth of international reserve accumulation 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% of GDP) also account for these low opportunity costs. Another specific feature of Chiang Mai members is that one them, Japan, issues one the international carrier 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 view of similar parameters for Latin American countries must warn us that these conditions are not the same for the whole region and even for 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 Franc African 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 with 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 for 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.

3.2 New instruments: debt indexation to GDP

Searching for solutions to address market failures at the 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 other 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 to develop 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 behavior 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 USA Council of Economic Advisers (to the President) (2004), being in Chairman Gregory Mankiw.

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 successful 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 90. 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 do account for EM financial crises.

Certainly, financial innovation is difficult to predict. As Borenstein y 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 action 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 provide act as an insurance against GDP downturns. Their asset price moves counter-cyclically,

⁶ Williamson 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.

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 programs face severe restrictions with backward looking inflation indexed debt. The so called heterodox disinflation plans of the 80 in Argentina and Brazil (Austral, Cruzado, Collor) eventually broke financial contracts in order to counteract 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 is not obvious an obstacle to pursue price stabilization.

In the last few years, financial innovations have become more frequent, including financial innovation in products and bonds markets (Miller 1986 and Tufano 2003). A possible objection to our proposal is that the market is not refrained for 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 IFI's? 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 intermediate in GDP indexed instruments: funding themselves in mixed GDP indexed bonds and lending to countries in their specific GDP indexed instruments

4. 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. It is useful to learn how closed economies solved these problems.

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 sovereign bonds.

Nowadays, the boom phase of the global economy business cycle seems to fade away 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.

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