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FINANCIAL OPENING: EVIDENCE AND POLICY OPTIONS

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ABSTRACT

This paper evaluates the empirical evidence of increasing the chances of financial crises induced by opening up developing countries to short-term capital inflows, and appraises the various proposals made for mitigating the severity of financial crises. We point out that there is solid evidence that financial opening increases the chance of financial crises. There is more tenuous evidence that financial opening contributes positively to long-run growth. Hence, there may be a complex trade off between the adverse intermediate run and the beneficial long run effects of financial opening. The literature is abounded with proposals aimed at improving this intertemporal trade-off, reducing the costs of financial crises. A version of the Lucas critic may limit the welfare gain of these proposals. Hence, a better understanding of the structural characteristics leading to exposure and crises is the key for designing a successful restructuring of the global capital market. Some of the reforms may fall short of success due to coordination failure: they may be effective only if they were adopted comprehensively by all the relevant financial centers. Finally, some of the proposals may be too optimistic, ignoring the time inconsistency and political economy considerations, as well as presuming the ability to verify unambiguously the quality of adjustment.

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This paper has two goals. First, it evaluates the empirical evidence of increasing the chances of financial crises induced by opening up developing countries to short-term capital inflows. Second, it appraises the various proposals made for mitigating the severity of financial crises. We argue that there is solid evidence that financial opening increases the chance of financial crises. There is more tenuous evidence that financial opening contributes positively to long-run growth. Hence, there may be a complex trade-off between the adverse intermediate run and the beneficial long run effects of financial opening. These findings impose a challenge to policy makers – how to supplement financial opening with policies that would improve this intertemporal trade-off. The literature is abounded with proposals aimed at reducing the costs of financial crises. Yet, there has been limited progress in designing credible reforms to deal with these challenges.

To put this issue in a broader context, the debate about financial opening is a reincarnation of the earlier immiserizing growth literature, identifying conditions under which growth may be welfare reducing in the presence of preexisting distortions.¹ While financial opening opts to increase welfare when the only distortion is restricting intertemporal trade across countries, financial opening may be welfare reducing in the presence of other distortions. An important example of such a distortion is moral hazard, which frequently acts as an implicit subsidy to borrowing and investment.² In financial autarky, the pool of domestic savings confines the cost of the moral hazard distortion. Financial opening implies that the scale of investment will be determined by the access to global saving. If in autarky the domestic real interest rate exceeded the global one, the resultant inflow of capital would magnify the existing distortion, thereby reducing welfare. This situation is illustrated in Figure 1, where S depicts domestic saving, and I is the domestic investment in the absence of moral hazard. Moral hazard would shift the effective investment to I' . In these circumstances, the welfare cost of moral hazard is given by the black triangle in panel a (where the benchmark for evaluating welfare in panel a is financial autarky in the absence of moral hazard). If the global interest rate is

¹ See, Bhagwati (1956), Johnson (1967) and Brecher and Diaz-Alejandro (1977).

² See McKinnon and Pill (1996), Corsetti, Pesenti and Roubini (1999), Dooley (2000); and Hellmann, Murdock, and Stiglitz (2000).

r^* , financial opening in the presence of moral hazard reduces welfare by the shaded triangle (where the benchmark for evaluating welfare in panel *b* is the welfare with open financial markets, in the absence of moral hazard). If the supply of domestic saving is relatively inelastic, whereas the demand for investment is relatively elastic, financial opening will tend to reduce welfare. A similar argument applies to other distortions.

The more recent literature dealing with welfare effects of financial opening added to the earlier studies by modeling the process of financial intermediation. A key difference between the earlier literature and the one dealing with financial intermediation is the switch in focus, from the commercial to the financial aspects of opening up. This matters, as the adjustment of financial markets to news and policies is much faster than that of commercial flows of goods and services. A by-product of this switch is the focus of the new literature on conditions leading to the instantaneous reversal in the flow of financial assets, generating financial crises.

This recent literature has led to a spirited debate concerning the wisdom of unrestricted capital mobility between the OECD and emerging markets. Various studies have identified circumstances in which unlimited capital mobility may be sub-optimal (see Table A for a summary of some of these studies). Notwithstanding the above debate, the strongest argument for financial opening is the pragmatic one. Like it or not, greater trade integration erodes the effectiveness of restrictions on capital mobility. Hence, for successful emerging markets that engage in trade integration, financial opening is not a question of if, but of when and how. Consequently, the pragmatic approach to the problem should recognize that there is no quick fix to the exposure to financial crises induced by financial opening. Instead, the challenge is to reduce the depth and the frequency of the crises. The core of the problem is that we deal with incomplete financial markets, exposing the creditors to sovereign risk and moral hazard.³ As there are fundamental reasons for the incompleteness of these markets, one doubts whether there

³ See for a review of the literature on sovereign risk see Eaton and Fernandez (1995).

exists a smart fix that will prevent future crises. Instead, the hope is that new policies and improved coordination will reduce the severity of financial crises, thereby improving the odds of a positive long-run welfare effect of financial opening.

Section 1 starts with the review of the empirical evidence. Section 2 reviews the various proposals attempting to reform the global financial system. Section 3 provides an appraisal of the various proposals made for preventing financial crises. Specifically, it argues that a version of the Lucas critic may limit the welfare gain of these proposals. Of course, this is not an argument against adopting reforms. It suggests, however, that a better understanding of the structural characteristics leading to exposure and crises is the key for designing a successful restructuring of the capital market. A reform that would not deal with these structural factors runs the risk of leading to disappointing welfare gains at best, and to crises in the worst case. Some of the reforms may fall short of success due to coordination failure: they may be effective only if they would be adopted comprehensively by all the relevant financial centers. Finally, some of the proposals may be too optimistic, ignoring the time inconsistency and political economy considerations that would challenge the practicality of the best-intended reforms, as well as in presuming the ability to verify unambiguously the quality of macroeconomic adjustment.

1. Financial opening and financial crises: the evidence

The recent research has two common themes: it validated empirically the assertion '*Good-bye financial repression, hello financial crash.*' (Diaz-Alejandro (1985)). Yet, it also found tenuous evidence that financial liberalization tends to increase growth overtime. Both observations suggest an intertemporal trade-off. In the short-run, the fragility induced by financial opening leads frequently to crises. Yet, if these crises would force the country to deal with its structural deficiencies, financial opening may induce a higher growth rate in the long-run. The empirical literature relies frequently on cross-country methodology. Thus, it provides us with little guidance in evaluating the net welfare effects of financial opening. For example, it remains hard to gauge if Korea would have been better off by refraining from financial opening in the early nineties, or if

Chile would have benefited by retaining financial repression in the eighties-nineties.⁴ The answers to these questions depend crucially on the time horizon of the analysis, as well as on the evaluation of what is the relevant counterfactual, both issues to which there are no satisfactory answers.⁵

We illustrate the empirical literature by reviewing selectively several examples. Kaminsky and Reinhart (1999) found that problems in the banking sector typically precede a currency crisis, and that a currency crisis deepens the banking crisis, activating a vicious spiral. Importantly, they also found that financial liberalization often precedes banking crises. Similar results were replicated in several papers using different methodologies. Glick and Hutchison (1999) investigated a sample of 90 countries during 1975-1997, covering 90 banking crises, 202 currency crises, and 37 twin crises. They found that banking and twin crises have occurred mainly in developing countries, and their number increased in the 1990s. Twin crises are mainly concentrated in financially liberalized emerging-market economies. These findings support the conjecture that openness of emerging markets to international capital flows, combined with a liberalized financial structure, makes them particularly vulnerable to twin crises. *The costs of these crises are substantial.* Currency crisis, on average, leads to a cost of 8% pre crisis GDP.

⁴ Obviously, the financial crisis in 1997 impacted Korea's welfare adversely. One may argue, however, that it prevented a much deeper and longer calamity, akin to Japan's recession in the last ten years. Arguably, had Korea continued with financial repression, a Japanese type of a correction would have hit Korea later. Korea's development path resembles that of Japan -- its domestic banks accumulated overtime large non-performing loans. These loans were the heritage of the earlier development strategy, where large corporations had selective access to preferential lines of credit. According to this argument, the crisis of 1997 prevented a larger buildup of these loans, saving Korea from a much deeper correction. Obviously, it is hard to provide a sound test of this argument. See Haggard (2000) for further discussion on the interaction between the public and the private sector in Korea and other countries in the Far East. Similar ambiguities apply to Chile, which has been the best performing Latin American country in recent years, and is credited with a sound banking system. Yet, Chile experienced a massive banking crisis in the eighties, following earlier financial opening. Arguably, one may credit the superior recent performance of Chile to the painful earlier reforms, reforms that were triggered by the crises of the early eighties.

⁵ A welfare evaluation of these issues may depend on the degree to which there are political economy trade-offs between a large crisis versus a series of smaller crises – a large crisis may be needed to overcome entrenched opposing interest groups, yet it may lead to larger welfare costs.

Simultaneous currency and banking crises reduce the pre crisis GDP by 18% (World Bank (1998), and Caprio G. and P. Honohan (1999)).

Demirgüç-Kunt and Detragiache (1998) studied the empirical relationship between banking crises and financial liberalization in 53 countries during 1980-95. They found that Banking crises are more likely to occur in liberalized financial systems. The impact of financial liberalization on the fragility of banks is weaker, however, when the institutional environment is strong (Relevant institutional characteristics - respect for the rule of law, a low level of corruption, and good contract enforcement). They found that banks' franchise values decline after financial liberalization. Hence, the intensification of the moral hazard associated with lower franchise values may be one of the sources of increased banking sector fragility. Financial liberalization is followed by improved financial development, while banking crises tend to slow it down. In countries that liberalize from a position of financial repression, financial development improves even if a banking crisis takes place. Their results support the view that financial liberalization should be approached cautiously where the institutions necessary to ensure law and contract enforcement, effective prudential regulation and supervision are not fully developed, even if macroeconomic stabilization has been achieved.

A useful survey of Financial Liberalization is Williamson and Mahar (1998), who focused on 34 countries that undertook financial liberalization between 1973-1996. Overall, they found a mixed record of financial liberalization -- The gains are there, but the liberalization carries the risk of leading to financial crisis. Financial liberalization has yielded greater financial depth, and increased efficiency in the allocation of investment. Yet, it has not brought the boost in saving. The drawbacks in the liberalization process are the danger that the liberalization will lead to a financial crisis. For the majority of countries, capital account liberalization increases its probability. The challenge is to design a liberalization program that does not bring a financial crisis in its wake. The main recommendations emerging from their study are akin to Hellman, Murdock and Stiglitz (2000) -- start with macroeconomic stabilization, improve bank supervision, while delaying capital-account convertibility to the end of the process. In the transition, "mild financial repression," in the form of a ceiling on deposit interest rate, may be advantageous. This follows from the observation that exceedingly high interest rates

encourage risk taking by borrowers – moral hazard induced by self-selection. Banks in stress may wish to ‘gamble for resurrection’ by lending to such borrowers, at a cost to the taxpayer. Williamson and Mahar conclude that maintaining high spreads may be needed in a transition until banks are able to work off the legacy of bad debt inherited from the period of financial repression. In such an environment, free entry of foreign banks may be a mixed blessing. The efficiency gains should be balanced against the threat of ‘gamble for resurrection’ by older domestic banks losing their franchise value. Imposing higher capital requirements increases the cost of a ‘gamble for resurrection’ strategy. In these circumstances, deposit rate controls may complement capital requirements.

The overall effect of financial opening on growth remains debatable. Levine (1997) found a positive association, whereas Rodrik (1998) failed to depict any positive effects of financial opening on investment, growth and inflation. While Levine’s interpretation attaches the direction of causality from financial deepening to growth, the old dictum that correlations do not indicate causality remains valid. More recently, Beck, Levine and Loayza (2000) evaluated the empirical links between the level of financial intermediary development and economic growth, TFP growth, physical capital accumulation, and private savings rates. The main findings are that financial intermediaries exert a large, positive impact on total factor productivity growth, which feeds through to overall GDP growth. Yet, the long-run links between financial intermediary development and both physical capital growth and private savings rates are tenuous. Bekaert, Harvey and Lundblad (2001) found that equity market liberalizations, on average, lead to a one percent increase in annual real economic growth over a five-year period. The investment/GDP ratio increases post liberalization, with the investment partially financed by foreign capital inducing worsened trade balances. The liberalization effect is enhanced by a large secondary school enrollment, a small government sector and an Anglo-Saxon legal system.⁶

Rodrik’s earlier methodology has been revisited by Arteta, Eichengreen, and Wyplosz (2001). While they found indications of a positive association between capital

⁶ As is frequently the case with empirical studies relying on Macro data, endogeneity and reverse causality remain a valid concern in interpreting some of these results.

account liberalization and growth, the effects vary with time, with how capital account liberalization is measured, and with how the relationship is estimated. The evidence that the effects of capital account liberalization are stronger in high-income countries is fragile. There is some evidence that the positive growth effects of liberalization are stronger in countries with strong institutions. Capital account liberalization appears to have positive effects on growth only in countries that have already opened more generally, hence sequencing matters. But there are significant prerequisites for opening, including a reduction of trade barriers and an ability to eliminate macroeconomic imbalances. These conclusions are akin to Edwards (2001) who reported that, after controlling for other variables (including aggregate investment), countries with a more open capital account have outperformed countries that have restricted capital mobility. There is also evidence that an open capital account affects growth positively only after a country has achieved a certain degree of economic development. This provides support to the view that there is an optimal sequencing for capital account liberalization.

2. Proposals for preventing financial crises induced by financial opening

This section provides a brief summary of the various proposals.⁷ These reforms can be classified along several dimensions. First, proposals differ in the weight given to reforming the incentives facing creditors, debtors, or the interaction between the two groups. Second, proposals differ in the weight given to ex-ante risk reduction, versus ex-post orderly management and resolution of actual crises. Third, proposals differ in the depth of the reform. Some deal with upgrading regulations within the existing institutional environment, whereas others suggest bolder steps, envisioning the creation of new institutions. Table B summarizes the main proposals.

One line of reform focuses on the possibility that, by subsidizing sovereign borrowing, the involvement of institutions may exacerbate the problem, inducing moral hazard. For example, the belief that the IMF, World Bank and banking deposit insurances schemes will bailout creditors generates over borrowing, ending with more

⁷ Several recent monographs overviewed comprehensively the various proposals. See Eichengreen (1999), Rogoff (1999), Frankel and Roubini (2001), and Feldstein (2002).

frequent and deeper crises, at the taxpayers' expense. A profound reform of the IMF, as suggested by the Meltzer committee (1998), would restrict IMF's role to helping countries meeting ex-ante conditionality [see also Jeanne (2001)]. Another radical approach calls for the formation of a global lender of last resort [see Soros (1998)], an approach that would institutionalized a global type of the FDIC arrangement. All these proposals share the concern of minimizing ex-post bailouts that were not pre-approved at the lending stage.

A less aggressive approach to provide greater stability is the imposition of reserve requirements on lenders and/or borrowers, as well as the possibility of capital adequacy requirements that are linked to the bank's portfolio risk. The Basle committee [as well as Chairman Alan Greenspan (1998)] advocates this approach. The rationale for the reserve requirements is provided by the presence of various externalities. On the lender's side, the anticipation of bailouts is introducing an externality, where marginal lending impacts adversely the taxpayer. On the borrower's side, as long as partial defaults are costly, marginal borrowing affects all agents by increasing the probability of a costly default that would impact all [see Aizenman and Turnovsky (2002)]. Alternatively, emerging markets may enact similar policies aimed at curbing short-term financial flows, akin to the Chilean system in the nineties [see Eichengreen (1999)].⁸

A different tack of reforms has focused on the ex-post resolution of crises. One approach advocates institutionalizing ex-ante the possibility of credit relief in bad times. This may be accomplished by attaching to all foreign currency liabilities the option entitling the borrowers to extend the debt for a specified period, at a mandatory penalty rate [see Buiter and Sibert (1999)]. In order to facilitate the coordination among large numbers of diffused lenders, various proposals advocate deeper institutional changes.

⁸ See De Gregorio, Edwards and Valdes (2000) for a mixed review of Chile's experience with controls on inflows. Edwards (2001) conclude that these controls "were successful in changing the maturity profile of capital inflows, and of the country's foreign debt. Also, the controls allowed the monetary authority to have greater control over monetary policy. This effect, however, appears to have been confined to the short run, and was not very important quantitatively." In evaluating Chile's experience, one should keep in mind that Chile has been the best performing country in Latin America in recent years. Hence, Chile's experience may provide limited inference about the potential benefits of controls on inflows to countries with more fragile financial systems.

The adoption of a modified version of domestic bankruptcy procedure has been frequently advocated [see Sachs (1995), Miller and Zhang (2000) and Kreuger (2001)]. Specifically, such an “international workout mechanism” would aim at minimizing the cost of protracted negotiations. It would allow the debtor the continuation of export and production with minimal disturbances. It would also serve to coordinate among the diffused creditors, allowing smoother and faster resolution of the stand off between the involved parties.

3. Reforming the financial system: the challenges

The growing list of proposed reforms is indicative of the emerging consensus that the present financial architecture needs a major overhaul. While it is easy to point out the flaws of the existing system, any fundamental reform will confront a host of challenges. We review briefly some of the general issues involved, and illustrate their relevance in understanding the limitations of various proposals.

The Lucas critic; Political economy and coordination failure

Any significant reform will change agents' behavior in ways that are hard to predict without understanding the fundamental forces explaining sovereign borrowing and default. Some of the relevant fundamentals are determined by the political economy characterization of emerging markets, and by the challenges confronting attempts to deal with coordination failures. Short of a fuller understanding of the fundamental forces leading to exposure and crises, suggested reforms may lead to disappointing results at best, and welfare reduction at worst. We illustrate these considerations by analyzing the potential pitfalls in several proposed reforms.

3.1 Debt maturity structure

Jeanne (2001) illustrates the importance of understanding the forces leading to vulnerability as a necessary condition for evaluating the welfare effects of changing the international financial architecture. Specifically, he focused on understanding the maturity structure of countries' external liabilities as the solution to an incentives problem. He considered a country attempting to borrow when there is uncertainty about its solvency due to exogenous shocks. The country can enhance its solvency by implementing a costly fiscal adjustment, and it can borrow on a short term or a long-term basis. This situation imposes a trade off -- when government's solvency deteriorates; short-term debt becomes less expensive or more accessible than long-term debt. This comes with a cost: the government is under more pressure to restore the fiscal situation if its debt has a shorter maturity, because it is more vulnerable to a crisis in which creditors

do not roll over their claims. This is due to the observation that short-term debt opens the door to self-fulfilling crises, in which creditors stop rolling over their loans for an extraneous reason unrelated to the fundamentals. There is a tension, thus, between the disciplinary benefits of short-term debt and the risk of unwarranted rollover crises.

In this context, Jeanne investigates the welfare effect of institutions that facilitate an orderly workout of debt crises, (e.g., an international bankruptcy court and officially sanctioned standstills); and of international lender of last resort. These measures are shown to improve welfare, but to fall short of the first-best. The first best in Jeanne's model is achieved by a "crisis insurance fund" which ex-post bails out countries conditional on the ex-ante fiscal adjustment, and payment a risk premium.

3.2 Transparency and the feasibility of "Crisis insurance fund" conditional on ex-ante adjustment effort.

It is non-controversial that a minimum level of transparency of financial positions and policies is a necessary condition for financial markets to exist and to operate.⁹ Yet, it's not clear that greater transparency would eliminate the exposure to crises. Setting standards for transparency may encourage creative accounting, where each crisis exposes new loopholes, inducing a change in the required rules of the game. While "transparency creep" is unavoidable, putting too much faith in the importance of transparency may lead some investors to a false sense of security. Indeed, full information does not negate the possibility of crises induced by multiple equilibria.

One of the innovative proposals dealing with reforming the IMF is to insure countries against financial crises only if they met ex-ante criteria [see Jeanne (2001) and Meltzer (1998)]. A necessary condition for such a scheme is transparency. In practice, however, verification is costly and fuzzy. Frequently, it takes a major crisis to force the "real books" to open [see the case of Korean's reserves in the 1997 crisis, and the recent Enron fiasco]. These practical considerations suggest that only in the aftermath of a crisis we learn the degree to which the ex-ante criteria were met, as a crisis may reveal

⁹ For example, greater uncertainty about the net indebtedness of a country would lead to thinner markets, and may eventually lead to the collapse of voluntary lending [see Kletzer (1984), Calvo (1999) and Aizenman and Marion (1999)].

that some of these criteria were met only superficially. It may be hard to verify ex-ante if the institutional environment changed enough to warrant the insurance. Hence, costly monitoring and the impossibility to verify fully the depth of the adjustment limit the applicability of this proposal. In these circumstances, we are left with no clean solutions, and there may be no escape from the need to “muddle through” protracted negotiations in the aftermath of crises.

3.3 The use (and abuse) of International Reserves, and vulnerability indicators

A high short-term debt/International reserves ratio was found to be a vulnerability indicator, signifying of exposure to crises [see Rodrik and Velasco (1999)]. Does it imply that emerging markets would benefit by increasing the cushion of international reserves, signaling thereby they’re being a safer borrower? Countries like Chile, Korea, and Taiwan have managed large stocks of international reserves. Does it follow that other countries will benefit from hoarding more international reserves in order to reduce the above vulnerability index? As the Lucas Critic would suggest, a deeper understanding of the economy is needed in order to answer this question.

This point can be illustrated in a model of emerging markets, where there is a conflict between efficiency and political economy considerations. Specifically, countries characterized by sovereign risk, tax collection costs, inelastic demand for fiscal outlays, and a volatile GDP opt to engage in large external borrowing. Suppose that international reserves are beyond creditors’ control [this would be the case if the location and the magnitude of the reserves is not public information, implying also that the partial default repayment is independent of the stock of reserves]. In the absence of political economy considerations, higher borrowing can be shown to be accompanied with a greater accumulation of international reserves [see Aizenman and Marion (2002)]. While this adjustment is welfare enhancing, it may do little to prevent a sovereign debt crisis. Suppose now that there is political uncertainty regarding the identity of the future administration -- there is a positive probability that an opportunistic administration will “loot” the treasury, channeling resources towards narrow interest groups. Greater political instability can be shown to reduce the demand for international reserves, and to

increase borrowing.¹⁰ Hence, the association between external borrowing and international reserves depends critically on political economy factors. High short-term debt/reserve ratio may be the symptom of political instability. In these circumstances, a policy that will target a drop in the short-term debt/international reserves ratio without dealing with the political economy considerations that determine the prospect of future looting, is welfare reducing. Such a policy does not necessarily reduce vulnerability to crisis, and in fact it may increase the probability of a crisis.

Similar concerns may apply to the usefulness of vulnerability indicators. These indicators provide information on variables correlated with past crises. Attempts to encourage the dissemination and the use of these indicators in allocating global funds may have mixed results. One doubts the degree to which these indicators will perform in the future, out of the sample used to construct them. One may also envision situations in which the introduction of quasi-official indicators provide a false sense of security; where market participants may attach too much value to these indicators, ignoring other relevant information. It may induce emerging markets to ‘distort’ the indicators in order to signal their relative soundness. As the previous discussion illustrated, short of deeper reforms, these signals may be misleading, and may not indicate a genuine reduction in vulnerability.

¹⁰ If the present administration is opportunistic, it will “loot” all liquid resources, hence it will minimize its reserves holdings, and maximize borrowing. If the present administration is benevolent, a higher probability of a future opportunistic administration will reduce the present demand for international reserves, and will increase borrowing, as a way of reducing the resources available for future looting.

3.4 Time inconsistency and political economy considerations – how important is the choice of exchange rate regimes?

Crises are frequently the delayed manifestations of political economy factors. Reforms that ignore these factors run the risk of inducing too optimistic an assessment of countries, leading overtime to a large exposure, and ultimately to greater vulnerability. The literature on the optimal exchange rate regimes frequently attaches too much importance to the choice of monetary policy. Beyond the short-run, monetary and fiscal policies are intertwined via the intertemporal budget constraints. Indeed, one may argue that a deficient fiscal system may lead to crises independently of the exchange rate regimes. In these circumstances, the choice of the exchange rate regime will impact only on the timing of the ultimate crisis. After all, sovereign risk and exchange rate risks have different causes. Casting the problem in terms of the “smart” choice of an exchange rate regime is potentially hazardous, as it obscures the need to challenge the deeper fiscal deficiencies.

These considerations are illustrated in the contrast of the policies undertaken by Brazil and Argentina in the last 15 years. In the eighties, both countries were characterized by similar fiscal deficiencies, stemming from their organization as a loose federal system, where the provincial states and municipalities had a significant bargaining power relative to the federal center. In the early nineties, both countries went through successful exchange rate based stabilizations. The nominal anchor provided by pegging the exchange rate, supported rapid disinflation in both countries. Argentina, however, put a much greater emphasis on the importance of a peg – it adopted a rigid currency board. In contrast, Brazil put greater emphasis on dealing with its fiscal imbalances, reducing thereby the relative power of the provincial states.¹¹ In addition, Brazil moved overtime from a fixed exchange rate regime towards discretionary exchange rate management, accommodating external adverse shocks with occasional depreciations. As the recent events have painfully illustrated, Brazil’s choice allowed it to steer away from a deep

¹¹ While it’s premature to conclude that Brazil has accomplished all the adjustments called for under the Fiscal Responsibility act of 2001, it started the painful process of curbing the biases towards provincial overspending. See Dillinger and Webb (1999) for further details about the reforms.

crisis, whereas Argentina's choice has led overtime to increased vulnerability, and to the ultimate recent crisis.

3.5 Multitple equilibria and the international lender of last resort

One possible justification for "bailing out" countries is the presence of multiple equilibria. Exposure to multiple equilibria is a by-product of the maturity transformation accomplished by financial intermediation, where short term deposits are used to finance longer term real project [see Diamond and Dybvig (1983) for a banking model, and Chang and Velasco (1999) for an open economy model of bank and currency runs]. In these circumstances, the presence of the lender of last resort is supposed to prevent the bad equilibrium. As Rogoff (1999) discussed, lenders of last resorts comes with a hefty cost to the taxpayer. Some may view the fate of Argentina as an example of a country suffering from the adverse consequences of a switch to a bad equilibrium. Supporters of this view point out that conventional measures (current account, fiscal deficits, etc.) failed to flag out Argentina as a highly vulnerable country in the 1990's. Indeed, Argentina's fiscal measures were comparable to those of 'respected' OECD countries. Can we infer from this that a lender of last resort would have prevented the Argentinean crisis?

While it's hard to test this assertion, there are fundamental challenges facing the multiple equilibria argument. Vulnerability to a crisis may depend on the flexibility of an economy to adjust to changing circumstances. This includes the ability of the fiscal system and the labor market to adjust to unforeseen events. More generally, country risk may be determined by the interaction between shocks, and the quality of the institutions of conflict management [see Rodrik (1999)]. In the context of Argentina, the multiple equilibria interpretation is challenged by the view that Argentina is a quasi European Style welfare state, standing on the shoulders of a very thin tax base. This situation is further exacerbated by a provincial states' bias towards overspending. Hence, one may conclude that there are fundamental reasons to view Argentina as a risky destination for global capital; even if its fiscal deficits and current account deficits are comparable to OECD countries.

The insistence of the Argentinean authorities on preserving the currency board despite the growing strength of the dollar and the occasional real depreciations of Brazil may be viewed as a manifestation of these risks --viewing the currency board as the main safeguard against inflation runs the hazard of providing a signal that the deeper fiscal problems are still there. Placing too much faith on the currency board as the mechanism for fiscal discipline overlooks the fact that the cost of changing the exchange rate regime (and more generally of monetary policy) is much lower than the cost of a fundamental fiscal reform. Hence, a country like Argentina runs the risk of being viewed as fiscally unstable, independently of the realized path of current account and fiscal deficits. In the long run, according to this view, the fiscal side will determine the strength of the system. Short of resolving fiscal deficiencies, a country like Argentina will find it hard to convince the market that it's a prudent destination for capital.

One may rephrase the above discussion in terms of the rules versus discretion literature, where there are gains from delegating monetary policy to a conservative agent. As was illustrated in Rogoff's (1985) seminal work, the optimal commitment to the conservative course depends on the stochastic structure. If the balance of shocks tilts overtime towards adverse real shocks, a less conservative course is preferable. The success of Brazil and the failure of Argentina may be viewed as a vivid example of this principle. The success of the structural reform would require also challenging the fiscal deficiencies that determine, in the long run, the course on monetary policy. Hence, the relative success of Brazil is attributed to its success in curbing the bias towards provincial overspending, and in a more appropriate use of discretionary exchange rate and monetary policy.

3.6 Policies designed to impose discipline on the market - reserve and capital adequacy requirements

The introduction of reserve requirements by either borrowers or lenders may impose better discipline on the global financial market. Borrowing will decline, and so will default risk, reducing the necessity for continuing bailouts. The introduction of reserve requirements will improve welfare in both the lending and borrowing economies. In these circumstances, the lender's optimal reserve requirement increases with the

expected bailout [see Aizenman and Turnovsky (2002)]. Indirectly, this policy may reduce the bias in favor of debt and against equity in international lending, identified by Rogoff (1999). But the design of the optimal reserve requirement in a decentralized world is a delicate matter, and both the optimal lender's reserve requirement and the optimal borrower's requirement have both attractive and unattractive features. Indeed, without a proper coordination among all lenders, the reserve requirements will reallocate lending from high to low reserve countries, with few beneficial effects. Hence, the gains of such policies will be determined by the ability of international institutions [the BIS, IMF, etc.] to induce all lenders to apply similar policies, driven by the underlying risk factors.

4. Concluding remarks

The global financial market has been shaken throughout the nineties by a series of major financial crises. Attempts to stabilize the global system have led to large bailouts. This experience suggests that the present system cannot survive indefinitely, as the willingness of taxpayers in the OECD countries to engage in continuing bailouts is approaching its limits. The presumption is that we deal with a second-best situation, in which there is no quick fix but welfare can be enhanced by the proper regulatory changes. While prudent borrowing of emerging market economics is beneficial, excessive borrowing may be disadvantageous due to existing distortions. In such an environment, one should either reduce the existing distortions, or induce borrowers and lenders to internalize them.

Recent proposals for the “New International Financial Architecture” have focused on reform along two margins; reducing the ex-ante probability of a crisis, and inducing more orderly resolution of a crisis. In evaluating the various of proposals, it is important to stress that there are good reasons to support both more effective crisis management and more prudent ex-ante allocation of credit. As each deals with a different margin, they should complement each other. Specifically, the crisis management proposals do not address directly the excessive risk undertaken due to moral hazard, as the ex-post “solvency” of some of the resultant projects hinge on bailouts. Similarly, improving the prudential regulations would not eliminate liquidity crises. Hence the need for more efficient crisis management and resolution remains a high priority issue. This is especially due to the growing diversity of lenders, implying that the task of coordinating the resolution of crises is more involved.

Greater global integration increased the responsiveness of financial flows to news. This development is potentially beneficial in good times, but it has adverse consequences when things go wrong. Hence, the darker side of globalization is that financial crises increase the scope for conflicts -- the direct stakes are higher. Once the bad news hits the market, the key issue is not only the ultimate distribution of the burden of adjustment between the debtors and creditors, but also the length of time it would take to settle down the dispute. The killer of future cooperation may be the uncertainty regarding the dispute resolution mechanism, as it exposes creditors to the hazards of long haggling over a

shrinking pie. Protracted negotiations will prolong the period where both domestic and international agents refrain from new investments. This in turn will deepen the recession in the affected countries, increasing the social tension, further increasing losses. The net outcome may be greater temptation for the domestic authorities to embark on populist policies, leading towards autarky, a trend that will hurt further prospects of trade integration. Hence, the recent crises may be viewed as a test case for the efficiency of the global dispute resolution mechanism. While one hopes that the direct financial contagion from Argentina to other countries will be limited, one expects that a slow and protracted resolution of the crisis will highlight the inability of the present system to deal efficiently with adverse shocks, thereby reducing future financial flows, and putting in jeopardy other vulnerable countries.

The urgency of these issues is illustrated by the willingness of top IMF executives to engage constructively in a debate concerning the future form of the global dispute resolution mechanism [see Krueger (2001)]. One expects that only reforms that offer practical solutions will pass the market test and will endure the political process needed to implement them. One doubts the degree to which “clean” ideas, like insurance based only on meeting ex-ante conditionality, will survive the time inconsistency and the transparency challenges. Considering the greater weight of non-bank lending, and the great increase in the number of institutional investors, one expects reforms dealing with better coordination among creditors, and with the formation of international bankruptcy procedures, to be vigorously tested by looming crises.

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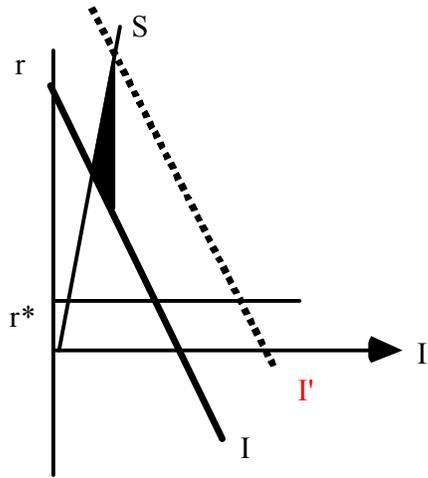
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The Welfare effect of financial opening	Explanation
Potentially large benefits.	Financial opening may lead to large benefits, stemming from better risk pooling, information collection and maturity transformation, providing thereby deeper liquidity [Greenwood and Jovanovic (1990), Obstfeld (1994), Acemoglu and Zilibotti (1998)].
Positive but small benefits from financial opening.	Second order magnitude gains from international diversification of output risk [Cole and Obstfeld (1991)].
Ambiguous welfare effects.	<ul style="list-style-type: none"> - If production does involve learning by doing, opening capital markets does not necessarily improve welfare for the nation or for the world as a whole [Kohn and Marion (1991)]. - Overborrowing due to moral hazard and euphoric expectations, leading to crises [McKinnon and Pill (1996); Corsetti, Pesenti and Roubini (1999)]. - Overborrowing due to congestion externalities, where atomistic agents do not internalize the full effects of marginal borrowing on future welfare [Aizenman (1989)]; Overborrowing due to free rider problems in economies short of international collateral, generated by imperfections of the domestic capital market [Caballero and Krishnamurthy (2001)]. - Emerging markets are more prone to financial crashes. This will be the case when financial market capitalization depends on the expectations of agents regarding aggregate investment in their economy. This gives rise to potential coordination failures, which may be exacerbated for low income countries by financial globalization [Martin and Rey (2001)].

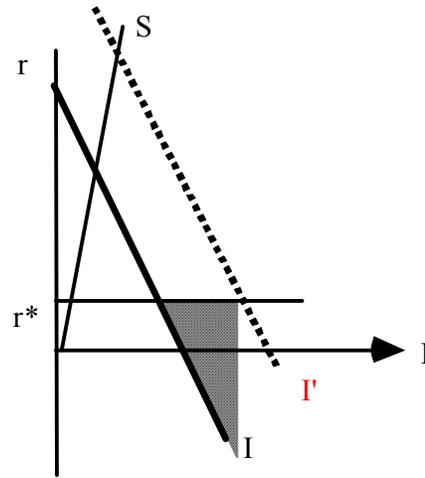
Table 1
The welfare effects of financial opening – Theory

Proposed by	Emphasis on	Key features
Meltzer Committee Report	Ex ante steps to reduce the moral hazard induced by institutional bailouts	The IMF would provide unconditional short-term credit only to countries that are pre-approved [ex-ante conditionality]. The credit is at penalty rate. Recommend to restrain the IMF's ability to allocate credit using ex-post conditionality, and to prevent the IMF from supporting countries following loose fiscal and monetary discipline.
Basle Committee [supported by Chairman Greenspan]	Ex-ante risk management by creditors	The adjustment of the minimum capital standards to the risk exposure of banks, including an adjustment for sovereign risk. This is done in order to mitigate moral hazard induced by deposit insurance, due to the 'Too big to fail' systemic risk doctrine.
Eichengreen (1999)	Ex-ante risk management by debtors	Argues for Chilean-style capital-inflow taxes as the only effective solution to the dangers of an open capital account when risk management is inadequate, supervision and regulation are not effective, and there is a culture of explicit guarantees.
Sachs (1995) Miller and Zhang (2000) Portes (2000) Kreuger (2001)	Ex-post crisis resolution	Adopting international bankruptcy-style procedures akin to those applied to corporate debt. The proposed procedure provides better coordination among competing creditors, as well as a short-run relief to the debtor from the induced credit crunch, enabling the continuation of export and production. This would be done as part of a controlled restructuring, and may include issuing new senior debt. The addition of collective action clauses to loan agreements and the establishment of standing bondholders committees are needed for a market-based solution to be feasible. International workout mechanism: a framework offering a debtor country legal protection from creditors that stand in the way of a necessary restructuring, in exchange for an obligation of the debtor to negotiate with its creditors in good faith and to put in place policies that would prevent a similar problem from arising in the future.
Buitert and Sibert (1999)	Crisis mitigation and resolution	Attaching to all foreign currency liabilities the option entitling the borrowers to extend the debt for a specified period, at a mandatory penalty rate.
Soros (1998) Jeanne (2001)	Ex-ante insurance against default.	Insurance by a global authority, akin to a global FDIC. Borrowers would pay the premium. International monitors (like the IMF or the BIS) would set borrowing ceilings, and no bailouts would be enforced on non-insured loans. "Crisis insurance fund" which bails out countries conditional on the payment of risk premium and on making the needed fiscal adjustments.
Rogoff (1999) Kaminsky, Lizondo and Reinhart (1998)	Ex-ante steps to reduce crises incidence	Shifting financing from debt to equity. This would be facilitated by mitigating the factors contributing to the bias towards debt [like a deposit insurance which subsidizes bank intermediation; underdeveloped equity markets in emerging markets, etc.]. A warning system for crises, taking into account a broad variety of indicators.

Table 2
Overview of proposals



a
Financial autarky



b
Financial integration