Systemic Risks and Financial Crises

How can future currency crises be prevented or managed ?

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PREFACE

This report consists of two related papers, which are outputs of a research project, financed by Sida and undertaken by Dr Stephany Griffith-Jones at the Institute of Development Studies, Sussex. The theme of the research project is *Regulating Global Capital Flows*, with special reference to flows to and from developing countries.

The first paper examines the main systemic risks posed by private capital flows in general, and especially those posed by private capital flows going to developing countries. The second paper discusses financial crises management and some current and new proposals for policy action.

The Mexican financial crisis, which started in December 1994, provides an important case study of the systemic risks that can be caused by such flows and of the high social and economic costs which can be incurred by volatility of such flows. This may cause severe problems both for the international financial system and for the economy and population of the country. The project in its final stage is analyzing these implications of the Mexican crisis, and the policy implications for recipient countries, for source countries and for international financial institutions.

The research project will result in a book to be published in 1996 by The Royal Institute of International Affairs in London (Chatham House). It will cover the above issues in the context of financial globalisation, securitisation and liberalisation in the 1990´s, the new forms of systemic risks involved and international regulation of banks and securities and other policy implications. The project analyzes various measures to regulate short-term capital flows both in recipient and source countries, including taxation, in order to reduce their volatility and increase stability.

Sida´s Department for Policy and Legal Issues finds these studies to be of major importance as a basis for policies to create an enabling environment with financial and macroeconomic stability - a pre-requisite for social and economic development according to the World Summit for Social Development in Copenhagen 1995. Such a policy environment would greatly enhance the effectiveness of projects and programmes supported by Sida and other international development cooperation agencies in achieving sustainable economic and social development in recipient countries.

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SYSTEMIC RISKS AND FINANCIAL CRISES

I. Introduction

The purpose of this paper is to examine the main systemic risks posed by private capital flows in general, and especially those posed by private capital flows going to developing countries. Unfortunately for Mexico and its' people, the Mexican financial crisis, which started in December 1994, provides an important case study of the systemic risks that can be caused by such flows and of the high cost (both for the international system and the Mexican domestic economy) which can be incurred by volatility in such flows. What is noteworthy and new about the Mexican crisis is that the flows involved were not mainly bank credit flows, but portfolio flows. This has important implications for the nature of the flows and their volatility, the need for - and form of response - by the international financial authorities, etc.

To put this analysis in context, we will first examine the relevant theoretical literature (section II). Secondly,(in section III), in the new context of globalisation of capital flows, and their trend towards securitisation, we will examine the nature of the response by regulators to these recent trends. We will focus here on the main systemic risks posed by capital flows, and especially those to developing countries (and illustrate them where relevant by the Mexican crisis). Section IV concludes with some preliminary proposals, which relate both to measures that could reduce significantly the risk that major financial crisis occur as well as to measures that may need to be adopted, in particular, for example use of some implicit or explicit lender of last resort mechanism - if a major financial crisis does break out. The need to link both aspects - ex-ante crisis avoidance mechanisms as a pre-condition to any ex-post safety net - will be emphasised. So will be the new nature of actions required due to the fact that most flows are now portfolio ones.

II. Theoretical background

There have been fairly important advances in the theory of finance, which are of relevance to our study.

Recent developments in the theory of finance have advanced understanding of the role of debt, especially in the national context. The key issues in an analysis of debt are raised by the uncertain possibility that the borrower will default, given cost of default, asymmetric information and incomplete contracts. Lending is thus problematic because there is a risk of default, because defaults by borrowers will obviously be costly to creditors, because information that lenders have about borrowers is imperfect (and asymmetrical - that is, less than that which the

borrowers have), and because it is not possible in an uncertain world to charge or collateralise fully against the risk of default.[1]

Several aspects of debt contracts determine credit availability (called credit rationing in the literature). Changes in the stringency of such rationing are central in the theory that links financial fragility and systemic risk. These links are also relevant in the way financial crises unfold in practice. Before continuing, we should perhaps define systemic risk as the danger that disturbances in one financial institution, market or country will generalise across the whole financial system, whether within one country or - worse still - in several countries.

In a seminal article, Stiglitz and Weiss[2] showed that credit rationing can arise even if a credit market is in equilibrium and there are no sticky prices or government regulation; such credit rationing is more likely to occur if there is imperfect and asymmetric information (the borrower knows more about his characteristics then the lender) and there are incomplete contracts (that is, lenders cannot control all aspects of the borrower's behaviour). Almost by definition, these two features are particularly common in international lending. The analysis is based on the argument that, if the above conditions are met, the interest rate which maximises returns to the lender may be at a level such that demand for funds exceed supply. This is because interest rates influence the riskiness of loans in two ways. Firstly, because there is imperfect and asymmetrical information, higher interest rates are seen to increase average risk (this is the problem of adverse selection, that is a reduction in the average quality of applicants for loans due to its' increased price). Secondly, as interest rates rise, borrowers may begin to undertake projects which are more profitable - so they can pay higher interest rates - but that are also riskier; this is because under the conditions described above, there may be an optimal interest rate on loans, beyond which the return to the bank falls despite excess demand for loans; at this rate, the bank - fearful of default and not knowing which new borrowers would imply a higher risk - becomes unwilling to make new loans. As a result, certain borrowers may become unable to obtain loans at any interest rate at a given supply of credit. In this context, an increase in interest rates arising from tighter monetary policy may lead to a collapse of quantity-rationed credit markets, as it becomes unprofitable to make any advances. Below, we shall relate the argument directly to the link between US monetary policy and capital flows to emerging markets, especially Latin American ones, as discussed in Calvo, Leiderman and

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[1] For a good discussion of these issues, see E. P. Davis Debt, Financial Fragility and Systemic Risk, Oxford University Press. 1992.

[2] Stiglitz, J., and Weiss, A., 1981 "Credit rationing in markets with imperfect information", American Economic Review 72

Reinhart[3]. Now, we will continue with the more general discussion that relates credit rationing to financial fragility and - ultimately - to financial crisis.

Building on the work of previous economists (such as Alfred Marshall and Irving Fisher and particularly Minsky[4]), Kindleberger[5] had developed an approach which considers financial crises as a response to previous excesses linked to "euphoria". Drawing both on theoretical analysis, and on historical evidence, Kindleberger perceives a pattern. This starts with some significant event that greatly improves the perceived and real economic outlook, which he calls displacement. New opportunities for profits are seized - and overdone - "in ways so closely resembling irrationality as to constitute a mania". However, once the excessive character of the upswing is realised, the financial system may experience "distress", in the course of which the rush to reverse the previous process may be so precipitous as to resemble "panic".

In Kindleberger's analysis there is emphasis on the role played by bank credit, and the financial system in general, in these boom-bust patterns. He thus stresses that "speculative manias" gather speed through expansion of money and credit, or - in some cases - get started because of an initial expansion of money and credit. However, behaviour is not just conditioned by monetary policy, but by dramatic changes in perceptions. In the times of boom, speculation is seen to develop in two stages; in the first, sober stage of investment, households, firms or investors respond to a " displacement" in a limited and rational way; in the second, capital gains play a dominating role. Kindleberger links these two stages to two groups of "speculators", the insiders and outsiders. The insiders destabilise by driving the price up and up, selling out at the top to the outsiders, who buy at the top, and sell out at the bottom when the insiders are driving the market down[6]. This distinction seems very relevant for developments in Mexico leading to the December 1994 crisis, as initially it apparently was mainly Mexicans (insiders) who invested on a large scale, by returning capital that had previously fled; however, since mid-1992 it seems that these local investors-fearing a large devaluation - started to pull out, selling paper to more bullish investors (who were mainly foreigners) who were still confident[7].

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[3] Clavo, G., Leiderman, E., and Reinhart, C., (1993), "Capital inflows and real exchange rate in Latin America: the role of external factors, IMF Staff Papers, Vol. 40, No 1, March.

[4] Fisher (1933), "The Debt Deflation Theory of Great Depressions" Econometrica, 1: 337-57; Minsky, H., P., (1977) "A Theory of Systemic Fragility" in E., Altman and A., Sametz (eds.). Financial Crises. Wiley, New York.

[5] C., Kindleberger (1978), Manias, Panics and Crashes: A History of Financial Crises. Basic Books. New York.

[6] See, also, H. Johnson (1976) "Destabilising Speculation: A General Equilibrium Approach" Journal of Political Economy, 84, February.

[7] See, J, Ros "Financial Markets, Productive Sectors, and the Mexican Exchange Rate", Jan 1995.

Emphasis is also placed by Kindleberger on the fact that in crisis or panic, credit - at any price - may became unavailable. He argues (and illustrates rather convincingly with many historical examples) that in those circumstances markets are cleared by rationing (and not by market-clearing prices); when panic is severe, borrowing (or obtaining funds via other mechanisms) becomes impossible. Here we have the phenomenon of credit rationing that Stiglitz and Weiss have emphasised, but determined not mainly by high interest rates, but by the financial panic itself.

Thus, though monetary aspects of manias and panics are important, and better monetary policies are seen to moderate manias and panics in all cases - as well as eliminate some - even "optimal policies" could leave a residual problem; this view is based on the perception that even though financial markets work well most of the time, they occasionally break down. When this occurs, Kindleberger argues there is a clear case for government intervention to provide the public good of stability; in a crisis of significant proportion, the additional liquidity required can best be provided by the central bank acting as lender of last resort[8].

Finally, it is interesting to note that Kindleberger stresses the international dimensions and character of financial crisis; indeed - correctly - he emphasises that the model of financial crisis applies perhaps best to foreign exchange markets. For this and other reasons, he argues strongly for an international lender of last resort (ILOLR), that he believes will shorten the depressions that often follow financial crisis.

Even though there is the risk of moral hazard, national financial crisis appear as less frequent since central banks operate as domestic lenders of last resort. A similar role is required internationally, because - as flows become globalised - responsibility for stability becomes an important public good also internationally. Kindleberger points to the IMF as an institution, which obviously does and should play a pivotal role as an international lender of last resort, but emphasises the relative slowness of the IMF to respond, which is problematic as was shown by the recent Mexican crisis. Following Bagehot, Kindleberger emphasises also the need for the ILOLR to lend at "penalty rates"; in the case of international lending this is not referred to the cost of loans, but to the "policy conditionality" attached to them. Finally, Bagehot had placed as a condition for an effective lender of last resort that it lends without limits. The IMF does have formal limits on its' levels of lending to countries (linked to the size of their quotas), but interestingly these limits were completely lifted when the IMF acted as virtual lender of last resort to Mexico in January 1995.

It is noteworthy that though the approach of Kindleberger (and his followers in the so-called financial fragility school) is widely seen as a long-established alternative approach to interpretation of the history of financial crises to the monetarist approach, the policy prescriptions originating from the monetarist analysis are fairly

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[8]For the classic statement on this, see Bagehot, W., (1873) Lombard Street: A Description of the Money Market; see also S. Griffith-Jones and M. Lipton "International Lenders of Last Resort: Are Changes Required?" in Z. Ros and S. Motamen (eds.) International Debt and Central Banking in the 1980's. Macmillan. 1987.

similar to those of the financial fragility school[9]. Thus, monetarist economists not only unsurprisingly prescribe a stable and predictable money supply path, but also emphasise the need for deposit insurance and/or a credible and pre-committed lender of last resort as essential to avoid runs or panics.

Monetarists' policy advice, that a stable price level is the best way to avoid financial instability, seems less relevant for recent foreign exchange crisis. Thus, Mexico's very low inflation rate did not really help stabilise flows to that country, as investors started to focus on the country's large current account deficit.

Economic theory based on the analysis of uncertainty also contributes elements to our understanding of financial crises[10]. Situations of uncertainty are particularly great in a context of financial innovation, when behaviour of such new instruments/mechanisms is not well known, and competition may narrow margins. Furthermore, uncertainty tends to be greatest in those markets that are either not regulated or are very incompletely regulated. Again this is very relevant to recent developments, which have occurred in a context of rapid de-regulation and financial innovation.

An increased level of uncertainty can lead to loss of confidence, and therefore panics in financial or securities markets. It is interesting that , according to this theory, negative surprises - in a context of uncertainty - can cause shifts of confidence and therefore runs that affect markets more than appears warranted by the intrinsic significance of such events. Again this is highly relevant to the Mexican situation, where a fairly small devaluation and a small deterioration in the situation in Chiapas, sparked off such a massive stampede of outflows. (Clearly the current account deficit was very large, but it had been like that for some time, without the markets reacting too much to it.)

This analysis has several policy implications. Firstly, it shows the relative unreliability of new mechanisms of foreign inflows, and the somewhat low probability that these flows will be sustained. Secondly, it emphasises the need to reduce uncertainty by pursuing sustainable and stable macro-economic policy in recipient countries. Thirdly, it shows the need for adequate regulation and supervision to avoid excessively risky behaviour by financial intermediaries, especially when dealing in new products and/or focusing on new markets. The latter is a difficult challenge, as regulators and supervisors need to understand and respond in an agile way to very rapid financial market developments.

Integrating the work of credit rationing by Stiglitz and Weiss discussed above, with the financial fragility approach (as developed by Kindleberger) and drawing on

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[9]See, E P Davis, op. cit; see, also, for example, A. J. Schwartz, (1987) "The Lender of Last Resort and the Federal Safety Net". Journal of Financial Services Research, 1.

[10]See, for example, Shafer, J. R., (1986) "Managing Crises in the Emerging Financial Landscape" OECD Economic Studies, 8.

uncertainty theory, Guttentag and Herring[11] further theoretical understanding of financial crisis by a better explanation of abrupt increases in rationing.

Guttentag and Herring's model follows Kindleberger in dividing their analysis in different periods. Initially, there is a period when rationing constraints are excessively loosened. They argue that during this initial phase market participants do not know the uncertain distribution of disastrous outcomes, and as a result lenders' perceptions of risk (subjective probabilities) may deviate from reality. Competition may imply that, as prudent lenders or investor are driven from the market, they are replaced by those willing to accept what is seen as a low probability danger; this attitude is called "disaster myopia", and is explained by both psychological and institutional mechanisms.

The psychological elements include "cognitive dissonance", which appears when new information becomes available which suggests that, opposite to previous assumptions, there is serious risk. However, "cognitive dissonance" protects decision makers' self-esteem, and leads them to ignore or reject the information, in an attempt to justify previous decisions. This could help explain why lenders and investors in Mexico ignored for so long negative information about the country's deteriorating current account.

Psychological biases can be reinforced by institutional factors, such as the brief periods during which performance of loan officer or investment managers is evaluated and the speed with which staff change position. There is also a possible asymmetry between results for managers (who get salary bonuses in times of extraordinary profit) and shareholders, as well as investors (who have to shoulder possible losses).

Once a shock happens, a financial crisis may occur, provoked by severe credit rationing. In such a context, confidence becomes crucial, and shocks often have consequences exceeding their intrinsic significance.

Guttentag and Herring describe a financial crises as a condition in which borrowers - who previously could borrow freely - become unable to borrow at any rate, while others who were formerly considered extremely good borrowers also face heavy premiums. This seems to describe well the situation in early 1995, when Mexico became practically unable to borrow or raise private funds at any rate, and even the best borrowers in Latin America (and even in other emerging markets) had to pay fairly large premiums.

Furthermore, for newly quantity-rationed borrowers, outstanding loans or investments may suddenly be well above what lenders and/or investors find acceptable, so that these lenders and investors take steps to reduce outstanding loans and/or investments. To the extent that the loans are very short term or the

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[11] Guttentag and Herring (1984) "Credit Rationing and Financial Disorder" Journal of Finance, 39.

investments are liquid (as are practically most portfolio flows), and the wish to reduce existing exposure becomes widespread, runs from debtors can occur. According to this analysis, in such a situation it is not helpful to dampen a serious run by offering to pay higher interest rates, because - for a quantity-rationed borrower - the loan rate is already at the point to maximise the lender's return; furthermore, the likelihood of insolvency may make an offer to pay higher interest rates unacceptable.

The Guttentag Herring approach not only has policy implications for regulators, such as the need for appropriate risk weights and avoidance of excessive concentration of risk; as Davies, op. cit., points out it also poses challenges for financial institutions, to ensure that they learn from experience, in spite of turnover of staff and changing staff to deal with new modalities of loans or investments to similar clients. Furthermore, what has not yet been stressed, this analysis, and the pervasiveness of financial crisis, also has important implications for borrowers and/or recipients of portfolio investment, who mush define their strategies in a way that takes account of this rather persistent pattern of fickleness of financial markets.

Another fruitful approach to financial crises focuses specifically on asymmetric information. As Mankiw[12] discusses, a large exogenous increase in interest rates can lead to a collapse in credit. Mishkin[13] develops this approach by analysing the mechanisms through which these problems can cause financial instability. First, if interest rates rise due to monetary tightening, adverse selection may increase sharply, leading to a large decline in lending. Secondly, increased uncertainty - which implies that lenders (or investors) find it more difficult to screen borrowers - increases the "adverse selection" problems which Stiglitz and Weiss described. Mishkin further suggests that the impact is greatest on borrowers whose quality is difficult to determine; this again is particularly relevant for emerging markets.

In the field of flows to developing countries - and particularly to Latin America - Calvo, Leiderman and Reinhart, op. cit., made a valuable contribution to the analysis. They drew not so much on the previous literature (though their study was clearly consistent with it), but based their work more on the analysis of Diaz-Alejandro[14] of transmission of financial shocks from "developed" countries to the "peripheral" economies; Calvo et al hypothethised that very important factors in determining the surge in capital flows to Latin America in the early 1990's were external factors to the region, and in particular low and falling interest rates in the

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[12] Mankiw N. G., (1986) "The allocation of Credit and Financial Collapse" Quarterly Journal of Economics 101.

[13] Mishkin F., (1991) "Asymmetric Information and Financial Crises: A Historical Perspective" in G. Hubbard (ed.) Financial Markets and Financial Crises. University of Chicago Press.

[14] Diaz-Alejandro, C., "Latin American Debt: I Don't Think We Are in Kansas Anymore" Brookings Papers on Economic Activity, Vol. 2 (1984).

United States, increased differentials between yields in Latin American countries and in the US, and recession or slow growth in the US. Indeed, their econometric analysis showed that, for most Latin American countries, foreign factors accounted for a sizeable fraction (around 50 per cent) of variations in capital inflows during the early 1990's. The important - and unheeded - implication was that when those external factors were reversed, this could result in capital outflows from Latin America; unfortunately, these fears were shown to be correct, as the rise in US interest rates and rapid US economic growth were important factors in explaining the changes in US capital flows to Latin America, and especially to Mexico, during 1994.

Calvo et al also add an interesting insight into the mechanisms whereby such reversals can happen. In an environment characterised by asymmetric information, a sudden capital outflow can lead lenders to conclude that the country suffered a negative supply shock, even if no shock happened. Furthermore, sudden capital outflows may lead to discontinuation of efficient investment projects. If start up costs of these projects are high, their discontinuation causes a loss; this is equivalent to an exogenous supply shock. As a result, the expectations that give rise to the capital outflows (by provoking a self-fulfilling prophecy) may become rational ex-post.

We can conclude that there is much in the theoretical literature that can further our understanding of financial fragility and crises. Two big tasks remain. The first one is to attempt to apply the theoretical literature to the (mainly portfolio) flows characterising financial markets both globally and as regards flows to developing countries, in the 1990's, which are very different from flows in previous periods, which were the basis for most of this theoretical analysis. The second is to try to extract implications for financial crisis avoidance and management in the new circumstances. The need - or not - for an explicit international lender of last resort, as well as measures to reduce the moral hazard necessarily linked to it, will provide a basis for our discussion. We will distinguish also necessary actions by different actors. These will include international public institutions - like the IMF and/or the BIS - Central Banks and Ministries of Finance, including particularly their regulators - both in source and recipient countries - as well as the private financial institutions and fund managers themselves. The key issue is that, at different levels, the repeated history and the theory of financial fragility and crisis and their implications for future crisis avoidance, based on current mechanisms and trends, are understood as clearly as possible, so as to be able to avoid future financial crisis, that are so costly to all concerned!

III The Regulatory Response to Globalisation of Financial Flows

1 An Analytical Context

As has been discussed in more detail elsewhere[15], during the last decade, the size and structure of financial markets has undergone profound changes. Firstly, financial markets have become increasingly globalised and integrated. Secondly, the size and influence of financial markets increased markedly throughout all countries. Thirdly, there has been an important trend for dissolution of functional boundaries, particularly between banking and securities activities, leading to the creation of increasingly complex institutions, which integrate traditional banking services with various types of securities and - more recently - with the provision of insurance. Fourthly, there has been a vast expansion of available financial instruments, facilitated by the explosion of information technology. Finally, there was a greater institutionalisation of savings, that provided a base for the expansion of securities' markets; their push towards internationalisation and integration of markets.

In what follows, we will start by examining the regulatory response to these major changes.

Regulation can be defined as any non-fiscal government intervention in the operation of private sector markets. Our focus here is mainly with "prudential" or "safety and soundness" regulation, which is a regulation that tries to avoid "market failure" in financial markets, leading to crisis, and/or to minimise the effects of any crisis that may occur on the rest of the economy.

A key problem in regulatory action is that it so often only fully addresses a particular problem, or sector, once a crisis - and usually a fairly major one - has occurred. This is not because regulators are incompetent or lazy; on the contrary, they tend to be extremely bright and hard-working. The problems rather, are two-fold. 1) First, the information asymmetries that we have described above for market actors, also operate, to a certain extent and in different ways, for regulators. When a new instrument or sector is developed, it is difficult also for regulators to determine precisely what the risks - and especially the systemic risks - posed are, even though previous experience, in related or similar markets, as well as theory can help to sketch the broad contours of the risks involved. (An important policy challenge is to improve the learning mechanisms whereby supervisors, and market actors, learn from their mistakes, given rapid turnover of staff, or from the mistakes of others - in other sectors or countries; the latter is made particularly difficult by the fact that there is too much readiness to assume that each domestic situation is unique.)

Regulators do, however, have several advantages over market-actors. Firstly their explicit aim is to look for different kinds of risk, and how to minimise it and its effects. Indeed, regulators must, to an important extent, be assessed by their ability

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[15] See S. Griffith-Jones (1993) "Globalisation of financial markets: new challenges for regulation" in J. Williamson et al. (eds.) Managing the International Financial System, FONDAD, Holland and Bank for International Settlements (1992) 62nd Annual Report, Basle.

to prevent crises, and - if these do occur - by their ability to limit their impact. This is in contrast with private market institutions, where promotions and bonuses of staff tend to be linked to large short-term profits, and far less weight is given to the high, especially medium or long-term, risks which the operations generating the profits may be creating. These differential incentives would seem to be important elements in differential behaviour towards risk. Secondly, regulators take a more long-term and a broader view, as they attempt to take account of external diseconomies, which do not interest individual market actors. Indeed, economic theory shows that, if as a consequence of a firm's production, there are direct effects on others, then the market outcome will not be efficient. Negative externalities can be found in financial services in a number of areas. For example, the failure of one bank may cause poorly informed depositors to run on a neighbouring bank. Another example is the fraudulent actions of one securities firm causing the public to believe that other firms could or would act fraudulently[16]. Thirdly, regulators may have access to information which institutions would prefer to keep secret from the market. Indeed, it has been argued[17] that without a central, non-commercial organisation (like regulatory and supervising agencies), there might be no mechanism whereby reliable judgements on the creditworthiness of many institutions could be made, as information crucial to form such judgements might not be disclosed to commercial institutions. However, regulators also have some disadvantage over market actors, in that they have a less detailed knowledge of certain aspects and details of transactions occurring in the market place.

2) Secondly, when new financial instruments and/or sectors are being developed, there is a sense of excitement in the markets, encouraged both by the novelty and the large profits normally being made. There is then a strong wave of "market knows best" sentiment, which is transmitted to governments and regulators; this sentiment is re-inforced by the enthusiasm of the users, who perceive only the advantages of new instruments or new sectors. The mixture of imperfect information and "market knows best" sentiment makes the task of regulators both difficult and unpopular.

Once an important failure - or crisis - has occurred, both information on the precise risks involved and awareness of the dangers involved increase substantially; as a result, regulatory action is usually taken. There may even be a risk of over-regulation of that particular instrument or sector, though this is not very likely.

In this context, it could be argued that - to a certain extent - regulation of the more traditional aspects of banking, including its international dimensions, has by now been relatively quite well addressed by the regulatory authorities, and that the outstanding issues, though some of them important, are mainly technical. However, these more traditional aspects of banking are precisely those which are growing less. The dynamic growth is in the securities activities of banks (including derivatives) and

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[16] L. White, "Competition versus Harmonisation: An Overview of International Regulation of Financial Services", CEPR London, paper presented to April 1994 Conference on Industrial Organisation and Finance.

[17] D. Miles, Some Economic Issues in the Regulation of Financial Markets, Special Paper 013, LSE Financial Markets Group, mimeo.

in securities more generally. Here there are many regulatory issues, which need tackling.

We will first examine briefly the progress already made in traditional banking regulation, focusing here - as well as in the analysis below - on regulators' efforts to co-ordinate their activities internationally.

2 International Co-ordination of More Traditional Banking

Until the mid-1970's, there was no formal machinery to co-ordinate national regulations of international banks. It was the disturbances following the Herstatt collapse in 1974 that centred attention in the interdepence of banking systems, leading to the creation of the Committee on Banking Regulation and Supervisory Practices (called "Cooke Committee"), under the auspices of the BIS. This Committee's aim was to link different regulatory regimes to ensure that all banks were supervised according to certain broad principles.[18]

One of the first and most far-reaching Cooke Committee's initiatives was the development of broad guidelines for division of responsibilities among national supervisors. These guidelines, approved by the G-10 Central Bank Governors, became known as the "Basle Concordat". A key principle in it was that the supervision of solvency is essentially responsibility of the home authority in the case of foreign branches and primarily the responsibility of the host authority for foreign subsidiaries.

The controversy surrounding the management of Banco Ambrosiano's collapse in 1982 was an important factor catalysing the emergence of a revised version of the Concordat, that introduced more precise guidelines for the international supervision of holding companies. In this context, each national supervisory authority had to satisfy itself that its banks' foreign operations were being conducted in jurisdictions with proper supervisory practices and that foreign banks to which it was host were subject also to adequately supervised in their home jurisdiction. If this was not possible, such operations should be discouraged or prohibited.

In July 1988, the Basle Committee launched a major new regulatory initiative, called the Basle Accord, with its announcement that G-10 countries had established minimum capital adequacy standards for international banks. The accord specifically mandated a minimum 8 per cent ratio of "recognised" capital to "risk weighted" credit exposures by the end of 1992. The objectives of doing so were two-fold: 1) to strengthen the soundness and stability of the international banking system; and 2)

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[18] See, R. Dale, 1994, "Issues in International Banking Regulation: Global Policies for Global Markets", Discussion Paper, No 94-80, April, Department of Accounting and Management Science, University of Southampton; see also, P. Cooke, 1981, "Developments in Co-operation among Bank Supervisory Authorities", Bank of England Quarterly Bulletin, 21 (2), June.

to ensure competitive equality among banks, to avoid that banks operating on a low capital/assets ratio support a higher level of banking business.[19]

This Accord had two major implications. Firstly, it represented the first move towards industrial countries' regulatory harmonisation, going well beyond previous attempts, which were focused on co-ordination of their national regimes. Secondly, and perhaps more importantly, from this moment, capital adequacy was placed at the heart of banking regulators' harmonisation efforts, trend which has continued till the present. This implies that the Basle capital adequacy ratio has been rather widely accepted as an indicator of banks' strength.

Though basically this approach is broadly seen as very valuable, there is some disagreement, both with its emphasis and motivation. Thus, some observers[20] stress that though capital adequacy is important, other variables - such as good management and asset quality - are also important, and may not be sufficiently considered in the harmonisation efforts. Also, some analysts[21] query that harmonisation of national regulations is essential for the reasons given above arguing that, instead, the more indirect need to limit the implicit subsidy that most governments will provide to financial institutions in case of failure, is the main justification for harmonising capital adequacy internationally. Thus, uniform capital adequacy requirements offset the "moral hazard" that can result from either explicit or implicit insurance given to financial institutions by governments.

Furthermore, there are some technical limitations of the Basle concept of capital adequacy. These relate mainly to the risk weighting of assets. For example, for commercial lending to the private sector, in developed countries, there is a uniform 0% risk weighting applicable, independently of the type or creditworthiness of the firm borrowing. Also, for commercial lending to developing countries, there is a uniform 100% risk weighting, independently of the creditworthiness of the country. Indeed, it is an incredible absurdity that reportedly[22] the risk weighting for Mexico fell significantly in early 1995 because Mexico had become the previous year a member of the OECD! Both for developed and developing countries, there are no differential risk weightings for a range of entities with different creditworthiness. Furthermore, the simple aggregation of risk-weighted assets under the Accord gives no recognition to the potential benefits of portfolio diversification. As Dale, op. cit., points out this is in sharp contrast with the approach of some securities' regulators who allow for non-covariant risk exposures. Finally, but very importantly, disparities in national regulations, accounting practices and fiscal regimes imply important differences in provisioning policies in different countries. This

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[19] See, Dale, op. cit.

[20] Interview material.

[21] See, for example, White, op. cit.; see also M. King, "International Harmonisation of the Regulation of Capital Markets: An Introduction", LSE Financial Markets Group Special Paper No 19.

[22] Financial Times, 5 April, 1995, "Mexico is now past the worst" by S. Fidler.

considerably dilutes the effectiveness of capital adequacy, as resulting definitions of capital vary across countries.

Indeed, in this latter point we can see how the effectiveness of harmonisation of only some aspects of banking regulation (equal capital/assets ratios in different countries) is constrained by the fact that this harmonisation does not cover other closely related aspects, such as regulations on provisioning against losses and their tax treatment.

A final critique of the Basle rules was that they focused exclusively on the credit risks borne by banks in building their loan portfolios. As discussed below, the Basle Committee has taken on board this critique, and has prepared a set of revisions to cover other risks, and especially market risks.

The collapse of BCCI in 1991 prompted again a reassessment of the Basle approach to banking regulation. As a result, a new set of "minimum standards" for international banking supervision was issued.[23] Key in this statement is the condition that all international banks should be supervised by a home-country authority "that capably performs consolidated supervision"; the requisites for this are made explicit: the authority concerned should monitor banks' global operations based on verifiable consolidated data, be able to forbid the creation of corporate structures that impede consolidated supervision and be able to prevent banks from establishing a presence in jurisdictions that are not properly regulated.

Given that there are such large differences in the quality of supervision amongst different countries,[24] the effectiveness of the new guidelines depends on the ability of national authorities to monitor each others' quality of supervision. This has to be done on the basis of the other country's statutory powers, administrative practices and supervisory record. It is difficult to see how bilateral links can provide relevant information, and there is, at present, no multilateral instrument for the task. Reportedly, the Bank of England has proposed a system of peer review under which each country's supervisory arrangements would be assessed by a panel of supervisory authorities for other countries. It is very interesting, in the context of our study, that the US Comptroller of the Currency has suggested[25] that if the Basle approach proves inadequate to the task then there may eventually be pressure for the International Monetary Fund to conduct formal supervisory reviews as part of its country surveillance procedures. This would be an important step as it would imply that the Fund, which is a truly global institution, and the one most in charge of managing the global economy - thus de facto being a very embryonic world central bank - would start undertaking some regulatory functions. Important parallels emerge here with national central banks and their development of a regulatory

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[23] Committee on Banking Regulations and Supervisory Practices, 1992, Minimum standards for the supervision of international banking groups and their cross-border establishments, June.

[24] Interview material.

[25] Office of the Comptroller of the Currency, 1991, Evidence Submitted to the House of Commons Treasury and Civil Service Committee.

function. Furthermore, it seems very appropriate for the IMF to assist and surveille strengthening of LDC's financial markets, as well as of their supervision, because particularly in LDC's, crises that affect financial markets can have dramatic effects on macro economic policy. However, careful attention would need to be devoted to co-ordinating the well-established tasks carried out by the Basle Committee with the new functions exercised by the IMF.

3 Attempts at Co-ordinating New Risks in Banks

In April 1993, the Basle Committee on Banking Supervision released a proposal for banks to make capital changes for market risk in open positions (including derivative positions) in bank debt and equity trading books and in foreign exchange, as well as for dealing with netting risk. This proposal was based on an important distinction between banks' long-term investments, to which the original Basle credit risk weightings are applied, and banks' trading books, to which the new capital requirements for market risk would be applied. Market risk can be defined as the risk that the value of marketable securities will change while the bank is holding a position in them. More specifically, it related to the risk of losses in on-and-off balance sheet positions, stemming from movements in market prices, including interest rates, exchange rates and equity values. The growing importance of market risk for banks is due both to the rapid development of securities and derivative markets, as well as foreign exchange contracts, and the increasing integration between banking and other activities, such as securities. Indeed, large variations in the market price of assets (such as shares) are a very important source and channel of transmission of potential shocks. As positions are increasingly taken across a large number of markets, both within countries and internationally, problems in one part of the market or in one country can be quickly transmitted to others.

The April 1993 proposal had two main objectives: 1) develop a means of calculating how much capital should be required to support trading portfolios of debt and equities, and portfolios of foreign exchange; and 2) define how the capital requirements could be met - that is, what instruments qualify as capital.

The market risk proposals could result in higher or lower capital requirements, depending on the risk profile of the individual institution. This is because some of the requirements would substitute for existing credit risk requirements. Furthermore, banks may have reduced overall capital charges to the extent that they have legally valid netting arrangements.

As the Basle Committee's 1993 document on banking regulations and supervisory practices stressed, its proposals relate to parallel work in two other foras, which have interacted with - and influenced the development of - capital requirements for banks' market risks. One relates to the European Community's attempts to establish a single market in banking and finance; because of the need perceived in Europe to create a level playing-field between banks and non-banks operating in the same securities' markets, the Community enacted a Capital Adequacy Directive (CAD). The methodology of the CAD is in general similar to the initial proposals made by the Basle Committee. Where there were differences, the Basle Committee favoured a stricter prudential standard for banks than the EU rules. The second forum where

parallel work has been in progress is the Technical Committee of IOSCO (International Organisation of Securities Commissions), which began to discuss the possibility of common minimum standards for securities' firms in 1987. Even though joint work was undertaken between IOSCO and Basle with a view to developing common minimum charges for banks' and securities' firms positions in traded debt securities and equities and related derivative instruments, these discussions have not yet lead to a successful result because IOSCO was unable to reach agreement in its own group in 1992. However, the Basle Committee - in anticipation of broader based convergence - is designing its approach with a view to its final application to a wider spectrum of institutions, than just banks. Furthermore, though IOSCO and Basle have not yet agreed common minimum capital charges fro banks and securities' firms, they have taken joint initiatives of a more limited kind, such as similar risk management guidelines for derivatives and starting joint work on the supervision of financial conglomerates.

In the discussion that followed the April 1993 Basle proposal, two different reactions emerged. A first one, raised criticisms with a view mainly to improve the proposals. A second proposed an alternative methodology.

In the first approach, a central concern raised was the extent to which bank supervisors should adjust their capital adequacy standards as was proposed, so as to achieve competitive equality between banks and non-bank securities firms, with an aim towards further convergence with securities' regulators at some future date. The problem is that the proposed adjustment lowers the levels of capital standards bank supervisors would like to apply to banks. As a consequence, the goal of safety and soundness is subordinated to the objective of equality of conditions for all financial institutions (both banks and non-banks) that carry out securities.

Secondly, it was stressed that the distinction between a bank's trading book and its longer term investments is in practice not so sharp. Indeed, the very need for such a distinction is debatable. As a result, another option would be to mark to market all banks' securities' holdings and then apply appropriate capital requirements based on market risk.

A rather different approach to that developed by the Basle Committee was suggested for example by Mark Brickell, a Vice-President at J.P. Morgan.[26] To overcome the limitations that J.P. Morgan and other large banks saw in the Basle approach, he proposed that - as part of the supervisory process - periodically G-10 banking supervisors could ask each bank to estimate the market value of, and gains and losses in, portfolios covered by the Basle proposal, and to explain what factors had caused changes in value; firms would also be asked to project variations in profit and loss over the next period. These analysis would become an important step in assessing whether or not a bank was adequately capitalised. As a historical record of actual changes was developed, banking supervisors - and managers - could compare projected to actual results, which would throw light on what banks should improve their trading management systems or would require larger amounts of capital to

[26] M. Brickell, "New tools for new rules", Risk, Vol. 7, No 1, January 1994.

support market risk. Though such a proposal has some positive features, it seems to rely excessively on banks themselves to assess their own risks, which may be problematic in situations of uncertainty and imperfect information, and where - as discussed above - regulators seem to have certain informational advantages over market participants.

In addition to suggesting capital requirements to market risk, the April 1993 proposals had suggested a methodology for measuring interest rate risk. The focus here was on the extent to which the economic value of a bank is exposed to future changes in interest rates.

It is interesting that the approach taken by the Basle Committee to interest rate risk is more limited than that taken both for credit risk and that suggested for market risk. For the latter two, the Basle Committee designed a measurement system and defined capital requirements. For interest rate risk, the Committee merely wished to design a measurement system for supervisors to use, leaving them free to decide how to respond to institutions which they perceive as having high risk. This raises the issue of the desirability of having a common international methodology for interest rate risk measurement while delegating completely to national regulators the use of this information for actual supervision.

The fact that the Committee itself identified several important problems in its proposal showed its tentative nature and the complexity of the task involved.

Indeed, in April 1995, after further analysis and extensive consultations with the private banks, the Basle Committee produced new proposals for assessing capital needs against potential losses from financial trading. They proposed that some banks (the big ones) should be allowed to use their own in-house value-at-risk computer models to assess how much of their capital was at risk from trading losses. Banks using such internal models will have to set aside three times the amount of capital they calculate to be at risk. This is intended to compensate for the chance of more unstable markets than over the previous year, which will be the observation period used by banks. Furthermore, supervisors will impose a penalty - known as a "plus factor" - if the banks model fails to predict accurately trading losses. The standards adopted (for example, for the probability that the amount of capital at risk will not be higher than the capital charge) will reportedly be higher than those currently used by some banks.[27]

The current Chairman of the Basle Committee, Mr Tomasso Padoa-Schioppa, said the endorsement of banks' own models was "an important novelty". It implies a sharp increase in the long-term shift towards supervisors monitoring banks' management and control mechanisms, that is "market-friendly supervision" rather than imposing direct and strict limits on their activities[28]. Padoa Schioppa, and other

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[27] Financial Times, 13 April, 1995, J. Gapper, "Basle model for banning safeguards"

[28] T. Padoa Schioppa, President, Basle Committee "Globalisation of risks: co-operation between banking and mrket regulators". Mimeo. 1995. IOSCO Annual Conference, Paris.

regulators, argue that the best way forward for supervision of market risks is to enhance the disciplinary effects of markets. This is based on the assumption that, "in a world of advanced technology, widespread information and free capital flows, well-informed investors, depositors and creditors can instil discipline". This philosophy has led to the view that defences against risk have to be developed within rather than outside the market. The clearest manifestation of this new philosophy are the April 1995 Basle proposals, discussed above, to base large banks' capital requirements in respect of market risks on the estimates of their own internal models, subject to a series of quantitative and qualitative parameters. Such an important step seems a particularly bold - and somewhat controversial - move, in the wake of Barings' collapse, and other big losses by banks provoked by their trading activity. It implies a further move towards a more decentralised - and market based - style of regulation, with regulators assuming that they are increasingly unable to exert detailed control over banks' activities because of the growing sophistication of financial markets. As pointed out above, this may be rather problematic given imperfect information in the hands of market actors and external diseconomies in financial markets.

Indeed, a specific problem that arises in this context with the new Basle proposal is that the internal model approach leads to a dispersion of results, as different models used by different banks will come up with different levels of market risk, for an identical portfolio, and therefore correspondingly for different levels of capital requirements. This dispersion will only be partly moderated by the quantitative parameters which the Basle proposals have introduced to reduce the level of dispersion.

Regulators, (see Padoa Schioppa, op. cit.) while accepting that too much dispersion is not desirable, argue that "in the present state of uncertainty as to the "right" way to measure market risk, "some" dispersion is a quality, not a fault" as different views of risk enable markets to perform efficiently. This argument seems rather unconvincing, as it implies accepting that risks cannot be precisely estimated, which would seem to undermine the very essence of supervision and regulation.

Another problem of the current proposals for large banks is their incompatibility with the European Capital Adequacy Directive mentioned above, which is due to come into force in January 1996. The Basle revised proposal diverges in two aspects from the CAD regime. Firstly, it recognises the internal link models for the calculation of "value at risk"; secondly, it has a more cautious capital adequacy standard for equity position risk; the Basle proposes a four per cent minimum charge against specific risk for diversified portfolios compared with the CAD's two per cent minimum[29]. If harmonisation were not achieved, large European banks would face the possibility of having to calculate capital charges according to the CAD approach, as well as according to their internal models. This duplication of regulatory requirements implying a dual regulatory regime for European banks, seems very undesirable, even though it is likely to be temporary, most probably till the CAD is adapted to Basle. This will take some time as CAD regulations have

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[29] See, Financial Regulation Report, April 1995, Financial Times, London.

been approved as primary legislation. It is, however, encouraging that recently steps are being taken to attempt to make the EU CAD consistent, for a transitional period, with the Basle proposal[30].

As mentioned above, the new Basle proposals refer to large banks. Smaller banks and those with limited trading activities would probably calculate capital requirements using the formula proposed by Basle in 1993.

As seen above, the Basle proposals on market risk incorporate capital adequacy requirements to cover banks' debt and equity derivatives. However, regulators' worries about derivatives go far further than an appropriate capital adequacy framework. Firstly, there is concern about the explosive growth in trading of financial derivatives. Secondly, there are fears that, by promoting speculation, derivatives increase the volatility of financial markets, and that the market linkages created by derivatives increase the potential for generalised financial contagion. Also, there are serious concerns - confirmed most recently by the Barings' collapse caused by derivatives - that the complexity of derivatives inhibits effective risk control both by senior management and regulators.

We will return to the issue of derivatives in a separate paper, analysing issues of regulation of securities.[31] However, two points need stressing here. Firstly, major losses due to derivatives, as well as existing studies and research, show the urgency of appropriate regulation of banks' derivatives activities, even though the task is very complex. Secondly, the legitimate and important concern by regulators of the risks posed by derivatives may have distracted somewhat their attention from important risks emerging in other fields, and in particular from the also new risks posed by the very rapid growth of portfolio flows to some developing countries in the early 1990's. In this context, it is noteworthy that several important reviews of major regulatory issues published in late 1992 (by the US Treasury[32] and the IMF) rightly focused heavily on derivatives, but either ignored totally or mentioned only very briefly, the new risks posed by portfolio flows to developing countries, and in particular to Latin America. The magnitude of the Mexican crisis and its heavy cost demonstrates that this lack of attention was clearly incorrect.

4 Protective Regulation: The Role of an International Lender of Last Resort in the 1990's

Besides international preventive regulation in banking, we also need to examine protective regulation, both as regards deposit insurance and - particularly - lender of

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[30] Interview material.

[31] For a good overview, see B. Steil, "International Securities Market Regulation" in B. Steil (ed.), op. cit.

[32] US Treasury Report of the Secretary of the Treasury. US President's Working Group on Financial Markets in Financial Market Co-ordination and Regulatory Activities to Reduce Risks in the Financial System in 1993 and 1994, October 1994, Washington, D.C.

last resort. We shall also extend the concept of lender of last resort beyond banking, to new areas relevant in the 1990's.

Particularly if deposit insurance is seen to be needed as a safeguard against systemic risk, there seems to be an important case for harmonisation of deposit insurance. However, if - as seems to occur in many countries - national authorities protect depositors in other ways, mainly by recapitalising failing institutions through public or private support, the need for harmonisation of deposit insurance is far less clear.

In the case of the lender of last resort, there seems a far stronger case for international harmonisation, which implies having some type of international lender of last resort (ILOLR). Internationally, as well as nationally, there is a strong case for a lender of last resort. This is based on the fact that financial systems have "multiple equilibria", one of which is when everyone believes that "runs" (e.g. on deposits, but also on marketable assets) will not occur; the other equilibrium is when - rationally or irrationally - fears emerge of the underlying value of assets, leading to withdrawal of deposits or sales of marketable assets. The need to keep the financial system functioning efficiently by avoiding such runs justifies the lender of last resort, which provides the public good of financial stability, that will reduce costs to the real economy of financial crises.

As discussed above (section II), traditionally the function of the lender of last resort is to lend, without limits, at a penalty rate, against good collateral, to solvent institutions which are experiencing liquidity problems.

However, as can be seen in Table 1, there has been a tendency for central banks - or governments - to increasingly also back insolvent banks. This trend started in the eighties in developing countries, where very large funds - as proportion of GDP - were devoted by central banks to save private commercial banks (whose problems were provoked or accentuated by the external debt crisis of the 1980's); more recently, several developed countries governments - and in particular the Scandinavian ones - provided capital infusions to insolvent institutions on a fairly large scale. Most recently - and possibly most controversial - is public backing, mainly in the form of guarantees, given for the large bail-out of Credit Lyonnaise.

Another issue which has been opened in relation to the lender of last resort is what entities are eligible for such support. Firstly, this relates to the fusion of banking and securities in conglomerates. In this context, a lender of last resort cannot avoid supporting the securities' operations of banks. Even if banks' securities activities are carried out by separate subsidiaries, banks will - if the security is in trouble - be forced to support it; this,again, would bring in the lender of last resort to support securities activities. This issue will increase in importance as banks' continue to increase their securities' activities; already over 50% of profits of banks originate in securities' activities.[33] Secondly, and more generally, during the 1987 equity market crash, the US Fed acted de facto as lender of last resort to the securities' markets, as when the crisis became serious, it announced that "there will be enough liquidity to

[33] Interview material.

Table 1

Bank Support Operations in Selected, Developing and DevelopedCountries

(Government support as % of GDP)

Year	Argentina	Chile	Philippines	Norway	Finland	Sweden
1980	-0.6		-0.1			
1981	1.0		-0.4			
1982	2.6		-2.3			
1983	3.4	-2.4	-3.8			
1984	5.5	average	-5.4			
1985	2.8	annually	-2.8			
1986	1.6		-3.1			
1987	0.9		-1.6			
1988	0.7		-2.1	0.03		
1989	5.9		-2.3	0.10		
1990	1.0	-2.1	-2.0	-		
1991	0.6	-1.3	-1.7	1.20	0.8	0.3
1992	n.a.	n.a.	-1.6	1.70	6.2	2.0
1993	n.a.	n.a.	n.a.			2.4

Sources: Based on R. Vos "Financial Liberalisation, Growth and Adjustment: Some Lessons in Developing Countries" in S. Griffith-Jones and Z. Drabek, Financial Reform in Central and Eastern Europe, Macmillan, 1995, for developing countries, and BIS, 63rd Annual Report, June 1993, for developed countries.

Note: There may be some problems of comparability, as methods for rescue differ amongst different countries.

cover the surge in trading". This allowed for the massive settlements required to take place without problem.[34] De facto, the Fed was acting as a lender of last resort for securities. This fact shows that issues of systemic risk have also spread to securities' activities. Thirdly, and even more broadly, the IMF and the US Treasury acted internationally in early 1995, not only as a lender of last resort by lending to Mexico; also, these institutions acted as a lender of last resort to a recipient country, instead of to a creditor financial institution. Thus, the concept of lender of last resort was broadened, in two ways: an international dimension was added, and it was applied to a country rather than to a bank or a financial institution. As a result, the issues typically related to a lender of last resort - such as how to avoid moral hazard - both acquired an international dimension and became primarily - though not only - related to countries' economic conduct. Furthermore, an additional dimension of complexity was added to the issue of an international lender of last resort because in the 1990's, capital flows are mostly securitised, which seems to tend to make them far more volatile, as they can leave within a day; furthermore, the investors are more

anonymous than in the past; as a consequence, negotiations with creditors are either far more difficult or impossible. This new situation is in sharp contrast with the previous Mexican debt crisis of the early 1980's, when as the crisis exploded in 1982 the stock of Mexican debt outstanding remained in the country, as the loans had been made on average for around seven years, and the banks could not withdraw there loans; furthermore, in the 1980's the stock of the debt could be rescheduled and "new money" (albeit involuntary one) arranged from the private banks to help service interest.

The speed and the scale with which capital flows can leave countries in the 1990's, illustrated by the Mexican crisis, implies that any international lender of last resort must operate very quickly and on a very large scale. Indeed, the lending to Mexico done in early 1995 both by the IMF and the US Treasury surpassed several of the existing formal limits. For example, the loan by the IMF to Mexico, as a share of the country's quotas in the Fund, was well above the established limit. The latter point is consistent with Bagehot's principle that any lender of last resort must lend "freely", to be credible.

The Mexican package - and recent statements, for example by the IMF Managing Director, Mr Camdessus and US Treasury Secretary Rubin - argue - that the scale and volatility of today's cross-border flows may require some explicit global lender of last resort to compensate for such instability. Such a proposal requires careful study, first to determine if this is a desirable measure; if this were the case, it needs to be designed in ways that it maximises its; benefits and minimises its' costs, both in financial terms and in reducing the risk of "moral hazard".

In this context, it is interesting that the justification given by the IMF and the US Government to act as a de facto lender of last resort was based on "the systemic risk

[34] Interview material.

posed by the Mexican situation".[35] It could perhaps more precisely be called systemic contagion risk, to differentiate it from more traditional systemic risk, which threatens banks, or more broadly financial institutions. Indeed, the two risks highlighted by the Managing Director of the IMF were: a) the crisis of confidence in Mexico could have raised doubts about the situation in other countries, even where these were not warranted by fundamentals. This was seen to seriously threaten the continued flow of international capital to developing countries, "undermining developing countries' growth prospects". In this context, the fear was expressed that if the IMF and the US Government had not acted, Mexico could have been forced to default, with very negative effects world wide. b) A second systemic contagion risk highlighted by Michael Camdessus - and also stressed by top US authorities like Treasury Secretary Rubin and Under-Secretary Summers - is that a perception of failure in Mexico (because this country was so widely seen as a shining example of the market approach recommended by the international community) could lead "to the view being spread that the market-based approach to development had failed". In this context, the IMF and the US Government felt they had to act on a major scale to safeguard "economic success of a country that had so resolutely followed economic reform".

If a lender of last resort facility were created - or further rescue packages à la Mexico were assembled in an ad-hoc fashion - two important issues need to be examined. Firstly, under what circumstances would such a global safety net be activated? What should be the specific criteria for it to act? On what scale? Would it apply to any country or just to "solvent" countries? (US Authorities have emphasised that in early 1995 Mexico is a fundamentally "sound" and "solvent" country, with its chief problem being one of illiquidity.[36]) If the criteria is "solvency", how should it be defined? Would the global safety net apply to small, as well as large developing countries? The latter point seems relevant as it has been argued that the safety net provided for Mexico was unique because "Mexico was so powerful an example for investors in many other nations".[37] This could be read to imply that more "low profile" countries could not aspire to such a safety net. On the other hand, this statement seems to be part of an effort of the US Authorities to signal that this is a "one-off" exercise, and that the US will not be "a general lender of last resort". This has historically been a standard attitude of lenders of last resort because they fear that any apparent generalisation from cases where their services were provided, may reduce prudence. This is the problem of moral hazard.

An alternative way of dealing with the crucial problem of moral hazard is to establish relatively explicit rules for an international lender of last resort, but accompany them

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[35] See M. Camdessus, Press Conference of Managing Director IMF, 2 Feb., 1995, IMF, mimeo.

[36] See, for example, L. Summers, "Oral Testimony by the Under Secretary of the Treasury before the House Committee on International Relations", Treasury News, 7 March, 1995.

[37] L. Summers, "United States Support for Mexico", Brookings Institution, 3 March, 1995, US Treasury News.

with measures to contain - or ideally eliminate - such moral hazard. In the context of a facility to compensate for large and rapid outflows of private capital from emerging markets, the way to reduce or eliminate moral hazard would be through one or more forms of indirect or direct constraints on cross border capital flows to emerging markets.

Perhaps the simplest (or the least difficult) option would be for the IMF to significantly enhance its surveillance - via Article 4 of its Articles of Agreement - precisely of those countries, which at the time do not require access to the IMF funding because they have so much access to private capital markets (as was the case of Mexico in the early 1990's). Indeed, the condition could be put that - for the IMF to be willing to act as lender of last resort in a future crisis involving major capital outflows - rigorous surveillance (on aspects such as exchange rate, monetary and fiscal policy, as well as possibly strengthening of the financial sector) would have had to have been previously accepted and implemented. This will not be easy to enforce, as countries are unwilling to accept conditions or even policy advice from institutions like the IMF, when they do not require loans from them at the time. It may therefore require some institutional changes.

It may be particularly effective and appropriate to minimise moral hazard via rigorous surveillance of emerging countries' policies because the lender of last resort facility would be made available to those countries. However, the benefits of the actions of the lender of last resort would spread also to other emerging markets and to the foreign investors and creditors.

As a consequence, it may also be appropriate - though clearly even more complex institutionally and less consistent with current fashions of liberalisation of international financial markets - to examine the option of home countries, where such flows originate, to impose some regulatory restrictions on their investors, to avoid excessive surges of easily reversible capital inflows to emerging countries. Such regulation could either be done by individual home countries, or by a group of them (e.g. via institutions like IOSCO, the BIS, or the IMF itself). It could refer to flows which look unsustainable, for example because the current account deficit they are contributing to fund in the emerging market is too large; as a result, such flows - if they were to be rapidly reversed - can generate large losses to the investors, costly adjustments to the recipient country, and may have global implications on other emerging or even weak developed economies. Furthermore, as implied above, it may be appropriate to exercise some regulation of the flows by the source countries as a counter-part to an explicit lender of last resort, given that this facility - though made available to a developing country - will also benefit (and indeed may relatively benefit more) the foreign investors.

A final option that needs exploring is for recipient countries themselves to discourage easily reversible flows, in times of over-abundance. This has been done with some success by countries like Chile, which imposed reserve requirements and other disincentives on short term credit inflows, while successfully encouraging long-term foreign direct investment. If such measures were thought of in a context of reducing moral hazard for an international lender of last resort, they could be part of the policy suggestions relating to the IMF's more rigorous surveillance of countries

at the time when they are not borrowing from it. Alternatively, developing countries could on their own initiative implement such disincentives for short-term flows, as Chile has to an important extent done, and as other countries, e.g. Malaysia, have also done[38]. One element that may make it easier to persuade recipient governments to control short-term inflows than to convince governments in source countries to discourage short-term outflows is that for the former, flows to emerging countries are still a fairly small proportion of their total flows, whilst for the latter, capital inflows from abroad have a major impact on their macro-economic variables and on their financial system.

IV Conclusions

Our survey of the theoretical literature seems to show that theory offers a number of useful insights for policy-makers and market actors. Most broadly, it provides a framework to understand financial fragility and crises, and therefore gives elements for how these can be avoided. For example, both financial institutions - and those who regulate them - need to design mechanisms to learn from both theory and from previous experience, even though they have fairly rapid turnover of staff and that often new staff deals with new modalities of loans or investments.

The theoretical analysis also throws some doubts on standard policy prescriptions to deal with financial crisis. For example, Guttentag and Herring's analysis concludes that when a large run occurs because outstanding loans or investments are well above what lenders and/or investors think are - in the new circumstances - unacceptable levels, it is not helpful to try to dampen the run by offering to pay higher interest rates. This matter may require further study.

Theoretical analysis and - above all - the recent experience with the Mexican crisis pose a number of very crucial issues for policy-makers, in industrial countries and market actors. For policy-makers in industrial countries, a central issue is whether a special facility should be created to compensate for the increased importance and apparently increased volatility of private capital flows to developing countries. Would the benefits of such a facility - greater financial stability, and smaller costs to the real economy of recessions after large financial crisis - outweigh the costs, of increasing moral hazard, which could significantly increase behaviour that makes crises more likely and more costly? If so, how could the benefits be maximised and costs minimised? We have attempted above to provide some initial elements for evaluating policy options, and in particular for examining ways in which moral hazard could be reduced both if an explicit lender of last resort were created or even if the international community only assumed implicitly that in future crises more "ad hoc" packages à la Mexico would again be adopted. Enhanced IMF surveillance of countries receiving large capital inflows may be the least difficult and the most

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[38] See, for example, R. Ffrench-Davis and S. Griffith-Jones, Surges in Capital Flows to Latin America, Lynne Reinner, 1995; see also M. Khan and C. Reinhart (eds.) 1995, Capital flows in the APEC region. IMF Occasional Paper 122, IMF, Washington, DC

appropriate option to reduce moral hazard. A somewhat more complex option could be complementary with IMF surveillance of countries; this would imply some additional regulatory restrictions on investors or some modification and harmonisation of existing regulations by home countries' governments to avoid excessive surges of easily reversible capital inflows to emerging markets. However, the fact that there is at present so little international harmonisation of non-bank securities would for example seem to pose a fairly basic obstacle to any such attempt, even though progress made in harmonising regulation of bank securities would provide a partial basis.

Last but not least, it seems also essential for both private investors and borrowers from international markets, as well as recipient governments to benefit form the insights of theory and recent experience of financial crisis, and design self-regulation mechanisms to reduce - or diminish the impact of - volatility of flows.

2. How can future currency crises be prevented or better managed

I Introduction

The speed and the severity of the Mexican peso crisis, which the IMF Managing Director (Camdessus, 1995) characterized as 'the first major crisis of the 21st Century' have started an important debate at all levels (including the BIS and IMF) on how to avoid crises like the Mexican one occurring again and to improve their management.

It is noteworthy, in this context, that in the G-7 Halifax Summit in July 1995 much time and attention was devoted to 'Mexican-style crises' prevention and management; the high priority attached to this issue was clearly reflected in the Communiqué (Halifax Summit, 1995). It is important also to stress that several valuable policy proposals were made.

This position paper will have two aims. Firstly, it will try to contribute to the discussion of proposals already made, particularly in aspects of crises management. This is important, both because these proposals are still at a general level and - particularly - because the Mexican crisis (and possible future ones) have some new and relatively unknown features, linked to the modality, scale and speed through which capital flows to (and can flow out of) the emerging markets. The modality of these flows relate mainly to the securitization of capital flows, globally and to developing countries (Griffith-Jones, 1993). Securitized flows seem to be far more volatile than bank loans, as in many cases the **stock** of the securitized flow can leave a country in a few hours, whereas in the case of medium-term bank loans, even in a very serious crisis, like in 1982, the stock of the debt cannot leave the country. Furthermore, securitization has made investors faceless, thus making negotiations with them far more difficult, if not impossible. The speed with which capital flows in (and out) of countries also seems to relate to the growing importance of global institutional investors, which implies that flows to emerging markets are now predominantly driven by liquidity and short-term performance considerations, rather than by longer-term banking relationships (IMF, 1995). The rapid and recent growth of these global institutional investors, which has coincided with a period of liberalization of financial markets, has also implied that flows originating

from those global institutional investors are almost completely unregulated in their source country, and even more internationally.

This leads us to the second, and perhaps more important, aim of this paper which is to add some new proposals for policy action to the package already being discussed internationally. These relate to apparent gaps in the policy package, which relate to the lack of regulation and/or even lack of sufficient disclosure of many of the flows going to emerging markets, particularly those originating from global institutional investors. Such additional measures would perform two crucial roles. Firstly, if appropriately implemented, they would significantly reduce the likelihood of Mexico-style crises occurring by softening the 'herd behaviour' typical in general of financial markets, but apparently particularly characteristic of largely unregulated securities flows, originating from global institutional investors, which characterize the 1990's. As the Halifax Summit declaration wisely says, 'the prevention of crisis is the preferred course of action'; perhaps one should add explicitly that prevention of crisis implies avoiding the massive costs, for the countries involved, for investors and for the international community , which Mexico-style financial crises imply. Secondly, if regrettably a crises of this type does occur, a very likely component of the policy package will be large and speedy official lending (see more detailed discussion below). Indeed for facilitating this, the Halifax Communiqué has proposed the establishment of an 'Emergency Financing Mechanism, to provide faster access to Fund arrangements with strong conditionality and larger up front disbursements in crisis situations' and suggested that the G-10 and other countries develop financing arrangements to double the amount currently available under the GAB. This basically implies setting up a type of international lender of last resort, which would perform the valuable function of contributing to the public good of stability internationally, in ways parallel to the way in which national central banks, by acting as domestic lenders of last resort, seem to have diminished the frequency of national financial crisis (Griffith-Jones and Lipton, 1987). However, the serious problem with any explicit - or even implicit - international lender of last resort is that it encourages 'moral hazard', that is that both investors and recipients take additional risks, because they are confident to be bailed out if things go wrong. To contain - or ideally eliminate - such 'moral hazard', mechanisms need to be found to constrain cross-border flows to emerging markets. The IMF has rightly suggested that one such way will be for it to enhance and formalize its'

surveillance of recipient countries. Though this is a very valuable step, it may not be sufficient, particularly as countries with large access to capital markets do not require IMF funding at the time and are therefore less willing to accept policy advice from the Fund at that stage. It therefore would seem valuable, as an additional measure to reduce 'moral hazard', to impose some additional regulatory and/or disclosure restrictions on investors, so as to contribute to avoid excessive surges of easily reversible capital inflows to emerging markets. It would also seem appropriate to exercise some regulation and/or improved disclosure of flows, by source countries, affecting investors, as a counter-part to an explicit lender of last resort, given that this latter facility - though made available to an emerging market country - would also benefit (or may particularly benefit) the investors. Thus, if the new package of policy measures does not include additional regulation, but does include increased or more explicit international lender of last resort facilities, the 'moral hazard' aspect - as it affects investors - will be significantly enhanced, which could make the flows more destabilizing and an eventual future crisis more likely and more costly.

In what follows, we will first (Section II) examine those crises prevention measures that have not yet been included in the policy package being discussed internationally. (There is a separate position paper by Peter Kenen for this seminar that deals with how currency crises can be prevented.) Then, we will examine (Section III) proposals for currency crises management.

II The gaps in the policy package for crises prevention

As pointed out above, the Mexican peso crisis has led to a number of valuable suggestions, for crisis prevention. These include more emphasis on each country pursuing sound fiscal and monetary policies; it also includes an 'improved early warning system' internationally, with improved surveillance of national economic policies and fuller disclosure of information to market participants (see IMF Survey, 1995, several issues; Halifax Communiqué, 1995).

As aspect till now rather neglected in the discussion is the need for better disclosure of exposure of investors in different emerging markets, as well as the possibility of warnings or even some regulatory restrictions on investors by home country regulators, to avoid excessive surges of easily reversible

capital inflows to emerging economies. Such regulations could in the first place be applied by home countries, but could - at a later stage - be co-ordinated by international fora such as IOSCO and the Basle Committee.

The justification for such measures is based on both historical and particularly recent experience of financial markets, as well as on economic theory. Though generally efficient, financial markets do have important imperfections.[39] Factors such as asymmetric information and disaster myopia may lead financial markets to over-invest or over-lend in certain markets; however, once the excessive nature of the over-investment is perceived (and this may be due to a fairly small change in the particular market), there can be a huge over-reaction, with flows not only declining sharply but even becoming negative.

Thus, the Mexican peso crisis not only shows the importance of pursuing appropriate monetary, fiscal and exchange rate policies at a national level. It also shows how rapidly perceptions in financial markets can change (e.g. on 20 December, 1994), when there has in fact been relatively little change in the economic fundamentals. (However, throughout 1994, there had been two major changes relating to Mexico, one relating to increased real and perceived political instability and the other relating to increased US interest rates.) As a consequence, to avoid Mexico-style crises it is not only necessary to ensure countries pursue appropriate macro-economic policies, task which is made more difficult by large surges in capital flows (Ffrench-Davis and Griffith-Jones, 1995). It is also necessary to help financial markets work in a more efficient way, by helping them to overcome certain imperfections to which they are prone.

The provision of more accurate information on emerging markets being proposed will help overcome problems of asymmetric information. However, the key problem relating to over-optimism in Mexico, and other emerging markets, followed by over-pessimism was not lack of information, but the behaviour of fund managers, related to their incentive structure.[40] If a fund manager is wrong when everybody else is right (that is he/she does

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39 For a very useful review, see Davies (1992); also, for some of the seminal works, see Stiglitz and Weiss (1981); Kindleberger (1978); Guttentag and Herring (1984) and Mishkin (1991).

40 This is illustrated by the fact that one large merchant bank pulled out of investment in Mexico on their own account well before it told its' clients that a problems was likely.

not take a very profitable opportunity that everybody else is taking), his institution will be punished by the market. However, if a fund manager is wrong when everybody else is wrong, this is not so serious, the market is less likely to punish his/her institution and it may be backed by a bail-out. As a consequence, 'band-wagon effects' or 'herd-behaviour' is common, as financial actors seek safety in numbers. This is illustrated by the fact that several fund managers interviewed in late 1993 said that their investment policy in Latin American emerging markets was 'safe', because they concentrated a very high proportion of this investment in Mexico! This 'safety' was not due to economic fundamentals, (as Mexico at the time already had a current account deficit of almost 8 per cent of GDP), but more related to the fact that the majority in the international financial community had decided that Mexico was safe.

Improved disclosure and some regulation of capital flows would need to be done in ways that discourage destabilizing flows, but that maintain incentives for the valuable increase in international capital mobility that has occurred in recent years, as both investors and emerging markets benefit from it.

Any additional disclosure or regulations needs to focus on securities' flows, which are now such a dominant part of flows to emerging markets and which are far less regulated than banking flows. An appropriate initial point for improved disclosure requirements and some additional regulation would seem to be at the level of existing regulation of collective investment schemes carried out by the securities' regulator in the major source countries. A second level for regulation could be carries out by the international fora that co-ordinate regulations, such as IOSCO and/or the Basle Committee.

A problem is that these regulators (and especially national securities' regulators and IOSCO) focus to an important extent on regulation geared to avoiding criminal or incorrect behaviour relating for example to avoiding conflict of interest (IOSCO, 1995) and deal far less or not at all with instances when many investors are wrong at the same time. Furthermore, in assessing emerging markets, their concern seems to focus on the quality of regulation of stock exchanges, etc. without practically any analysis of the macro-economic situation, potential imbalances, etc. of that country. On the other hand, institutions like the IMF which have in-depth knowledge of,

and focus their analysis on, macro-economic trends and policies in all countries, have no regulatory powers over investors or financial institutions. The BIS is in an intermediate position, in that it has strong links with regulators, relating however particularly to banks (via the Basle Committee), and also has a fairly strong in-house capacity for macro-economic analysis, though with far fewer staff than the IMF allocated to this purpose.

Given these institutional realities, it would seem most appropriate that the lead initially be taken by the national securities' regulators, especially of the major source countries, but that they co-ordinate with the IMF and the BIS. Also, because of the relative lack of experience of securities' regulators in macro-economic trends, the suggestions and rules initially designed for this purpose should be simple, whilst trying to avoid being simplistic.

Such rules could for example discourage or forbid investment by collective investment schemes in emerging markets whose current account deficit as proportion of GDP was for the second year higher than 3 per cent; an exception could be made for those countries whose exports grow at a very rapid rate and/or for countries where a somewhat higher current accounts deficit was funded mainly by direct investment flows. Such, and other, exceptions could be defined in consultation with the IMF and/or the BIS, though IOSCO as the international co-ordinator of securities' regulators could also play a role. Another rule could limit the proportion of short-term Treasury Bills of a particular emerging market country that can be held by persons or institutions domiciled abroad; for example, regulators in source countries could discourage or forbid investment in a particular emerging market country to finance their short-term Treasury Bills if for example foreigners already hold more than 20 per cent of those short-term Treasury Bills. Also a maximum ratio could be fixed for the proportion of short-term Treasury Bills in total Treasury Bills that the recipient country should have, for it to be eligible for funding them externally.

These rules are proposed tentatively and partly for illustrative purposes. More definite rules could be elaborated and reviewed by the IMF and/or the BIS, institutions where some work is reportedly already being carried out for defining 'red light' warnings. Close co-ordination would be required with the major securities' regulators, to verify that the necessary information

would be available to them in a timely fashion and that they could implement such rules with relative ease.

Such rules need to be complemented by better disclosure requirements and by more precise information, issued by collective investment schemes to their investors, for example in their prospectuses and publicity material. In the case of funds with large investments in emerging markets, this should provide information about the country - and other - distribution of such investments, some basic macro-economic information on the countries where most of the investment is concentrated and some analysis of risks involved (as well as the traditional emphasis on likely high yields). The major securities' regulators (such as the US Securities' Exchange Commission) already tend to review prospectuses and publicity material of collective investment schemes (see IOSCO, 1995), so their task would just be broadened to review these new dimensions. This, as well as the design and verification of rules described above, may possibly require some additional staff in securities' regulators, to carry out this additional work. However, any additional costs would be easily compensated by savings on far larger costs that would be incurred if large crises occurred.

It should be emphasized that regulations from source countries would clearly be complementary with regulations or other measures for discouragement of short-term capital inflows existing in recipient countries. Several studies (see, for example, Ffrench-Davis and Griffith-Jones, 1995 and Khan and Reinhart, 1995) have shown how regulations of short-term capital inflows in some countries - like Chile, Colombia and Malaysia - have been a contributory factor to a relatively more successful management of capital inflows; furthermore, these countries have continued to attract high levels of long-term flows, such as FDI. It is interesting that both the IMF (1995) and the BIS (1995) have recently very explicitly recognized that - though having some limitations - measures taken by recipient governments to discourage short-term capital flows may, when combined with other policies, leading to sound macro-economic fundamentals, play a positive role in managing effectively capital flows and thus reducing the likelihood of a costly financial crisis or of severe macro-economic distortions.

The question could be asked, whether measures to discourage short-term capital inflows by recipient countries would not be enough. There are two reasons, though, why some complementary action by source countries is

necessary. Firstly, several major recipient countries do not discourage short-term capital inflows; others, like Mexico, took some measures to discourage those inflows, but made themselves more vulnerable to financial crisis by, for example, a very short maturity structure of Treasury Bills, a high proportion of which were denominated in dollars and owned by foreigners. Second, even those recipient countries - like Chile, Colombia and Malaysia - which have deployed a battery of measures to discourage or limit short-term capital inflows have on occasions found these measures insufficient to stem very massive inflows, with problematic effects on variables such as the exchange rate. It therefore seems advisable for source countries to take some measures (as outlined above) to discourage excessive and potentially unsustainable short-term capital inflows into emerging markets, so as to avoid possible future costly financial crises. This is particularly justified because as the recent IMF study (1995) points out, due to the difficulty to restructure securitized exposures owned by a diversity of investors, if a major emerging market country is experiencing debt-servicing difficulties, it will far more probably than in the past be forced to seek official funding to allow it to continue servicing its' external debt in full, rather than be able to - as in the past - renegotiate such debt. Indeed, one could argue that as the IMF will play such a large role in providing funding during any such crisis it should also influence both source and particularly recipient countries to discourage excessive short-term capital inflows that may become unsustainable, and which pose a risk that a rapid outflow could lead to a costly financial crisis. A similar argument could be made for the BIS, to the extent that it too is likely to play some (though probably smaller) role in providing emergency short-term finance in case of a future Mexico-style financial crisis, and therefore has both an institutional - as well as a systemic - strong interest in crisis avoidance.

Finally, it should be emphasized that restrictions or discouragement of excessive short-term capital flows to emerging markets may seem 'second best' if compared to an ideal neo-classical utopia of perfectly efficient financial markets and sound macro-economic policies. As very unfortunately such a utopia does not exist, a 'second best' world of some discouragement of excessive flows which may prove unsustainable is **far superior** to either a world of more frequent and very costly, as well as disruptive, financial crises and/or to a world where countries unilaterally (or with support of the international community, through some internationally agreed bankruptcy procedures as discussed in Section III below) restructure

their debt or other liabilities. As regards the latter option, the IMF (1995) is completely correct in arguing that capital controls on inflows by emerging market countries are far superior to highly undesirable capital controls on outflows in times of crises. It should be added that ex-post capital controls on outflows in times of crisis imply a far greater and more fundamental violation of free-market principles than do ex-ante measures to discourage some capital inflows. Similarly, large and costly foreign exchange crises, also are very disruptive for market economies and may lead to unjustified criticisms of the overall market model and of market reforms.

Therefore, it can be concluded that a smoother and more efficient functioning of the market economy in emerging markets, can best be achieved with some discouragement and/or regulation of excessive and potentially unsustainable short-term capital inflows. Such measures will be most effective if applied both by source and recipient countries, if they are designed in ways that avoid any discouragement of more long-term flows and if the rules designed are simple and clearly targeted at unsustainable flows, and can be justified on prudential grounds.

III HOW CAN FUTURE CURRENCY CRISIS BE BETTER MANAGED?

We now enter the undesirable world of 'third' and even 'fourth' best, which arises when crisis prevention has failed and a major currency crisis is starting.

The first - and main - response in such a situation is to activate quickly a sufficiently large 'international lender of last resort', to provide the important public good of stability; such an action is justified because private flows have become globalized and financial markets are prone to speculative changes of mood.

It therefore seems appropriate that in their Halifax Meeting (Halifax Summit, 1995), the G-7 approved in principle that, 'the IMF establish an "Emergency Financing Mechanism", with strong conditionality and larger up front disbursements in crisis situations'. They also asked G-10 and other countries to develop financial arrangements to double as soon as possible the amount available under the GAB to 'respond to financial emergencies', and support 'continued discussions on a new IMF quota review'.

Bagehot's (1873) classic advice on a national lender of last resort may throw some light on the complex issues raised by establishing and operating an International Lender of Last Resort (ILOLR). Bagehot argued for a lender of last resort that would lend freely (that is, without limits), but at a penalty rate to an illiquid yet solvent debtor facing a creditor panic. Bagehot's conditions need to be adapted to the fact that the problem is international and that the ILOLR would support a country, instead of a creditor financial institution (even though indirectly investors and financial institutions may be the main beneficiaries).

A first issue to resolve is which countries would have access to the facility, and under what conditions. A recent paper by Williamson (1995) suggests that such an ILOLR facility should be addressed to all IMF member countries that have a high level of involvement in the international capital markets. Such a broad definition, though valuable in the sense of protecting more countries from destabilizing flows, could further increase the potentially massive scale of such an ILOLR (see below); a more limited facility, designed for the less stable but smaller emerging markets would initially seem to be a better option.

As Bagehot (1873) stressed, the terms of access are crucial, and should imply 'penalty rates' or 'onerous terms' to help avoid moral hazard; in this case, this refers in the first instance to countries mismanaging their economy, in the knowledge that they will be bailed out if markets panic. The 'onerous terms' refer not so much to the level of interest rates (though these should be above market rates) but to 'the policy conditionality' attached to the ILOLR. It is however crucial that policy conditionality be attached particularly **before** the crisis breaks out, to try to avoid it, though naturally continued conditionality would be important once the ILOLR operates. The former is not so easy to implement as normally when countries have abundant access to international private markets, they do not have recourse to IMF facilities. As a consequence, a proposal made in an IMF (1994) paper seems very useful; it suggests that a request for the right to borrow under an ILOLR type of facility would be made before a crisis happens, and during the time of an Article IV consultation. The IMF paper suggests that its' Board could approve the availability of a credit line for a specified period (which could be a year), if 'the country had a good record of economic policies and there was no fundamental balance of payments problem'. However, if these conditions had been implemented rigorously,

Mexico would **not** have been eligible for such a facility in early 1994, when its' last Article IV consultation with the Fund before the peso crisis occurred. Therefore, it would seem essential that for such a facility to be approved for a particular country, the Fund should also be entitled (even though this was merely a 'shadow programme' and would not imply immediate but potential disbursements) to request policy changes as a pre-condition for approval. This somewhat onerous imposition for the recipient country would be compensated by the fact that, in the event of a major crisis, the country would have an automatic right to draw of a large credit (or at least a first tranche), with an immediate report to the Fund's Board, but with **no** need for Board approval of the drawing. This procedure would have the **great advantage** for the country (and for the international community) that the facility could be immediately activated and used if the need arises, and could therefore have far more potential to reassure the markets. This quicker reassurance of the markets would hopefully reduce the scale of any potential crisis, and thus its' cost both to the country and to the international community. For the Fund to make such an open-ended commitment, it would seem essential that **previously** the country would have made any necessary policy changes that the Fund requests to try to avoid the crisis, in exchange for the potential, but crucial, automatic availability of Fund credit should a crisis break out. This may require some extension and improvement of the Fund's analytical capacity to judge whether or not a country's policies are sustainable. Indeed, it can be argued (Williamson, 1995) that the Fund's warnings to Mexico in its' 1994 Article IV consultations on the dangers of its large current account deficit were far too weak. However, there is no reason why, given its' expertise the Fund's analytical capabilities could not be improved and adapted, particularly as it could also liaise with expertise from other institutions like the BIS or even draw on academic economists.

A second crucial issue related to the scale of such a facility. Since Bagehot, analysts of lenders of last resort have argued that - to be effective in convincing the markets - such a facility must be able to 'lend freely', that is be virtually open-ended, or at least extremely large. The scale of the package for Mexico is illustrative. The IMF lending of $17.8 billion was equal to around seven times the Mexican quota at the Fund; this was only a bit over a third of the total package that Mexico needed, which reached around $50 billion. Similarly, during the 1992 crisis of the ERM, the Bundesbank and other institutions, used massive amounts of funds

(reportedly over $120 billion) to defend the parities of several European countries.

This massive scale for an international lender of last resort poses a very serious problem for the governments and central banks of the major countries, not so much for assembling a funding package (via, for example, the GAB, the expansion of IMF quotas and other mechanisms) but more in case such a facility is to be used several times.

As a consequence, an ILOLR must be established very carefully, with very precise and stringent conditions for its' use and with very strong emphasis on crisis prevention measures, such as discussed in Section II above. Such prevention measures also will help limit 'moral hazard', that is the incentive for countries and/or investors to behave less prudently because they know that if a crisis occurs, they will be bailed out. Moral hazard for countries would be reduced both by the dramatic economic, social and political costs which a nation like Mexico has to bear in the aftermath of a currency crisis and by the pre and past-crisis IMF conditionality suggested above. More problematic could be the moral hazard for investors and fund managers. Indeed it should be noted that in particular holders of Tesobonos (which represents assets of almost $30 billion) have **not** had any losses as a result of the massive Mexican crisis, precisely due to the scale of the IMF - US Treasury package. (However, foreign investors in Mexican ADR's - if they sold during the crisis - have suffered some losses.) For this reason, it is essential that moral hazard for investors, fund managers and other financial institutions is curbed by preventive measures by source countries to regulate and/or discourage short-term and apparently unsustainable flows. Indeed, to establish an explicit and large international lender of last resort **without** accompanying measures to curb 'moral hazard', both on the country and the investor side would seem unacceptable for the taxpayers of the industrial countries, which would fund it. It would also seem morally incorrect to establish such a large and even open-ended facility, without sufficient **quid pro quo**, at a time when many developed countries' governments are cutting back on aid flows to the poorest countries and people in the world.

These arguments are not against the establishment of an explicit international lender of last resort per se, as such a facility seems essential in a time of large, globalized speculative capital flows. They just stress the

need for rigorous ex-ante conditions, both on recipient countries and on investors, for access to such a facility to be made available.

To further reduce the risk of moral hazard, as it relates to investors and investing institutions, and to help reduce the scale of ILOLR operations, it may also be necessary to prepare in advance some measures, that would, however, be implemented ex-post, that is after a crisis begins to happen. The G-7 (Halifax, 1995) have hinted at such measures, somewhat cryptically, by encouraging 'further review of other procedures that might also usefully be considered for their orderly resolution'. Senior figures in the US, like Congressman James Leach, Chairman of the US House of Representatives Banking and Finance Committee have called for the IMF to create some international equivalent of US bankruptcy arrangements (Wall Street Journal, 11 April, 1995). Robert Rubin, the US Treasury Secretary is reported to have requested a 'cautious exploration' of a special facility to work out international debt crises in an orderly way (Financial Times, 25 April, 1995).

Academics (in particular Sachs, 1995, but also, Raffer, 1990) have gone further in explicitly arguing for the IMF or others to play a role like an international bankruptcy court.

These proposals draw close parallels with Chapter 11 and Chapter 9 of the US Bankruptcy Code. Chapter 11 recognizes that in a restructuring of an insolvent corporation, there are three stages, each of which is prone to deep collective action problems. The first stage occurs when bills cannot be paid. This stage is prone to 'a creditor grab race', as liquidation is accelerated - or even partly caused - by creditors trying to get their money before others do, provoking however collective inefficiency. Assuming there is no liquidation, there is a restructuring phase. During this phase, the enterprise needs credit; however, no lender or investor has an incentive to provide new money unless it has preferential status. The third stage implies adjusting the balance sheet, by debt reduction or debt equity. The collective action problem is that each creditor is happy if other creditors make concessions, while individually holding out for full repayment. To deal with these problems, for a corporation or even a municipality in financial difficulties, American bankruptcy laws provide an appropriate framework. This includes: a debt freeze to prevent 'the creditor grab race', a legal provision to allow for borrowing new money that is senior to the old and -

if necessary - a mechanism to write down existing obligations. In the view of Sachs and Raffer, op. cit., such a framework can be also applied to a sovereign borrower in financial distress, to overcome similar collective action problems to those that affect corporations. It is proposed that such a framework would involve: a debt service standstill, fresh loans and possibly some reduction. It has further been argued that the IMF could possibily authorize such procedures, in the framework of its' Articles or Agreement, and particularly of Article VIII, Section 2b, which relates to exchange restrictions, which would then not be subject to challenges in the courts of member countries.

This proposal has some important advantages, the main one is that it could eliminate completely - or significantly reduce - the cost to rich countries' central banks and/or governments of massive bail-outs. A secondary advantage could be that - if explicitly announced ex-ante - it could curb excessive short-term capital flows, and reduce moral hazard of investors for an ILOLR. However, the danger in that aspect is that it could throw out the baby of capital flows to emerging markets in general with the bath water of more speculative or less sustainable flows.

More broadly, we agree with the IMF (1995) that ex-post restrictions on capital outflows are the least desirable option because they will be viewed by market participants as some type of confiscatory measure. In this context a bankruptcy type of procedure seems too 'market unfriendly' and too radical, and therefore should be used - if at all - only as an **absolutely last resort**. It would also seem more appropriate if an 'orderly workout approach' was to be used only in very extreme circumstances, if it was used more for extending maturities rather than debt reduction and if it was used in combination with (and not as a substitute for) and international lender of last resort. The advantage of the latter combination would be that the costs of a financial crisis would be shared by the country affected, by international official support and by the investors. This would be in contrast with how the 1994 Mexico crisis was handled, where practically all the costs and strains were taken by the official support and the Mexican economy.

In spite of all the above reservations about using 'international bankruptcy procedures', it may be desirable to prepare the framework for such a mechanism in any case, but to do it without any publicity given to it, particularly in this current phase, when capital flows to many emerging

markets are just beginning to recover from the crisis of early 1995, and where market confidence needs to be bolstered.

Finally, it is crucial to stress again that in international private capital flows - as in medicine - prevention is far more desirable, effective and cheaper than curing avoidable illnesses. Therefore, emphasis must be placed on the relatively less radical, less costly and less disruptive measures outlines above in Section II (as well as those discussed internationally) for crisis avoidance. It would seem essential to include amongst them not just improved surveillance of countries, but also some regulation and/or discouragement of unsustainable short-term capital flows. These measures will also act to reduce significantly the 'moral hazard' which the existence of an explicit (or even of an implicit) international lender of last resort generates, as well as diminish greatly the likelihood of the very radical 'international bankruptcy procedures' having to be implemented.

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