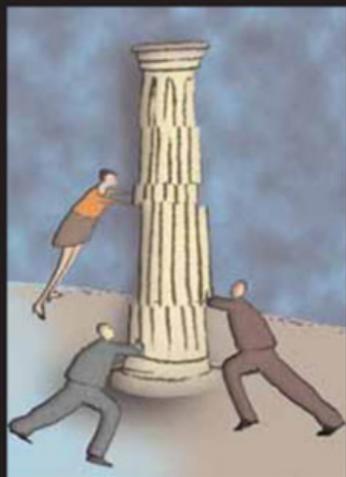


Preserving Financial Stability



Garry J. Schinasi

Preserving Financial Stability



Garry J. Schinasi

©2005 International Monetary Fund

Series editor

Asimina Caminis

IMF External Relations Department

Cover design and composition

Massoud Etemadi and Choon Lee

IMF Multimedia Services Division

ISBN 1-58906-356-2

ISSN 1020-5098

Published September 2005

To order IMF publications, please contact

International Monetary Fund, Publication Services

700 19th Street, N.W., Washington, D.C. 20431, U.S.A.

Tel: (202) 623-7430 Fax: (202) 623-7201

E-mail: publications@imf.org

Internet: <http://www.imf.org/pubs>

Preface

Over the past three decades, financial markets have undergone a radical transformation and rapid expansion, driven by deregulation, liberalization, and globalization and advances in information and computer technologies. Cross-border capital flows have surged, markets have developed sophisticated new financial instruments, and the ease and speed with which financial transactions can be carried out have increased dramatically.

Although these changes have been beneficial overall, resulting in the more efficient distribution of capital, they have been accompanied by frequent financial disruptions—for example, the sharp price movements in U.S. equity markets in 1987 (“black Monday”) and 1997; bond market turbulence in the G-10 countries in 1994 and in the United States in 1996; currency crises in Mexico (1994–95), Asia (1997), and Russia (1998); the collapse of the hedge fund Long-Term Capital Management in 1998; the currency swings of the 1990s; and the volatility of global equity markets in 2000 and 2001. Some of these episodes threatened not only national and regional economies but also the global economy, highlighting the importance of making financial stability an economic policy objective in its own right. But they also demonstrated how poorly understood is the potential of globalized finance for mispricing and misallocating capital and causing financial turbulence.

The international financial system has grown so complex that it has become increasingly challenging—and costly—for policymakers to identify and assess risks. What is needed is a framework that gives clearer, earlier warnings of weaknesses. The framework presented in this economic issue is not meant to be a detailed, definitive blueprint but, rather, a starting point for further work and wider debate.

Economic Issue No. 36, prepared by Charles Gardner and Asimina Caminis, is based on several IMF Working Papers—WP/04/187,

“Defining Financial Stability” and WP/04/120, “Private Finance and Public Policy,” both by Garry J. Schinasi; and WP/04/101, “Toward a Framework for Safeguarding Financial Stability,” by Aerd Houben, Jan Kakes, and Garry J. Schinasi. They are available free of charge at www.imf.org/pubs. Mr. Schinasi is the author of the book *Safeguarding Financial Stability: Theory and Practice*, which will be published by the IMF in December 2005.

Preserving Financial Stability

Compared with the analysis of monetary and macroeconomic stability, the analysis of financial stability is still in its infancy. As anyone who has tried to define financial stability knows, there is as yet no widely accepted model or analytical framework for assessing or measuring it. Financial indicators that could alert policymakers to potential problems in the real economy have only begun to be developed.

It is not surprising that existing frameworks for ensuring international financial stability—a combination of private market discipline and national prudential oversight—have not kept pace with the modernization and globalization of financial markets. First, the financial system has expanded much faster than the real economy. In advanced economies, total financial assets now represent a multiple of annual GDP. Second, the composition of financial assets has changed; nonmonetary assets account for a growing share, which means that the monetary base is more highly leveraged. Third, as a result of cross-industry and cross-border integration, financial systems have become more interdependent, increasing the risk of contagion. Fourth, the financial system has become more complex in terms of the intricacy of financial instruments, the diversity of activities, and the mobility of risks. Although these trends have boosted economic efficiency and made financial systems more resilient, they have also changed the nature of financial risk and triggered episodes of financial instability.



What is financial stability?

Over the past decade, safeguarding financial stability has become an increasingly dominant objective in economic policymaking. More

than a dozen central banks and several financial institutions (including the IMF, the World Bank, and the Bank for International Settlements) issue periodic financial stability reports and have made the study and pursuit of financial stability an important part of their activities.

Financial stability means more than the mere absence of crises. A financial system can be considered stable if it (1) facilitates the efficient allocation of economic resources, geographically and over time, as well as other financial and economic processes (such as saving and investment, lending and borrowing, liquidity creation and distribution, asset pricing, and, ultimately, wealth accumulation and output growth); (2) assesses, prices, allocates, and manages financial risks; and (3) maintains its ability to perform these key functions even when faced with external shocks or a build-up of imbalances.

By implication, because the financial system encompasses a number of different but interrelated components—infrastructure (legal, payments, settlement, and accountancy systems), institutions (banks, securities firms, institutional investors), and markets (stock, bond, money, and derivatives)—a disturbance in one of the components could undermine the stability of the entire system. However, if the system is functioning well enough to perform its main facilitative functions, even when one component is experiencing problems, such problems would not necessarily constitute a threat to overall stability. Financial stability does not require that all parts of the financial system operate at or near peak at all times. But a stable financial system has the ability to limit and resolve imbalances, in part through self-corrective mechanisms, before they precipitate a crisis, and it enables the country's currency (fiat money) to fulfill its role as a means for transactions, a unit of account, and a store of value (financial stability and monetary stability overlap). Finally, a financial system can be deemed stable if disturbances are not expected to damage economic activity. In fact, the closing of a financial institution or heightened volatility or a significant correction in financial markets may be the result of increased competition or the absorption of new information, and may even be signs of health.

Since the financial system is in a perpetual state of flux and transformation, the concept of financial stability does not refer to a sin-

gle, sustainable position or time path to which the financial system returns after a shock but rather a range or a *continuum*. This continuum is multidimensional: it occurs across a multitude of observable, measurable variables that can be used to quantify (albeit imperfectly) how well the financial system is performing its facilitative functions. Because of the multifaceted nature of financial stability, a change cannot be captured by a single quantitative indicator; contagion effects and nonlinear relationships between the different parts of the financial system add to the difficulty of predicting financial crises. Thus, assessing the stability of the financial system requires both a systemic and a global perspective.

At the same time, crisis prevention efforts require a realistic attitude about the limits to which developments in financial stability can be controlled. Most of the policy instruments already in place to safeguard financial stability have other primary objectives, such as protecting the interests of deposit holders (prudential instruments), fostering price stability (monetary policy), or promoting the swift settlement of financial transactions (policies governing payments and settlement systems). The impact of these policy instruments on financial stability is often indirect and is usually felt only after a lag. It may even be in conflict with the instrument's primary objective.



Risks to the financial system

The growing complexity of financial markets is due not only to the introduction of new, and imperfectly understood, instruments and technological advances but also, of course, to globalization and securitization, which have created difficult new challenges in four broad areas: transparency and disclosure, market dynamics, moral hazard, and systemic risk.

Reduced transparency

Consider the example of an investment bank in Hong Kong that takes an equity stake in a Chinese company and then unbundles the cash flows, the capital appreciation of the investment, and the coun-

terparty risk, selling these pieces separately to investors in different countries. A transaction like this increases opportunities for raising funds, investing, and distributing risk to those best able to bear it. However, because many of these activities take place off-balance-sheet, investors and bank supervisors do not have access to information about them.

Market dynamics

The globalization of finance and the growing reliance of many firms on securities markets rather than on banks for raising funding have dramatically altered market dynamics. Transaction costs have been reduced to a minimum, and a huge volume of transactions can be carried out in a very short time. Massive and persistent selling or buying, as occurs with so-called herding behavior, can exacerbate price movements. Herding can also cause problems to spread from a troubled market to an as yet untroubled market, if investors perceive—rightly or wrongly—similarities between the two.

Moral hazard

The new uncertainties inherent in market dynamics should be an incentive for private market participants to insulate their business activities, net incomes, and balance sheets from the risks of sharp price movements and changes in market liquidity. But some of the most important market participants are vital parts of national and international payments systems, and allowing them to fail could have dire consequences for the entire financial system. To guard against this risk, policymakers have put financial safety nets in place for depositors (deposit insurance), financial institutions (lender-of-last-resort facilities), and markets (government injections of liquidity). However, the presumption that the public sector will step in to defuse a crisis undermines market discipline and creates moral hazard, in that it weakens the incentive for market participants to act prudently.

Systemic risk

Systemic risk has shifted from the banking sector to capital and derivatives markets, and it now involves private settlement systems

and quasi-private clearinghouses. It may be harder for official supervisors to identify, given the widening technological and knowledge gaps between the regulators and the regulated. A combination of technological advances, private incentive structures, and increased competition in financial services drives private financial firms to adapt to structural changes far faster than supervisory and regulatory frameworks can react.

As indicated in Figure 1, risks and vulnerabilities may develop endogenously, within the financial system, as well as exogenously—for example, in the real economy. Different kinds of risks require different policy actions. The size and likelihood of endogenous imbalances can typically be influenced by the financial authorities through regulation, supervision, or crisis management. By contrast, external disturbances are harder to control, except through macroeconomic policies subject to long and uncertain time lags. The scope for policy in the event of an external disturbance is limited mostly to reducing the impact on the financial system, for instance, by maintaining the system’s ability to absorb shocks and activating back-up systems

Figure 1. Stylized view of factors affecting financial system performance

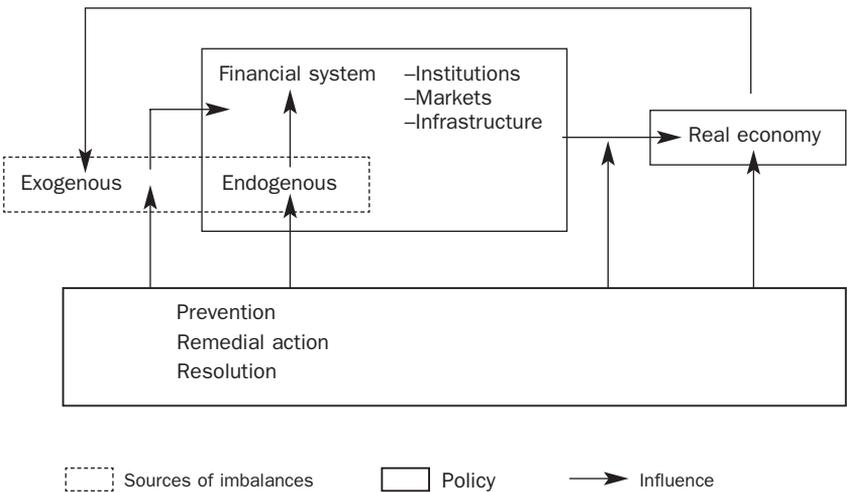


Table 1. Possible sources of financial instability

Endogenous	Exogenous
<p><i>Institutions-based</i> Financial risks</p> <ul style="list-style-type: none"> • credit • market • liquidity • interest rate • currency <p>Operational risk Information technology weaknesses Legal/integrity risk Reputation risk Business strategy risk Concentration of risk Capital adequacy risk</p> <p><i>Market-based</i> Counterparty risk Asset price misalignment Run on markets</p> <ul style="list-style-type: none"> • credit • liquidity <p>Contagion</p> <p><i>Infrastructure-based</i> Clearance, payments, and settlement systems risk Infrastructure fragilities</p> <ul style="list-style-type: none"> • legal • regulatory • accounting • supervisory <p>Collapse of confidence leading to runs Domino effect</p>	<p><i>Macroeconomic disturbances</i> Economic environment risk Policy imbalances</p> <p><i>Events</i> Natural disasters Political developments Large business failures</p>

to protect vital information. Such measures enabled the U.S. financial markets to survive the terrorist attacks of September 11 without suffering lasting damage.

Endogenous risks may arise in any of the financial system's three main components—institutions, markets, and infrastructure (see Table 1).

- Problems may develop in a financial institution and subsequently spread to other parts of the financial system, or several institutions may be affected simultaneously because they have similar risk exposures.

- Markets are subject to counterparty risk, asset price misalignments, runs, and contagion.
- Problems originating in financial institutions (for example, operational failures, concentration risk, and domino effects) may lead to problems in the financial infrastructure—for example, in clearing and settlement systems—that have broader repercussions for the financial system. Or weaknesses originating in the infrastructure—say, in the legal and accounting systems—may cause business failures (the failure of the U.S. corporation Enron was linked to weaknesses in the accounting system).

Exogenous risks stem from problems outside the financial system. Financial stability is susceptible to external shocks—for example, natural catastrophes, changes in a country's terms of trade, political events, oil price fluctuations, technological innovations, abrupt swings in market sentiment, or a sovereign default by a neighboring country. Microeconomic events, such as the failure of a large company, may undermine market confidence and create imbalances that affect the whole financial system.



Financial stability analysis

Financial stability analysis needs to cover all of the above sources of risks and vulnerabilities. This requires systematic monitoring of individual parts of the financial system and the real economy (households, firms, the public sector). The analysis must also take into account cross-sector and cross-border linkages, because imbalances are often caused by a combination of weaknesses from different sources.

In addition, policymakers need to consider the initial scope of vulnerabilities and their potential impact on the financial system as a whole. Financial stress may arise at the micro level—for example, a bank failure or the bankruptcy of a large nonfinancial company—and subsequently spread through the financial system, perhaps through interbank exposures or confidence effects, or developments

may immediately affect a major part of the economy, as in the case of a systemic failure.

Since the very nature of systemic risk has changed, a broader, more comprehensive set of indicators is required. Specifically, risk may be less concentrated than in the past. First, financial institutions have increased their market activities and exposures, and nonfinancial corporations and households have increased their participation in markets. Second, instruments for diversifying risk—through activities such as hedging, credit risk transfers, and securitization of bank loans—have improved. These developments have lowered the risk of individual bank failures and the traditional domino effect. However, the benefits of increased risk sharing may be offset by greater vulnerability to systemwide shocks, as aggregate exposures to financial markets have surged, implying a potentially larger simultaneous influence of extreme adverse events in these markets.

The analysis of financial stability corresponds, to some extent, to traditional macroprudential analysis. It relies on standard indicators, such as balance sheet data reflecting sector (household and corporate) financial positions, ratios between net debt and income, measures of counterparty risk (such as credit spreads) and of liquidity and asset quality (such as nonperforming loans), open foreign exchange positions, and exposures per sector with special attention to measures of concentration. These are mostly microprudential indicators aggregated to the macro-level, so there is a need to look at dispersions within these aggregates. To assess the stability of the entire financial system, a broader set of indicators monitoring conditions in important markets, including the interbank money, repo, bond, equity, and derivatives markets, is required. Relevant indicators include measures of market liquidity (such as bid-ask spreads), market uncertainty and risk (as reflected in historical and implied asset price volatility), and asset price sustainability (as indicated by market depth and breadth as well as deviations in asset-pricing models, fundamentals-based models of “equilibrium” prices, or price-earnings ratios).

A basic compilation of these variables is provided by the IMF’s Core and Encouraged Set of Financial Soundness Indicators (see Table 2). Complementary indicators may also be derived for the functioning of the financial infrastructure, including payments system

Table 2. Financial soundness indicators**Core indicators**

Deposit-taking institutions

Capital adequacy

Ratio of regulatory capital to risk-weighted assets
 Ratio of regulatory Tier 1 capital to risk-weighted assets
 Ratio of nonperforming loans net of provisions to capital

Asset quality

Ratio of nonperforming loans to total gross loans
 Ratio of sectoral distribution of loans to total loans

Earnings and profitability

Return on assets
 Return on equity
 Ratio of interest margin to gross income
 Ratio of noninterest expenses to gross income

Liquidity

Ratio of liquid assets to total assets
 Ratio of liquid assets to short-term liabilities

Sensitivity to market risk

Ratio of net open position in foreign exchange to capital

Encouraged indicators

Deposit-taking institutions

Ratio of capital to assets
 Ratio of large exposures to capital
 Ratio of geographical distribution of loans to total loans
 Ratio of gross asset position in financial derivatives to capital
 Ratio of gross liability position in financial derivatives to capital
 Ratio of trading income to total income
 Ratio of personnel expenses to noninterest expenses
 Spread between reference lending and deposit rates
 Spread between highest and lowest interbank rate
 Ratio of customer deposits to total (noninterbank) loans
 Ratio of foreign-currency-denominated loans to total loans
 Ratio of foreign-currency-denominated liabilities to total liabilities
 Ratio of net open position in equities to capital

Other financial corporations

Ratio of assets to total financial system assets
 Ratio of assets to GDP

Nonfinancial corporations

Ratio of total debt to equity
 Return on equity
 Ratio of earnings to interest and principal expenses
 Ratio of net foreign exchange exposure to equity
 Number of applications for protection from creditors

Households

Ratio of household debt to GDP
 Ratio of household debt service and principal payments to income

Market liquidity

Average bid-ask spread in the securities market¹
 Average daily turnover ratio in the securities market¹

Real estate markets

Real estate prices
 Ratio of residential real estate loans to total loans
 Ratio of commercial real estate loans to total loans

¹Or in other markets that are most relevant to bank liquidity, such as foreign exchange markets.

figures for incidents (failures owing to hardware, software, or connectivity problems), slowdowns, and non-settlements. The financial infrastructure may also be affected by developments in the legal, regulatory, accounting, or supervisory systems in reaction to financial tension. Finally, macroeconomic variables such as economic growth, investment, inflation, the balance of payments, and the prices of nonfinancial assets may indicate a build-up of imbalances.

Early warning systems can play a role in weighing the importance of different indicators of financial stability and in anticipating financial stress. Several variables have proven to be important indicators of financial tension—for example, interest rate hikes often anticipate strong adjustments in asset prices. Various studies have found that an increase in the ratio of credit to GDP, especially in combination with an investment boom, is a leading indicator of asset bubbles and financial crises. In addition, financial market indicators provide important information that captures developments beyond the markets themselves, because various potential risks in the economy may be immediately reflected in variables like bond spreads and stock prices.

Finally, financial stability analysis needs to take account not only of potential disturbances but also of the degree to which these can be absorbed by the financial system. In particular, the different factors that can cushion or contain a shock need to be taken into account. These include the size of capital buffers, the reliability of (re)insurance facilities, and the adequacy of fire walls, safety nets, and back-up systems.

Furthermore, because financial stability analysis is complicated by nonlinearities and the need to focus on exceptional but plausible events, it is often necessary to consider distributions of variables and to analyze what happens if risks manifest themselves simultaneously. In this context, stress tests are a useful tool for gauging the resilience of parts of the economy under extreme conditions. But, although stress tests may be carried out for individual financial institutions and perhaps the entire banking system and even individual sectors, the use of stress tests for the financial system as a whole is limited, especially for systems that have a mix of banking and market-oriented finance, in part because of the lack of data and empirical models.

The challenge is to develop systemwide stress tests that take account of financial sector interlinkages and of the second-round effects that financial institutions have on each other and on the real economy.



Developing a framework

The challenge of achieving and maintaining financial stability depends to some extent on the structure and maturity of the economic system, and the framework described below will no doubt have greater relevance for more mature financial systems. This framework integrates the analytical and policy elements of financial stability and allows policymakers to assess financial stability based on macroeconomic, monetary, financial market, supervisory, and regulatory input. The objective is to provide a coherent structure for the analysis of financial stability issues, to (1) make it possible to identify potential vulnerabilities early, before they lead to downward corrections in markets, problems within institutions, or failures in the financial infrastructure; (2) promote preventive and timely remedial policies to avoid financial instability; and (3) restore the system to stability when preventive and remedial measures fail. This framework tries to go beyond the traditional “shock-transmission” approach that is the basis of many existing policy frameworks.

The ultimate goal of policymakers should be to put in place mechanisms designed to prevent financial problems from becoming systemic or threatening the stability of the financial system and the real economy—but without undermining the economy’s ability to sustain growth or perform its other functions. The goal is not necessarily to prevent all financial problems from arising. First, it is unrealistic to expect that a dynamic, effective financial system will never experience market volatility or turbulence, or that all financial institutions will be capable, all of the time, of perfectly managing all of the uncertainties and risks involved in providing financial services and maintaining—if not increasing—the value of stakeholders’ assets.

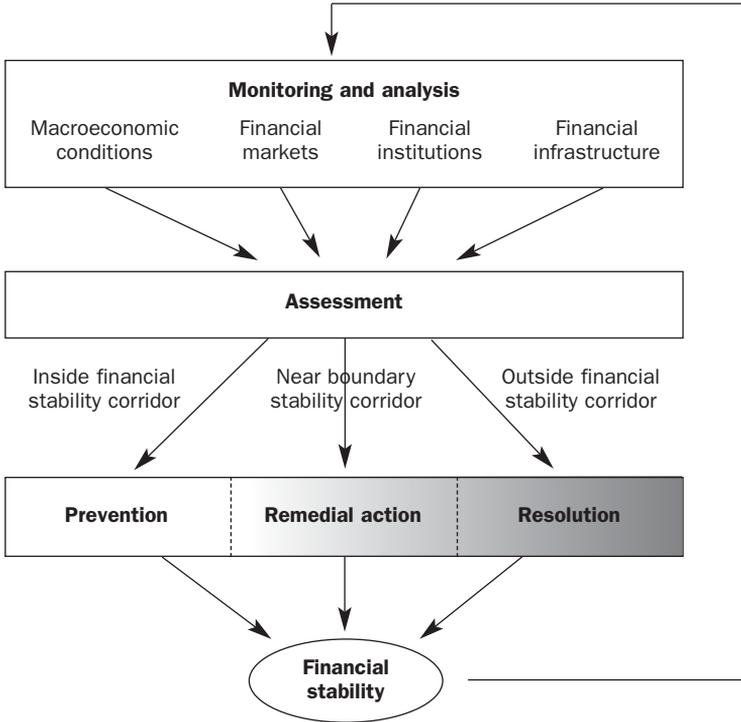
Second, the creation of mechanisms that are overly protective of market stability and that discourage any risk taking is undesirable.

Guided by the concept of a corridor of financial stability within a continuum, a natural starting point for defining the framework and making it operational would be continuous, comprehensive analysis of the potential risks and vulnerabilities in the financial system. This would be followed by an assessment of the extent to which these vulnerabilities threaten financial stability, and, then, by the adoption of appropriate policy actions, which would be determined by the condition of the financial system. If the system is broadly in the range of stability and likely to remain so for the foreseeable future, the appropriate policy is mainly preventive, aimed at maintaining stability by relying on market discipline and official supervision and surveillance. Second, the financial system may be within a corridor of stability but moving toward the boundary, for instance because imbalances are starting to develop or because of changes outside the financial system. Safeguarding the stability of the system may call for remedial action—for example, moral suasion and intensified supervision. Third, the financial system may be unstable—outside the corridor of financial stability—and therefore unable to perform its functions adequately. In that case, policies should be reactive and aimed at restoring stability, which may include crisis resolution. The main elements of this financial stability framework are summarized in Figure 2. Obviously, owing to the multifaceted nature of financial stability, the distinction between the policy categories will seldom be clear cut.

Potential problems could fall into one of the following broad categories:

- difficulties in a single institution or market not likely to have systemwide consequences for either the banking or the financial system;
- difficulties that involve several important institutions and that are likely to spill over to other institutions or markets;
- difficulties likely to spread to a significant number of financial institutions of different types across unrelated markets, such as forward, interbank, and equity markets.

Each category requires different diagnostic tools and policy responses—from doing nothing to intensifying supervision or surveil-

Figure 2. Framework for maintaining financial system stability

lance of a specific institution or market to injecting liquidity into the markets to dissipate strains or intervening in particular institutions.

Prevention

Policymakers would deal with a stable financial system the way doctors treat healthy patients. Care of healthy patients focuses on preventing problems and identifying potential problems before they do any damage and consists of immunizations, regular check-ups, and the like.

In a healthy financial system, the main instruments to prevent the potential build-up of imbalances that could trigger a crisis are market discipline; official regulation, supervision, surveillance, and com-

munication; and sound macroeconomic policies. Timely adjustments may be needed both in the way vulnerabilities are assessed and in the design and implementation of policy instruments as changes occur that could affect the financial system.

Remedial measures

To continue with our medical analogy, if a patient is not yet ill but is showing signs of potential problems—say weight gain or loss, shortness of breath, high blood pressure—preemptive action may be needed. The doctor may schedule additional tests and more frequent checkups, recommend lifestyle changes, or prescribe medication.

This condition is analogous to the stage when a financial system approaches the boundary of the corridor of stability. For instance, imbalances may have built up because of rapid credit growth in combination with asset price inflation and a decline in the capitalization of the banking system; even if there are no immediate risks, problems, if unchecked, may grow. Other risk factors include an unexpected change in the domestic or external environment.

In practice, this second, intermediate stage is the most ambiguous of the three. Vulnerabilities that have not yet manifested themselves are inherently difficult to assess, and it is harder to identify or implement the appropriate remedial instruments and motivate participants to be more prudent in the absence of clear-cut financial instability. But policymakers should try to influence or correct developments in this stage by using moral suasion and intensifying surveillance and supervision. They may need to strengthen safety nets to avoid bank runs and contagion or make adjustments to macroeconomic policies.

Resolution

If, despite these efforts, the patient falls ill, serious intervention (intensive monitoring, surgery) may be required—that is, the financial authorities' policies will have to be stepped up as the financial system moves toward—or eventually crosses—the boundary of stability.

In this stage, banks may be unwilling or unable to finance profitable projects, the prices of assets may cease to reflect their intrinsic

sic value, or payments may not be settled in a timely manner—or at all. In extreme cases, financial instability may spark a run on financial institutions or lead to hyperinflation, a currency crisis, or a stock market crash. Stronger policies aimed at restoring stability and, if necessary, resolving the crisis, would be appropriate at this stage. Surveillance and supervision would be further intensified, while more activist policies may be needed to restore the system’s capacities and to boost confidence. Typically, discretionary measures that are impossible to specify in advance will be needed; sometimes they cannot be revealed for strategic reasons. For example, policymakers may deem it desirable to maintain “constructive ambiguity”—that is, they will not provide premature assurances of forbearance, the activation of financial safety nets, or injections of liquidity into individual institutions or into the broader financial system—so as not to encourage imprudent risk taking by market participants. In addition, official communication and macroeconomic policies can help contain financial market turbulence.



Why financial stability is a public good

Modern finance is often viewed as a purely private activity whose benefits are reaped primarily, if not exclusively, by private individuals and enterprises. However, there are vital links between a country’s financial markets, fiat money, and its real economy.

By bringing together savers willing to postpone consumption and investors seeking capital to put into productive activities, finance creates substitutes for fiat money that are exchangeable over time, thereby amplifying and enhancing the benefits of fiat money by making possible the more efficient allocation of real economic resources between different activities and locations and, especially, over time. By definition, finance entails risks, but it also permits risks to be priced and, increasingly, sold separately to financial market participants in a position to assume them. Because of these features, finance makes possible a far greater amount of economic activity than what fiat money alone could support.

However, finance also raises the volume of potential claims on pure liquidity well above the available supply of fiat money. The risk inherent in such leveraging is that too much finance may come to rest on too little trust that financial contracts will be fulfilled. The potential is created for situations in which legitimate claims on fiat money are not honored on time or transactions are not settled. The economic losses related to such failures can be massive.

And, although modern finance is first and foremost a dynamic network of a large number of individual private financial contracts, the prospect of actually obtaining these private benefits requires certain publicly sanctioned arrangements. For instance, private financial contracts are typically written in terms of a legally sanctioned unit of account and measured in terms of legally sanctioned accountancy rules, while settlement and delivery of payment may take place in fiat money. In addition, there is the presumption of legal recourse in the absence of contract performance. Other aspects of public policy underpin the effectiveness and efficiency of private finance, including judicious micro- and macroeconomic policies.

Moreover, there is ample empirical evidence that finance may not automatically lead to efficient outcomes if left entirely to market forces. For one thing, finance should be considered a public good and, as such, might be under- or overproduced. Incomplete or asymmetric information creates scope for mispricing and adverse selection. And the costs of gathering and analyzing information on counterparties may be prohibitive for private parties, while there would be evident economies of scale in public sector supervision of financial institutions. The markets for finance are incomplete; certain liquidity risks are uninsurable; and competition is imperfect. And the loss of financial stability because of the mismanagement of money and finance can lay waste to the real economy, as it did during the Great Depression. In contrast, a healthy financial system fosters wealth accumulation by individuals, businesses, and governments—a basic requirement for a society to develop and grow and to weather adverse events.

Of course, in designing public policies, account needs to be taken of possible future costs associated with private market reactions and adjustments to public policies—for example, because of moral haz-

ard and regulatory arbitrage. Policymakers must recognize that there are potential trade-offs between intervention for the sake of short-term stability and the longer-term stability that might come from allowing unhealthy institutions to fail. They must also strike a delicate balance to ensure that markets are dynamic and efficient as well as resilient. Policies should be designed to safeguard financial stability without discouraging risk taking. Excessive caution could inhibit the dynamic development of finance, holding back growth in the industrial countries and derailing development in the emerging market economies. Individual nations must choose the trade-offs that best promote their own welfare.



Looking ahead

Do the volatility, turbulence, and crises that have occurred over and over again since 1990 represent what should be expected of financial markets in the future, or do they represent a transitional phase, with calmer days ahead?

There is reason to be optimistic. The large global financial institutions appear to have learned important lessons from the crises of the 1990s and to have incorporated them in new risk-management and control systems and greater diversification of their financial portfolios and of their business activities. National authorities—many of them taken by surprise when the crises erupted—also began reforming their banking regulations and supervisory frameworks, while the international community launched initiatives to strengthen the cross-border financial architecture.

These public and private reforms seem to have paid off. The industrial economies were resilient in the face of the bursting of the equity dot.com bubble in 1999–2000, record levels of corporate bond defaults in the past decade, and financial fallout from the terrorist attacks of September 11, 2001. This suggests that industrial economies have enhanced their ability to diversify private and national risks enough to reduce financial losses to a manageable level. Nevertheless, financial activity has continued to become more

complex and less transparent, making it ever more difficult to contain financial excesses before they become so large as to produce volatility and turbulence.

Many emerging market countries, by contrast, do not seem to have acquired the same degree of insulation and resiliency. Although they may have access to global finance, they have not yet been able to manage the inherent risks. They have not kept up with structural changes or prepared themselves for the world of modern finance, particularly in achieving transparent and effective legal systems; guaranteeing contract performance and collateral collection in cases of default; building financial infrastructure, including supervision and regulation and well-designed, monitored, and enforced safety nets; or raising standards of corporate governance. Gaps in these critical areas are evident even in high-performing countries that have experienced sustained growth. For many emerging economies, the globalization of finance has been a double-edged sword. During good times, their economic and financial development benefits from healthy capital inflows, but the reversal of such flows leaves them vulnerable, in the absence of necessary reforms, to potentially devastating financial and economic crises.



Strategy for the future

On balance, the shift to a larger, more integrated, leveraged, complex, and market-based financial system is likely to continue to change the nature of financial risk. Industrial countries and emerging market economies alike can rightly assume that, even though the international financial system is more efficient and resilient today than it was twenty years ago, it may also be more likely to experience sharp asset-price and capital movements, market turbulence, and crises that could put the global economy at risk.

Prudence would suggest a three-pronged strategy: strengthening national supervisory and regulatory frameworks, reinforcing market discipline both in national and in international markets, and adopting a global perspective.

Strengthening national frameworks

The turbulence that has rocked financial markets since the 1990s indicates that there is a need to eliminate some of the existing supervisory gaps with closer public sector supervision of financial companies' internal risk-management and control systems, the ability and involvement of senior management in these systems, and corporate governance mechanisms in general. Another way of safeguarding financial stability while preserving the benefits of financial efficiency may be to penalize errant institutions by requiring them to hold more capital than the minimum required by the capital adequacy framework known as Basel II. This would be a first step toward creating an incentive structure that encourages individual financial institutions and investors to internalize the responsibility for their collective risk taking. Financial stability would also be strengthened if all institutions were encouraged to conform to international guidelines, norms, and best practices.

Reinforcing market discipline

The second part of the strategy is to make better use of market discipline. An important feature of having strong and, if possible, fail-safe infrastructures—in particular, real-time gross settlement systems—is that financial institutions, even large ones, can be allowed to fail and can be liquidated without necessarily threatening the stability, or even the effectiveness, of national payments systems.

Accordingly, the benefit of improving transparency and regulatory and public disclosure is that both market participants and supervisors may be able to see hints of errant investment strategies or financial problems before they have a chance to do harm. Greater transparency and disclosure would also enable supervisors and policymakers to make better-informed judgments about the potential damage other institutions or markets might suffer if an institution is allowed to fail. Some combination of transparency and disclosure, effective supervision, and market discipline will go a long way toward safeguarding national financial systems and, in so doing, toward safeguarding the efficiency and smooth functioning of the international financial system. Public support may be indicated for other private sector initiatives to enhance stability through such

means as self-regulation or improvement of the financial infrastructure. A recent example is the creation of the Continuous Linked Settlement bank, which has significantly lowered the risks related to foreign currency transactions.

Adopting a global perspective

The third part of the strategy is for all countries to recognize and act on the principle that the globalization of finance has made international financial stability a global public good transcending national objectives and interests. While all countries can contribute to international financial stability by achieving and maintaining national financial stability, financial policies designed exclusively to achieve national objectives can create problems in other countries or in international financial markets.

Just as international companies providing private financial services require a global orientation to control and manage risk, policymakers need to adopt an international approach to exercising effective surveillance, regulation, and supervision of financial activity. In fact, a key implication of the globalization of finance may be that nationally focused financial systems may be unable to provide the type of globally oriented approach needed for enduring international financial stability without some fully recognized and operationally binding international coordination mechanisms. Considerable emphasis is being placed on cross-border cooperation in such areas as the establishment of international standards and codes for the supervision of banks and insurance firms and for payments systems. International standards and codes—such as the Basel Core Principles, which were developed by the Basel Committee on Banking Supervision—may be used to level playing fields and to improve efficiency, thereby safeguarding stability in the face of cross-sector and cross-border integration.

In this context, the proposed framework, summarized in Figure 2, can be seen as a flexible tool for interpreting changes and translating them into policy. A major challenge is to develop a deeper understanding of how the different dimensions of financial stability interact with each other and the real economy, and how policy actions influence these interactions. More specifically, efforts should

be focused on broadening the available data, improving empirical tools, developing indicators so that policymakers are better able to predict potential problems, and linking these indicators to specific policy instruments. This is a heavy agenda. Undoubtedly, practical experiences will also show the way.

The Economic Issues Series

1. *Growth in East Asia: What We Can and What We Cannot Infer.* Michael Sarel. 1996.
2. *Does the Exchange Rate Regime Matter for Inflation and Growth?* Atish R. Ghosh, Anne-Marie Gulde, Jonathan D. Ostry, and Holger Wolf. 1996.
3. *Confronting Budget Deficits.* 1996.
4. *Fiscal Reforms That Work.* C. John McDermott and Robert F. Wescott. 1996.
5. *Transformations to Open Market Operations: Developing Economies and Emerging Markets.* Stephen H. Axilrod. 1996.
6. *Why Worry About Corruption?* Paolo Mauro. 1997.
7. *Sterilizing Capital Inflows.* Jang-Yung Lee. 1997.
8. *Why Is China Growing So Fast?* Zulu Hu and Mohsin S. Khan. 1997.
9. *Protecting Bank Deposits.* Gillian G. Garcia. 1997.
10. *Deindustrialization—Its Causes and Implications.* Robert Rowthorn and Ramana Ramaswamy. 1997.
11. *Does Globalization Lower Wages and Export Jobs?* Matthew J. Slaughter and Phillip Swagel. 1997.
12. *Roads to Nowhere: How Corruption in Public Investment Hurts Growth.* Vito Tanzi and Hamid Davoodi. 1998.
13. *Fixed or Flexible? Getting the Exchange Rate Right in the 1990s.* Francesco Caramazza and Jahangir Aziz. 1998.
14. *Lessons from Systemic Bank Restructuring.* Claudia Dziobek and Ceyla Pazarbaşıoğlu. 1998.
15. *Inflation Targeting as a Framework for Monetary Policy.* Guy Debelle, Paul Masson, Miguel Savastano, and Sunil Sharma. 1998.
16. *Should Equity Be a Goal of Economic Policy?* IMF Fiscal Affairs Department. 1998.
17. *Liberalizing Capital Movements: Some Analytical Issues.* Barry Eichengreen, Michael Mussa, Giovanni Dell’Ariccia, Enrica Detragiache, Gian Maria Milesi-Ferretti, and Andrew Tweedie. 1999.
18. *Privatization in Transition Countries: Lessons of the First Decade.* Oleh Havrylyshyn and Donal McGettigan. 1999.
19. *Hedge Funds: What Do We Really Know?* Barry Eichengreen and Donald Mathieson. 1999.

20. *Job Creation: Why Some Countries Do Better*. Pietro Garibaldi and Paolo Mauro. 2000.
21. *Improving Governance and Fighting Corruption in the Baltic and CIS Countries: The Role of the IMF*. Thomas Wolf and Emine Gürgen. 2000.
22. *The Challenge of Predicting Economic Crises*. Andrew Berg and Catherine Pattillo. 2000.
23. *Promoting Growth in Sub-Saharan Africa: Learning What Works*. Anupam Basu, Evangelos A. Calamitsis, and Dhaneshwar Ghura. 2000.
24. *Full Dollarization: The Pros and Cons*. Andrew Berg and Eduardo Borensztein. 2000.
25. *Controlling Pollution Using Taxes and Tradable Permits*. John Norregaard and Valérie Reppelin-Hill. 2000.
26. *Rural Poverty in Developing Countries: Implications for Public Policy*. Mahmood Hasan Khan. 2001.
27. *Tax Policy for Developing Countries*. Vito Tanzi and Howell Zee. 2001.
28. *Moral Hazard: Does IMF Financing Encourage Imprudence by Borrowers and Lenders?* Timothy Lane and Steven Phillips. 2002.
29. *The Pension Puzzle: Prerequisites and Policy Choices in Pension Design*. Nicholas Barr. 2002.
30. *Hiding in the Shadows: The Growth of the Underground Economy*. Friedrich Schneider with Dominik Enste. 2002.
31. *Corporate Sector Restructuring: The Role of Government in Times of Crisis*. Mark R. Stone. 2002.
32. *Should Financial Sector Regulators Be Independent?* Marc Quintyn and Michael W. Taylor. 2004.
33. *Educating Children in Poor Countries*. Arye L. Hillman and Eva Jenkner. 2004.
34. *Can Debt Relief Boost Growth in Poor Countries?* Benedict Clements, Rina Bhattacharya, and Toan Quoc Nguyen. 2005.
35. *Financial Reform: What Shakes It? What Shapes It?* Abdul Abiad and Ashoka Mody. 2005.
36. *Preserving Financial Stability*. Garry J. Schinasi. 2005.

Garry J. Schinasi

Mr. Schinasi, an Advisor in the IMF's Finance Department, received his Ph.D. in economics from Columbia University in 1979. He was on the staff of the Board of Governors of the U.S. Federal Reserve System from 1979 to 1989, before joining the IMF. From 1992 to 2001, Mr. Schinasi held various positions in the IMF's Research Department. He contributed to the *World Economic Outlook*, was one of the coordinators of the IMF's capital market surveillance exercise, and coproduced the publication *International Capital Markets: Developments, Prospects, and Key Policy Issues*. Mr. Schinasi has published articles in *The Review of Economic Studies*, *Journal of Economic Theory*, *Journal of International Money and Finance*, and other academic and policy journals. His book, *Safeguarding Financial Stability: Theory and Practice*, will be published by the IMF in December 2005.

