INTERNATIONAL MONETARY FUND

Initial Lessons of the Crisis

Prepared by the Research, Monetary and Capital Markets, and
Strategy, Policy, and Review Departments

Approved by Olivier Blanchard, Jaime Caruana, and Reza Moghadam

February 6, 2009

- ***Aim***. This paper summarizes the initial lessons of the financial crisis along three dimensions—regulation, macroeconomic policy, and the global architecture for stability. The focus here is not on the near-term resolution of the crisis or the long-term consequences (which must be left to other papers), but rather on prevention, bearing in mind that crises will inevitably recur. The underlying analysis is elaborated in three related staff papers to be issued separately.

- ***Causes***. At the root of market failure was optimism bred by a long period of high growth, low real interest rates and volatility, and policy failures in:

  - Financial regulation—which was not equipped to see the risk concentrations and flawed incentives behind the financial innovation boom.
  - Macroeconomic policies—which did not take into account the build-up of systemic risks in the financial system and in housing markets.
  - Global architecture—where a fragmented surveillance system compounded the inability to see growing vulnerabilities and links.

- ***Lessons***. The most basic one is that flawed incentives and interconnections in modern financial systems can have huge macroeconomic consequences. These need to be understood and tackled as best possible.

  - *Financial regulation*. The perimeter of regulation should be broadened and made more flexible, with enough disclosure to determine the systemic importance of institutions and the associated degree of needed oversight. A macro-prudential approach to regulation and compensation structures should mitigate pro-cyclical effects, promote robust market clearing arrangements and accounting rules, raise transparency about the nature and location of risks to foster market discipline, and facilitate systemic liquidity management.

  - *Macroeconomic policy*. Central banks should adopt a broader macro-prudential view, taking into account in their decisions asset price movements, credit booms, leverage, and the build up of systemic risk. The timing and nature of preemptive policy responses to large imbalances and large capital flows needs to be reexamined.

  - *Global architecture*. The fragmentation into silos of expertise needs to be overcome and senior policy makers engaged in promoting global stability, including via early warning exercises. The case for cooperation is pressing in financial regulation, especially the resolution of cross-border banks. A failure to meet the financing and insurance needs of crisis-hit countries will worsen vulnerabilities and outcomes. Governance reform is key to this agenda.

I. An Overview of Market Failure

1. *Problems*. The roots of the financial crash stretch back to the preceding seven years of low interest rates and high world growth. On one side, macroeconomic forces were at work, as low interest rates prompted investors around the world to search for yield further down the credit quality curve, and high growth/low volatility led them to overoptimistic assessments about the risks ahead. On the other side, and partly in response to the demand, the financial system developed new structures and created new instruments that seemed to offer higher risk-adjusted yields, but were in fact more risky than they appeared. In this setting, market discipline failed as optimism prevailed, due diligence was outsourced to credit rating agencies, and a financial sector compensation system based on short-term profits reinforced the momentum for risk taking.

2. *Solutions*. Although few crises seem inevitable, this is so only in retrospect: over-optimism in inferring the future from good times will surely recur. Moreover, all solutions carry costs, and one must proceed in the anticipation that for every regulation there will be an innovation. Nevertheless, new policy frameworks and institutions can mitigate future crises—at least until the next paradigm shift—in much the same way that New Deal deposit insurance and macroeconomic management brought a measure of stability to the post-war period. To look past blame in this crisis, it is useful to ask *why* policy-makers failed to head off the looming threat. If there is an underlying theme to the lessons here, it is of failing to come to grips with fragmentation:

- *Financial regulation*. Similar activities conducted by various types of institutions were regulated differently—even when in a single group and subject to the same regulator. The resulting opportunities for regulatory arbitrage fueled the growth of the shadow banking system, resulting in excess leverage obscured by complexity.

- *Macro-prudential policies*. Macroeconomic and financial stability were generally treated separately, the former focused on preserving low and stable inflation as well as growth, the latter on firm level supervision of the formal banking sector. Neither set of policymakers saw the wider implications of rising risks in the shadow financial sector; nor did they appreciate that economy-wide trends in credit growth, leverage, and house prices posed systemically costly tail risks.

- *Global architecture*. This crisis was a story of fragmented surveillance in silos of expertise; of a policy debate dispersed in numerous fora (BIS, Gs, FSF, IMF); of limited collaboration among national financial regulators; of ad-hoc bilateral, regional, and multilateral facilities to address financing and liquidity needs; and of an overall failure to engage key decision-makers around the world.

II. Financial Regulation and Supervision

3. *Flawed model*. The chain of false assumptions underlying market confidence in securitized assets and complex instruments turned out to be as long as the production chain for these securities. At one end of the failure of market discipline were the loan brokers and

originators, who had little incentive to screen risk that they sold on; at the other, were end-investors, who relied on optimistic statistical analyses by credit rating agencies—less so own due diligence—to assess asset quality. The presumption that these new securities had, in fact, dispersed bank risk ignored the larger fact that risk remained concentrated in entities linked to the core banking system. Markets and regulators alike failed to recognize these problems of flawed incentives, information gaps, procyclical lending, and risk concentrations.

4. *Wider implications*. Most importantly, regulation and supervision were too firm-centric to see through to the systemic risk. In particular, policymakers missed the moral hazard implicit in too-big-to fail firms outside the regulatory cordon (which prompted excessive risk-taking) and the externalities when firms too inter-connected to fail failed (yielding unprecedented market disruption, as after the demise of Lehman Brothers). Likewise, de-leveraging, even if needed, and fire sales of assets, have greatly magnified the hit to the economic and financial system.

Regulatory perimeter

5. *Problems*. The shadow banking system—including investment banks, mortgage brokers/originators, hedge funds, securitization vehicles and other private asset pools—has long been lightly regulated by a patchwork of agencies, and generally not supervised prudentially. This reflected a philosophy that only insured deposit-taking institutions need to be tightly regulated and supervised, so that financial innovation might thrive under a regime of market discipline. But not only did market discipline fail, so did the effectiveness of regulation, as banks evaded capital requirements by pushing risk to affiliated entities in the shadow system—on whose activities regulators had little information. The sheer size of the shadow system, which by the start of the crisis had grown as large as the formal banking system, meant that major failures here were never really an option. The result was a huge moral hazard cost to the taxpayer.

6. *Solutions*. The perimeter of regulation and supervision should be extended to ensure that all activities that pose economy-wide risks are covered and known to a systemic stability regulator with wide powers—be they investment banks or special investment vehicles issuing CDOs of mortgages or insurance companies writing credit default swaps. All institutions within the expanded perimeter should have disclosure obligations to allow the authorities to determine their contribution to systemic risk and to differentiate the intensity of prudential oversight accordingly. In a second layer, all systemic institutions should be under prudential rules (potentially covering capital, liquidity, orderly resolution, and early intervention). Differentiated layers of oversight should stress incentives—e.g., longer term horizons in decisions, strong governance and risk management processes, capital charges to favor safer exchange trading environments or robust clearing systems. Regulatory standards and the supervisory process to enforce the regulation need to be strengthened and, in order to minimize regulatory arbitrage, should be based on the risk of the underlying activity rather than on the type of institution undertaking it. Finally, to cope with systemic changes over time, the approach should involve a "flexible perimeter" of regulation.

Market discipline

7. *Problems*. Due diligence in assessing counterparties and collateral failed in the run-up to the crisis. Professional investors in equity and bonds failed to probe deeply enough into the nature of the assets they bought, and instead relied too much on credit ratings. Part of the problem was that investors—and regulators—missed the growing conflicts of interest in credit rating agencies. Generous fees for structured finance products, combined with low underlying risk spreads, diluted assessments, even as agencies sold advice on how to structure products to maximize ratings. Assisting this process were users who failed to grasp that the ratings related narrowly to default risk, as opposed to liquidity or mark-to-market concerns. Market discipline also was eroded by the "too big to fail" nature of the largest, most interconnected institutions, as seen in the acceptance of optimistic "mark-to-model" fair values—and under appreciation of tail risks—in the mounting volume of complex and illiquid assets on the books.

8. *Solutions*. These should be geared to reducing conflicts of interest at the rating agencies and encouraging investor due diligence, especially of large institutions. In addition to measures already imposed on credit rating agencies—e.g., prohibitions against structuring advice on products they rate and more disclosure of methodologies—other steps could include less reliance on ratings for meeting prudential rules as well as a differentiated scale for structured products. Consideration should also be given to discouraging mega-institutions—e.g., via capital ratios that increase with the contribution to systemic risk or leverage ratios that apply group-wide (not just to the bank)—or at least intensifying their prudential oversight. Finally, the resolution of systemic banks (not one of which has gone into receivership in this crisis) could be made more credible by ensuring that critical functions are preserved during receivership, and that there are early triggers for intervention and more predictable arrangements for loss sharing.

Procyclicality

9. *Problems*. A constellation of regulatory practices and incentives magnified the credit boom ahead of the crisis, and now threatens to intensify the bust:

- *Prudential regulations*. Loan loss provisioning rules are largely backward looking (mostly based on incurred rather than expected portfolio impairment), thus recognizing risks too late and allowing excessive risk in upswings. The result has been significant cyclical variation in equity capital and hence lending. The enhanced risk sensitivity of recent regulatory initiatives—e.g., Basel II—may also be exacerbating pro-cyclical behavior.

- *Compensation*. The widespread practice of rewarding employees based on the generation of annual profits had similar pro-cyclical effects. Ahead of the current crisis, there were large payouts to traders and managers who found high yields in leverage and riskier activities in the upswing, but did not face the losses still to appear in the downturn; top management also were somewhat insulated from the consequences of bankruptcy, reflecting the limited liability of corporations.

- *Accounting*. Fair Value Accounting imparts an intrinsic procyclicality to financial behavior: in upswings, rising asset prices raise banks' net worth and encourage the full deployment of excess capital by taking on additional debt and assets; in downswings, the reverse happens. In this crisis, the problems were made more severe by the market illiquidity that forced the use of distressed/estimated prices in lieu of meaningful market prices, thus adding to financial sector woes.

10. *Solutions*. Reforms could cover the following:

- *Prudential regulations*. While maintaining the basic risk-sensitivity of the capital framework, procyclical behavior can be mitigated by raising minimum capital requirements during upswings and allowing these buffers to be drawn in a downturn. Such capital buffers should be non-discretionary, and require research on the needed framework and parameters. A supplementary leverage ratio should be introduced for banks, with enhanced sensitivity to off balance sheet exposures. An international framework will be needed to permit banks to undertake more "through-the-cycle provisioning" that is not backward looking but based on expected losses.

- *Compensation*. Supervisors may need to add compensation schemes to their overall review of risk-management and governance. Such assessment could draw on new international best practices geared to making compensation more risk based and consistent with the long-term objective of maintaining the firm as a going concern. An early priority should be to delink bonuses from annual results and short-term indicators—e.g., by providing deferred disbursements and allowing for some claw back as risks are realized. Another option is to link compensation to medium-term return on assets rather than equity, to offset the bias toward leverage in upswings.

- *Accounting*. The problem is not too much transparency but too little, and the clock should not be turned back on Fair Value Accounting just to address the issue of temporary market illiquidity. What is needed is to make clear the nature of price uncertainty, and to do so in a way that speaks symmetrically to the potential for mispricing in illiquid markets as much as in booming markets. Enhancements could include better guidance and principles for mark-to-model valuation, information on the variance around fair value calculations, and data on price history.

Information gaps

11. *Problems*. The crisis revealed extensive gaps in data and the understanding of underlying risks—not just by regulators, but in the market as a whole. These include: (i) on-balance sheet trading book risks (reflecting the complexity of instruments) and linkages to off-balance sheet exposures (e.g., concentrated in special purpose vehicles); (ii) risks embedded in complex structured products (whose values are often derived from inadequate statistical models); (iii) the difficulty of assessing liquidity and counterparty risk in over-the-counter instruments; and (iv) the degree of leverage and risk concentration in systemically important nonbank financial institutions.

12. *Solutions*. Many of the detailed recommendations for strengthening disclosure are covered in the staff paper on *Lessons for Financial Regulation*. But, broadly speaking, the emphasis must be on greater market transparency about the techniques, data characteristics, and caveats surrounding the valuation of complex financial instruments; improved information regarding over-the-counter derivatives markets and clearing arrangements; and reporting of exposures (on and off balance sheet) in a format that permits regulators to aggregate and assess risks to the system as a whole. This would help final investors to perform some of the due diligence currently outsourced to rating agencies, while also helping the latter to do a better job of measuring tail risks.

Systemic liquidity management

13. *Problems*. As the crisis unfolded, central banks responded flexibly to extend the scope of their operations, by extending maturities, broadening the range of collateral, increasing the number of counterparties, and introducing US dollar swap lines. Furthermore, guarantees and the direct purchase of a range of private sector securities have been used. While these actions were manifestly crucial to preventing a meltdown, the list of ad hoc innovations have also given rise to a series of concerns—from distorting market incentives, to bloating central banks' balance sheets with risky private sector claims, to creating the risk of muddying the policy signal. In emerging markets, central banks have also had to struggle with the tradeoff between providing needed liquidity support and the risk of facilitating capital flight.

14. *Solutions*. The operational framework for systemic liquidity provision has been expanded by the sheer force of necessity, and much of this should be retained. However, it is also clear that an orderly exit from the cumulus of ad hoc measures is needed. For example, central banks should not be left with the long-term consequences of credit problems, lest it distort their policy choices. At some point a mechanism will likely be needed to transfer the assets that central banks have acquired to fiscal authorities and/or asset management companies. More will also need to be done on the preventative side to strengthen the infrastructure underlying money market repo operations (e.g., introducing central clearing counterparty services would be important), along with changes in bank regulation to strengthen incentives to hold high quality collateral.

15. *Conclusions*. Although the solutions discussed above appear to relate to regulation, the over-arching lesson is that effective regulation may be as much a matter of effective surveillance over trends and incentives in financial markets as it is of rules. Financial markets evolve quickly, and any given regime can quickly become obsolete—in much the same way as the current system has become. Regulation needs to balance risk-taking at the firm and sector level against the risk of systemic crises. Ultimately, the sources of systemic risk lie in the externalities from rapid deleveraging, moral hazard, or meltdowns in core sectors (like housing). A more macro-prudential approach that recognizes inter-connections and linkages, across firms, sectors and countries is needed. The role of agencies such as the FSF and IMF in this effort is discussed in section IV.

III. Macroeconomic policies

16. *The macroeconomic setting*. The years preceding the crisis were years of high global growth, indeed the highest in recorded history. For the most part, this growth was healthy. Productivity growth was high. Inflation was stable in most countries, indicating that growth in activity was roughly consistent with growth in the economy's potential. Long-term interest rates were low, reflecting high saving in Asian and oil surplus countries (the counterpart of which were large net capital flows into the United States). Short-term rates also were low, reflecting accommodative monetary policy. In retrospect, it is clear however that these benign conditions fed the build up of systemic risk. Low interest rates, together with increasing and excessive optimism about the future, pushed up asset prices, from stocks to housing prices. Low interest rates and limited volatility prompted a search for yield and underestimation of risks led to the creation and the purchase of ever riskier assets. Central banks, focused on inflation and aggregate activity, and did not perceive the full implications of the growing risks until it was too late.

Monetary and fiscal policy

17. *Problems*. The pre-crisis period was characterized by the increasing popularity of inflation targeting in the macroeconomics profession. Some central banks geared monetary policy nearly exclusively to stabilize inflation. Others gave weight to aggregate activity as well. Few, if any, took sufficient account of risks from asset price increases or leverage for three reasons. First, they underestimated the associated build up of systemic risk. Second, they relied on prudential regulation to control any such build up. And third, they assumed that, if and when asset price booms reversed, the effects on activity could be largely counteracted through lower interest rates at that time. In the event, there was indeed a major build up of risk across many sectors. Regulation may have been the better tool in theory, but in practice huge risks were amassed below the regulator's radar, in the shadow banking system. And finally, even the sharp decrease in policy rates since the onset of the crisis has not been sufficient to stave off a steep downturn.

18. *Solutions—monetary policy*. To the extent that the build up of systemic risk can portend a sharp economic downturn, and to the extent that regulation cannot fully prevent such a buildup, it is now clear that policy makers must take more account of asset price movements, credit booms, leverage, and the build up of systemic risk. The issue remains of how to identify and then to react to such buildups. An important lesson of this—and past—crises is that not all asset booms are alike. In particular, their effect on systemic risk depends very much on the involvement of the financial sector, and whether the boom is associated with high leverage in the financial, household, or corporate sectors. The dotcom bubble of the late 1990s was associated with limited leverage, and its burst had a more limited impact on activity. What has made this crisis much deeper is the way in which asset price declines have affected the balance sheets of the core financial sector.

19. *Solutions—fiscal policy*. Fiscal policy did not play a major role in the run up to the crisis. While in many countries governments should have exploited the period of high growth to cut public deficits and debt more than they did, solvency was not seen as a concern, and

the crisis itself erupted in the private sector. But the crisis still brings two important lessons. The first is that, in many countries, budget deficits were not reduced sufficiently during the boom years when revenues were high, which limits the fiscal space needed to fight the crisis. The second has to do with the structure of taxation. In most countries, the tax system is biased towards debt financing through deductibility of interest payments. This bias to higher leverage increases the vulnerability of the private sector to shocks and, although politically difficult, should be eliminated.

Global imbalances

20. *Problems.* While world growth was high, it also came with a number of glaring imbalances. The main one was the so-called ``global imbalances'', i.e. the large current account deficit of the United States, and the large current account surpluses in Asia, in particular China, and in oil exporting countries. In response to these growing imbalances, the IMF indeed organized a Multilateral Consultation, with the goal of assessing systemic risk and potential policy implications. The main worry was that investors might change their mind, and that large capital inflows into the United States might suddenly reverse to cause a disorderly adjustment, including in the value of the dollar. In the event, the crisis took a different form. Leverage turned out to be the crucial factor, and the dollar has so far strengthened. Nevertheless, global imbalances played a role in the build up of systemic risk. They contributed to low interest rates and to large capital inflows into US and European banks. As we argued earlier, these two factors then contributed to a search for yield, higher leverage, and the creation of riskier assets.

21. *Solutions.* Surely, the lesson is not that capital flows should be sharply curtailed. But this crisis, as well as many episodes before it, shows the potential dangers of large capital inflows. Such inflows can lead to excessive risk taking and to exposure of domestic financial institutions, households, firms, to exchange rate risk. They can lead to sharp appreciations, often followed by abrupt reversals and strong effects on balance sheets. They can put pressure on demand, and on output. Monetary policy may work poorly in this context, as the attempt to slow down activity through higher interest rates may make domestic assets even more attractive. Thus, the crisis raises two issues. The first is the need to revisit when and how to react to large imbalances, through macroeconomic and structural policies that affect saving and investment. As elsewhere, an attitude of benign neglect has proven to be a mistake. The second is the potential role for prudential measures to reduce systemic risk associated with large capital inflows—e.g., through constraints on the foreign exchange exposure of domestic institutions and other borrowers.

IV. Global Architecture and the IMF

22. *Definition*. The term global architecture here refers to the official mechanisms that facilitate financial stability and the smooth flow of goods, services and capital across countries. This includes the machinery, of which the Fund is one part, for:

- Surveillance—i.e., monitoring threats to external stability, whether they stem from shocks, policies, exchange rates, capital flows or data deficiencies;

- Multilateral coordination—i.e., the institutional arrangements for policy action;
- Financial regulation—i.e., best practices for financial oversight and ground rules for collaboration on cross-border financial institutions; and
- Financing—i.e., official resources to meet liquidity or adjustment needs.

Surveillance

23. *Problems*. A key issue concerns the strength and focus of warnings prior to the crisis. Although there was some prescient analysis, in general the warnings were too scattered and unspecific to attract even domestic—let alone collective—policy reaction. For example, many institutions cautioned against "risk concentrations", but this was not actionable without a concrete name (SIVs) and a concrete policy response (charges on off-balance sheet exposures). Nor was there any suggestion of dire macroeconomic consequences. Although the Fund was hardly alone in this, its surveillance significantly underestimated the combined risk across sectors, and the importance of financial sector feedback and spillovers. The result was optimistic bottom line messages, especially on successful economies like the US and UK. The Fund warned about global imbalances but missed the key connection to the looming dangers in the shadow banking system. It did issue a prescient warning in early 2008 on bank losses and the implications for growth that defied conventional wisdom, but this came too late in the game.

24. *Solutions*. A less fragmented and more pointed early warning system is needed to bring together the expertise scattered across institutions (e.g. the Fund, the FSF, the BIS), and indeed across the Fund's own outputs (WEO/GFSR/FSAPs/Article IVs), and to drill down on poorly understood issues. For the Fund, the focus should be on better integrating financial sector issues into the WEO and Article IVs and sharpening FSAPs, with the latter moving away from comprehensive to risk-based and thematic assessments that are mandatory for all systemically important countries. More generally, the tacit presumption that risks lie mainly in less mature markets should give way to surveillance of all sources of systemic risk, in advanced and emerging market countries alike. Among other things, this will require attention to the implications of cross-border interactions and potential exchange rate movements for systemic risk.

Multilateralism

25. *Problems*. Even when warnings were raised and problems realized, the machinery and commitment for coordinated actions were inadequate. For example, the disorderly unwinding of global imbalances was acknowledged as a major systemic risk for many years—even if the precise nature of the potential collapse was unclear (e.g. a flight from all dollar assets or just from private dollar assets). Yet, as noted earlier, collective action proved elusive, with the IMF's effort under its new Multilateral Consultation in 2006-07 yielding only modest policy commitments from the participants. Even after the onset of the crisis, the initial policy response was far from collaborative, let alone coordinated. Countries rushed to protect their own banks with guarantees, at the risk of causing runs elsewhere; liquidity provision in the

US initially focused on home markets, even though the need for dollars was no less in other money centers; and the lack of pre-agreed burden sharing mechanisms meant that countries were quick to ring-fence assets in their jurisdictions when cross-border entities showed signs of failing. While the need for cooperation is now finally recognized, there is still no agreed central locus of debate.

26. *Solutions*. There is a need for leadership in responding to systemic risks in the global economy. The Fund has not been effective in this role, reflecting its rigid power structures and formalistic ways that shifted the policy debate to smaller and more flexible groups like the various Gs and the FSF. The latter are not however without their own problems of legitimacy and capacity for follow up, but their relevance to policy coordination is undeniable. If the Fund is to be at the center of global policy debate and action, it will need to address its underlying deficits in ownership and efficiency by: (i) rebalancing quota shares—and sooner than the gradual process envisaged at the last quota review; (ii) moving to a more representative Board and IMFC; (iii) providing a higher profile forum to the ministers and governors making up the IMFC, so as to enhance policy engagement and political legitimacy on key issues such as early warnings and response; and (iv) advancing other governance reforms, such as accountability and a truly open system for selecting Fund management.

Financial regulation

27. *Problems*. In normal times, the mechanisms of information sharing and joint risk assessments work well enough across national regulators, even in the absence of formal memoranda of understanding. In times of crisis, however, problems arise from different thresholds for intervention; different materiality of risks (a given risk may be minor to a large foreign bank, but huge to the host country); and different resolution tools and safety nets. The most serious issue is that there are no ex-ante rules governing cross border resolution or burden sharing. Without such rules or modes of collaboration, supervisors' obligations to their own taxpayers lead them to minimize liabilities to nonresidents and maximize control of assets. For example, in the face of an imminent collapse of Icelandic bank branches under the authority of Icelandic supervisors, and in the absence of assurances that UK bank liabilities would be fulfilled, UK supervisors ring- fenced Icelandic bank assets; the failure of Lehman also triggered discriminatory and potentially inefficient ring-fencing of assets outside the US.

28. *Solutions*. On-going efforts at coordination through international colleges of supervisors and codes of conduct, in which the Fund could play a role, will certainly help. However, ultimately, more fundamental improvements in the institutional and legal setting are needed to provide a binding code of conduct across nations—which is a partly a political task beyond the capacities of regulators and supervisors. This is exceedingly complicated, but if countries can get past the division of fiscal costs, there are ways forward. One would be an international charter for banks that operate across borders, spelling out the procedures for joint risk assessment by various supervisors, remedial actions and burden-sharing. Another would be for home and host supervisors to agree on these issues and for the colleges to become the arbiters in enforcing understandings (e.g., burden sharing of losses in proportion to a bank's exposure in each jurisdiction). These efforts should encompass off-shore centers entities with systemic activities.

Financing

29. *Problems*. The absence of standing dollar liquidity facilities was keenly felt in interbank markets around the world, not just in emerging markets, but it took several weeks—months in the case of emerging markets—to resolve stresses even after ad-hoc bilateral swap facilities between central banks were set up. Moreover, although many of the smaller emerging market countries have drawn on Fund resources recently, access to adequate liquidity and financing in hard times for the larger ones remains an issue, as does the absence of an insurance facility adequate in size and free of the political baggage associated with standard program conditionality. Without such insurance, emerging market countries will try to self-insure through excessive reserve buildup, potentially distorting the global pattern of current account balances for years to come.

30. *Solutions*. The need for broad liquidity insurance has been shown to be real, not hypothetical. With the temporary central bank swap facilities limited to a handful countries, it would be desirable to find a broader-reaching and lasting insurance mechanism. A significant move would be for the Fund to provide a high access precautionary line of credit for countries with strong policy frameworks or modify the recently-introduced Short-Term Liquidity Facility (SLF) to expand its use to a precautionary setting. For those countries not meeting the higher pre-qualification criteria of the SLF, greater use of high access precautionary stand-by arrangements could be made. More generally, the jump in IMF lending this early in the crisis has raised questions about the adequacy of the Fund's lending capacity. Such doubts will need to be quickly dispelled if IMF-supported programs are to remain a credible stabilizing factor across the system.

Initial Lessons of the Crisis: Main Recommendations

Financial regulation and supervision

Regulatory and supervisory perimeter	Market discipline	Procyclicality	Information gaps
• Capture all systemic risks and institutions • Clarify mandate for oversight of systemic stability • Disclosure to determine contribution to systemic risk, graduated oversight • Incentive-based oversight, e.g. charges to favor systemically safer trading and clearing. • Regulation to be activity- not institution-based • Retain flexible perimeter to allow adaptation over time	• Reduce conflicts of interest at rating agencies • Encourage investor due diligence • Less reliance on ratings for meeting prudential rules • Differentiated scale for structured products • Discourage mega-institutions and ramp up their oversight • Preserve systemic banks' key functions in receivership; have clear intervention triggers; predictable loss sharing	• Counter-cyclical capital requirements; supplementary leverage ratios for banks; "through-the-cycle provisioning" • Risk-based compensation models subject to regulatory oversight, delinking annual payouts from annual results or linked to return on assets rather than equity • Provide supporting data on variance, price history in fair value accounting; guidance on mark-to-model; treat upswings and downturns symmetrically	• Transparency on valuation of complex instruments • Improved information on OTC derivatives markets, clearing arrangements • Reporting of both on and off balance sheet exposures to allow systemic risk assessment **Systemic liquidity management** • Plan timely and orderly exit from ad hoc measures • Strengthen infrastructure underlying money market repo operations and incentives to hold high quality collateral

Macroeconomic policies

Monetary policy	Fiscal policy	Global Imbalances
• Macro-financial stability mandate, not just price stability • Respond to economy-wide trends in risk-taking, financial leverage; address externality of systemic crises	• Increase surpluses in booms, so as to have more fiscal room to respond to crises. • Aim for tax neutrality with regard to form of financing	• Avoid benign neglect; Use both macro and structural policies impacting savings and investment • Use prudential measures to curb systemic risk

Global architecture and the IMF

Surveillance	Multilateralism	Financial regulation	Financing
• Pointed early warning and specific policy response • Integrate financial sector into WEO and Article IVs • Risk-based, thematic FSAPs, mandatory for all systemically important countries • Focus on all sources of systemic risk, in advanced and emerging market countries alike; including systemic risks from cross-border capital flows and currency misalignments	• Commit to act in concert: central body to respond to systemic risks in the global economy • Bring forward rebalancing of quota shares; more representative Board and IMFC • Enhance policy engagement of IMFC • Improve accountability of the Fund • Move to system of truly open choice for Fund management	• Binding code of conduct across nations, such as: • International charter for banks operating across jurisdictions; or • Home-host agreement on risk assessment, enforced by colleges of supervisors.	• Fund to provide high access precautionary credit line for countries with strong policy frameworks • For others, greater use of high access precautionary stand-by arrangements • Assure quickly that Fund has adequate resources to remain credible stabilizing influence.