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Redesigning the Contours of the Future Financial System

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EXECUTIVE SUMMARY

This paper explores the responses of the private and public sector to the crisis and some of the probable outcomes. Aside from improved supervision of individual institutions, greater emphasis needs to be put on financial regulations that reflect the systemic nature of financial risks and the role that macroeconomic policies play. Global consistency of regulation and financial sector taxation will be essential to mitigate systemic risks, to avoid unintended distortions, and to help ensure a level playing field. This note suggests the key aspects of the future contours will likely be:

- *Banks are expected to return to their more traditional function as stricter regulation will limit the risks and activities that banks can undertake.*

- *The nonbanking sector will likely have a greater competitive advantage—both in supplying credit and providing investors with nonbank services—and will thus grow.*

- *The perimeter of regulation is bound to expand to take into account the risks in the nonbank sector.*

- *Market infrastructure will be reinforced to protect investors and as a consequence will need to provide needed simplicity and transparency to make risks clearer and the financial system safer.*

- *The global financial system is likely to be smaller, and less levered, than in the recent past, and could well be less innovative and dynamic, at least for a while.*

I. INTRODUCTION

The crisis has elicited wide-ranging discussion and deep introspection about what the future contours of the financial system should look like, particularly about how regulation and supervision should be reformed to encourage a financial system that better mitigates systemic risks. The paper discusses the weaknesses prevalent in the run-up to the crisis, the probable changes in the regulatory environment, and how the financial system is likely to be shaped by them. Finally, the paper explores the role that the IMF can play in moving toward a more robust and stable global financial system.

A financial system should provide society with the means of matching savings and investment so as to transform today's resources into tomorrow's consumption—and to do this efficiently and safely. Ultimately, a smoothly functioning financial system should help to produce stable and sustainable economic growth. In the run-up to the crisis, some of these goals were not met—behavior of market participants, policy makers, regulators and supervisors, and others interacted in ways that gave rise to extreme instability, resulting in levels of government intervention into the private sector of advanced economies that have not been experienced since the Great Depression.

While there were many causes to the crisis, the crisis illustrated that regulation and supervision were inadequate for the risks that were undertaken by the market. Implementation and enforcement of existing regulation was also too lax, reflecting a steady drift toward a more hands-off supervisory style, where the belief that the private sector "knows best" was permitted to take hold. In some countries this caused an under-resourcing of supervisory agencies that then were unable to stay on top of market practices. Moreover, supervisors focused too much on risks of individual entities or markets without explicitly factoring in the potential for a buildup of systemic risks that could result in crisis.

The regulatory reforms that are emerging in policy discussions are aimed at moving the overall financial system to a lower point on the risk/return tradeoff—lowering risks, raising costs, and thus, most likely, lowering returns earned by the sector. Ideally, on economic efficiency grounds, this would be best accomplished by establishing price-based incentives for important parts of the financial system to avoid extreme systemic risks—essentially by making it more expensive for institutions to do so. Alternatives, albeit less preferable, would involve outright quantity constraints on positions, the size and scope of activities, or even limits on the types of instruments that can be purchased or sold. In various venues, both approaches are under discussion.

A financial system that is more highly regulated and takes less risk is probably less likely to cause large gyrations in financial stability and real economic activity, but at the same time it could be associated with slower economic growth. While formal studies are scarce, there is a supposition that economies with more financial innovation, higher leverage, and greater ability to take on risks are associated with a steeper economic growth path at least for some time. This effect, of course, is difficult to disentangle from other influences, such as those from fiscal and monetary policies and other factors which accelerate the transmission from real sector innovation to output. Nonetheless, the recent experience suggests that higher growth that is spurred by poor financial innovation, without economic value, may be illusory and come with a heavy price in the form of crises that may have a significant cost in terms of the longer term growth trend. That said, a more stable financial system may encourage its use, with savers and investors more willing to use financial intermediaries thereby raising the economic growth trend.

On the regulatory front, two very different scenarios are possible in the months ahead.

- First, having skirted systemic collapses, in part due to the rapid deployment of new government facilities and other support mechanisms, and facing strong resistance from the private sector to new regulation and at least a temporary recovery of profits, the official community allows complacency to set in and the difficult reform agenda is allowed to languish.

- Second, that the crisis has been so devastating and generated such a public backlash that every public body wants to be seen as responding vigorously. However, action on numerous fronts by the various public entities could result in over-regulation to a degree that certain markets may simply disappear and valuable financial innovations and products are blocked.

Either outcome would be undesirable. Moreover, there is probably little appetite for removing ineffective or outdated regulations as this might be perceived as further de-regulation. Yet, more balancing of the costs and benefits of the proposed regulations is desirable. In short, what needs to occur is that *sensible and better* regulation is designed, implemented, and enforced—a Goldilocks solution—not too little, nor too much, but just right to do the job of preventing problems where markets fail to operate properly.

The key questions as to what the future financial system will look like can be summarized as follows. Although formal answers are, at this point, a guess, the outlines—the contours—of the more probable responses can be described.

On the financial system as a whole:

- Will the global financial system be safer and simpler?
- What will be the role of banks (i.e. deposit-taking institutions) versus the role of nonbanks in financing growth?
- Will the domestic financial system be smaller as a proportion of the domestic economy?
- At the global level, will financial integration continue or reverse?

On the banking sector:

- What kind of banking system will we have?
- Will bigger banks dominate or will smaller banks be more prevalent, or both?

On financial markets and instruments:

- Which type of markets will we have? Simpler? More transparent?
- Will there be more organized venues for clearing and settlement versus over-the-counter (OTC) bilateral trading?
- Will certain types of instruments be encouraged or discouraged?

Before attempting to answer these basic questions in light of potential regulatory responses, this paper reviews how the financial system ended up in the situation of today.

II. What Went Wrong

The financial crisis unfolded in an environment where financial institutions and other investors were excessively optimistic about asset prices and risk against a backdrop of low nominal interest rates. Indeed, in the five to six years prior to the crisis several trends signaled that the financial system was becoming more vulnerable.[1] First, while not a

[1] The following refers to an examination of these countries: Australia, Brazil, Canada, China, France, Germany, India, Singapore, Switzerland, the United Kingdom, and the United States.

determining factor in which countries were hit by the crisis, a rapid expansion of the financial sector was evident in many countries. Some of this was spurred by high levels of household borrowing for the purchase of real estate, some of which was based on a loosening of underwriting standards. Second, reliance on nondeposit-based funding became prevalent in the banking systems of the subsequently hardest hit countries. In part, this development was linked with a need to finance structured credit instruments held in off-balance sheet vehicles. Third, in the banking sector of many countries, trading account income, as well as commission and fee income, rose while net interest income from the traditional banking business was lackluster. Using traditional measures of leverage of banks' balance sheets, overall banking system leverage was either elevated or grew rapidly in the advanced countries that suffered the most (Germany, Switzerland, the United Kingdom, and the United States).

These same trends were evident in three important emerging market countries (Brazil, China, and India) though to a much lesser degree. Growth in financial system assets was less steep. Banking system assets were mostly stable implying that what growth did occur was in the nonbank financial sector. However, most of this recorded growth took place in mutual and pension funds, not in leveraged entities, as in the advanced economies. Hence, these countries were initially less vulnerable to the shocks that transpired.

While the global trends were evident to many onlookers, their potential risks were largely dismissed in part because of the belief that market discipline would rein in excessive risk taking, at least in market-based systems. But the crisis revealed significant shortcomings in widely held views regarding risk management and the effectiveness of market discipline and self-regulation in the financial sector, as well as regulatory approaches based on them.

- While credit risk transfer is a powerful innovation, it often did not spread risk to those outside (or even more widely within) the banking system best able to handle the risks, as assumed. Nor did supervisors, and in some cases the banks themselves, understand where risks were located even inside a specific bank. The regulatory focus was on capital standards for credit risk. The increased access to wholesale funding markets was welcomed, but the risk that it could dry up suddenly was largely ignored. Moreover, the use of various "Tiers" of capital and inconsistent treatment for intangible assets let capital of lesser quality count in the regulatory ratios.

- Nonbanks proved to be systemically important, not just because of their size, but because of the interconnectedness to other important intermediaries. The size and interconnectedness of nonbank entities therefore caused several to be the recipients of government support previously reserved only for banks.

- Leverage was greater than initially thought, in part because it was embedded in instruments in ways that were not transparent and in part because regulatory ratios did not adequately incorporate some risks. The procyclicality embedded in the financial system was also stronger than initially perceived, due to feedback effects between financial institutions' balance sheets, asset prices, and the economy, building up latent instability in the upswing and amplifying damage in the downturn.

- Short-term incentive structures, which relied excessively on self-regulation also encouraged outsized risk taking. Regulators did not recognize that such incentives would undermine market discipline, and thus did not impose offsetting changes in accounting, transparency, governance, or risk management systems.

- Inadequate resolution schemes for financial institutions and a lack of information about the potential spillovers compounded initial difficulties when they arose.

The inability to effectively supervise and efficiently resolve large, complex, cross-border financial institutions became evident as a major source of moral hazard, systemic risk, and eventual fiscal cost. Subsequent responses by governments also demonstrated that actions cannot be easily directed to domestic institutions or markets without affecting others and can have very rapid effects in other countries during a period of high uncertainty.

III. Principal (and Principled) Changes to the Regulatory Environment

The underlying philosophy of regulation changed with the crisis—policymakers recognize that prudential regulation to ensure the safety and soundness of individual institutions will not be sufficient to address systemic risks. The changes being proposed to the framework for financial regulation to address systemic risks fall into one of two broad categories—those that are aimed at reducing the likelihood of future crises and those that are aimed at managing them better.

The *preventive measures* focus on both strengthening existing micro-prudential (entity level) regulatory requirements, as well as developing a framework for macro-prudential (system-wide) regulation and supervision. The overall thrust of the preventive measures is to enhance the shock absorbers available in the system by increasing the buffers to cover losses and liquidity shortages, placing constraints on overall leverage in the financial system, and extending the regulatory perimeter to include all systemically important institutions, markets and instruments.

Progress is being made in micro-prudential regulation and some enhancements to the regulatory framework have already been agreed, including: increased capital requirements for securitization products and for exposures in the trading book; improved firm-wide risk management; guidance on sound compensation practices for supervisory review; and increased disclosure requirements. Other micro-prudential regulation, namely higher minimum levels and better quality of bank capital, countercyclical capital requirements and more stringent funding liquidity requirements, has been formulated by the Basel Committee on Bank Supervision and is currently under discussion. While the initial objective was to implement these reforms by end-2012, assuming economic conditions are not adverse, the implementation of several measures, which were viewed by industry (and some supervisors) to have a significant adverse impact in the short term, is now expected to be pushed further out to 2015 and later.[2]

An operational framework for macroprudential supervision is still evolving. There is broad agreement on the components, which will enable regulation to take a more "system-wide" view.[3] The key features of the macroprudential approach are (i) dampening procyclicality so that both upswings and downturns are not amplified by regulations or market practices; and (ii) greater attention to systemically important financial institutions where significance is not judged by size alone, but also on other factors such as leverage, interconnectedness, or complexity. The areas identified where procyclicality could be addressed range from: (a) changes to capital regimes; (b) provisioning for losses; (c) rules linked to accounting practices; (d) risk management systems; and (e) compensation schemes. Attention to systemic liquidity difficulties also falls into the macroprudential realm.

The issue of identifying systemically important financial institutions involves both the ability to extend the perimeter of supervision to less- or unregulated segments as well as actions to counter regulatory arbitrage that inevitably follows tighter regulation in one sector. The IMF, the Financial Stability Board (FSB), and the Bank of International Settlements (BIS) produced a set of underlying principles for authorities to use to identify systemically important institutions, markets, and instruments as an important first step.[4] Clearly more information from a number of currently unregulated entities (including about risk exposures) will needed to complete this exercise.[5] The next step will be to decide how regulatory and supervisory approaches can be adapted. Providing clarity about how institutions are to be chosen, but at the same time maintaining some discretion to avoid circumvention, will be a major challenge.[6] Even though the line between institutions inside and outside the regulatory perimeter will always be difficult to discern, those overseeing the stability of the financial system will need to diligently collect the necessary information and devise better ways of staying on top of developments that may indicate where excessive risks reside.

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[2] See the July 26, 2010 press release of the Governors and Heads of Supervision of the member countries of the Basel Committee for Banking Supervision at http://www.bis.org/press/p100726.htm which lays out areas of proposed regulation where agreement has been reached; revised implementation timelines; and areas where more work is needed.

[3] There is also a realization among monetary policymakers that they should take into account financial stability concerns just as financial regulation should take a more "system-wide" approach. This is discussed in IMF WP/09/70 "Financial Stability Frameworks and the Role of Central Banks: Lessons from the Crisis."

[4] *Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations Report to the G-20 Finance Ministers and Central Bank Governors*, (October 2009).

[5] See "Financial Crisis and Information Gaps" prepared by IMF Staff and the FSB Secretariat, available at http://www.financialstabilityboard.org/publications/r_100510.pdf.

[6] Some countries are discussing whether they will provide a continuous scale along which institutions will be arrayed from highly systemic to nonsystemic. Others intend to have a more distinctive definition, identifying those that are and are not systemically important.

Related to the identification of systemically important institutions is how to address too-big or too-important-to-fail institutions. Two big (and intertwined) issues under discussion are (i) whether public policy should proactively inhibit institutions from becoming so large or interconnected as to be perceived as too big, or too important, to fail and (ii) how should a failure of a systemically important institution be dealt with in both domestic and cross-border contexts.[7]

While there is broad agreement on the risks that too-important-to-fail institutions pose, there is less agreement on how they should be dealt with. Consensus is building around the use of preventive measures, such as higher capital and liquidity requirements; surcharges, taxes, or levies related to their contribution to systemic risk; and more intensive supervision. The pros and cons of these various approaches are currently under discussion with the specifics of how one would go about formulating preventive regulation still in early stages.[8] Direct limits on size and scope of banks are also being proposed. For instance, limiting the activities of banks, including using their own funds (and hence implicitly depositors' money) to finance proprietary trading desks, hedge funds, or private equity funds may be another route to attempt to reduce the riskiness of banks and, in principle, the likelihood of their failure, though its effectiveness of this proposal has not been examined in detail. Similarly, some believe that a return of traditional banking—banks taking retail deposits and making loans to households and corporates—will alleviate the too-important-to-fail problem. However, even traditional banks can be such large providers of credit in a country that a restriction to traditional banking will not redress the affect a failure may have on the real economy. Moreover, most severe banking crises are linked to excessive credit expansion. Spending time understanding how and why the failure of an institution can be detrimental (and to whom) could help avoid unintended consequences and focus any preventive measures directly on the problem.

Another angle is to develop a special resolution regime for financial institutions (not just banks). It is important to assure the continuity of financial services during an unwinding or bankruptcy. In addition to averting a disruption in the flows of payments, this also helps underpin confidence in the financial system, helping to avert panics and runs. Even without a formal resolution procedure, it would be helpful if too-important-to-fail institutions prepare, in advance, plans for their unwinding in the event of insolvency or failure, a so-called "living will." This may, in part, encourage a reduction in complexity and "de-risking."

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[7] The Dodd-Frank Wall Street Reform and Consumer Protection Act which came in to law in the United States in July 2010 makes several proposals to address some issues related to systemic risk and TBTF institutions including the creation of a Financial Stability Oversight Council to designate systemic nonbank financial firms and market utilities; a special resolution mechanism for systemic non-banks; a presumption of enhanced oversight for Bank Holding Companies (BHCs) with assets greater than $50 billion; the prescription for "livings wills" for identified systemic institutions; activity restrictions on proprietary trading by banks and BHCs; increased regulation of derivatives with most swaps required to be cleared through central counterparties and traded on exchanges as possible.

[8] See the IMF's "A Fair and Substantial Contribution by the Financial Sector," Final Report for the G-20, http://www.imf.org/external/np/g20/pdf/062710b.pdf and Chapter 2 of the April 2010 IMF Global Financial Stability Report for discussions.

Managing cross-border resolution issues is even more difficult. This will require consistent national approaches when a bank fails in several countries and are more contentious because domestic operations are subject to individual national legal frameworks. Progress in this area is likely to be slow. In the absence of an agreement about how to resolve bank failures across borders, the risk of ring-fencing, where countries try to keep a bank's assets within their borders, becomes higher. This notion has spawned a debate about whether self-standing subsidiaries of financial institutions would help to lower spillovers. The benefits to subsidiarization, such as a lessening of spillovers in bankruptcy, would need to be evaluated against the efficiency losses if internal transfers of cross-border funding were to be disallowed. In the cases where actual losses affect the public, *ex ante* burden sharing rules among national authorities would be highly useful, although they are unlikely to be agreed upon or credibly enforced in the near term.

Product design can have a stability impact if the nature of the risk embedded in the product is opaque and mispriced, as in the case of the complex credit derivatives, and if products are structured in a way that exacerbates a run on liquidity, as was the case with money market funds. Reforms are underway to remove some of the informational and incentive problems that plagued securitized products. Credit rating agencies are providing more information about the underlying loans and modeling techniques used in their ratings; incentive structures for those who are originating loans now reward longer-term decision making; and regulators are insisting that originators hold more of the underlying loans to incentivize better monitoring. In general, however, although the crisis pinpointed some issues with specific products, it is not clear how to judge when new products will pose systemic risks.

Markets can also have a systemic impact if they are insufficiently transparent, thereby potentially leading to mispricing, misuse, or risk concentrations and laying the basis for an eventual destabilizing adjustment; this was the case in the credit default swaps (CDS) market. Reform efforts in the CDS market are focused on making the market more transparent and reducing counterparty exposures. Consensus has emerged that other over-the-counter markets may need to be moved to central counterparties (CCPs) or be subject to additional transparency requirements. Where such central clearing mechanisms existed during the crisis, payments flowed smoothly and defaults were handled well. Looking forward, however, it will be important to construct such carefully so that the benefits of multilateral counterparty netting are not offset by the concentration of operational risk inherent in these important institutions.

IV. The Future of the Financial System: Action and Reaction to the Crisis and Regulatory Reforms

The aim of many in the international financial community is to make the system less crisis prone. But what will be the private sector reactions to the set of regulations outlined above?

A. For the System As a Whole

Will the global financial system be safer and simpler?

With higher capital charges and less ability to use leverage in the banking system, will the global financial system be prone to less volatility? Most likely yes, at least for a while. Institutions that carry out maturity transformations (for instance, borrowing short-term to lend longer-term) will be subject to more oversight regarding mismatches between the maturities of their assets and liabilities and will be required to hold more loss-bearing capital, cushioning the institution in downturns. Even without regulatory reform, many institutions are rethinking their risk taking activities and how they can better align risk taking with employee compensation. The removal or modification of policies that tended to add to procyclicality and exacerbate financial cycles will also reduce the build ups of risk and leverage in the upswing and temper the outcomes of deleveraging and risk reduction in the downswing. The global financial system should become less risky if the reform agenda is carried out.

Will the global financial system be simpler? Again, yes for the time being. After witnessing how complexity can obscure risks and blunt attempts to resolve crises, simplicity is being welcomed by many investors. Simplicity will be easiest to see in the types of financial instruments produced and traded. During the crisis, counterparty risk was heightened by uncertainties surrounding nontransparent and difficult-to-value complex securities. This has made many financial institutions more wary about these securities. Moreover, some reforms intend to apply higher capital charges on nonstandardized products to encourage standardization. While there will always be a place for designing instruments and transactions tailored to satisfy specific clients' needs, less of this activity will occur.

To better anticipate where systemic risks are building up, supervisors and regulators will encourage simpler institutional arrangements among and within regulated financial institutions. This may mean certain activities are only permitted in certain types of institutions. This should, in turn, facilitate better reporting of risk exposures, and alongside this, lower the hurdles to sharing information across regulatory entities and across borders. The unknown interconnections surrounding CDS contract holders in the fall of 2008 is a prime example of what both the private sector and the official sector are already addressing through increased use of data repositories and information sharing. Those responsible for overseeing financial stability will also benefit from the ability to see through organizational structures and gain relevant aggregated and disaggregated information.

To the extent that the global financial system would become safer and simpler, it will have an effect on the overall trend of economic growth. After deleveraging has run its course and the steady state is attained, the safer system should result in a dampening of the amplitude around the growth path. Whether this leads to a higher or lower growth path will depend on whether stability encourages more use of the financial system to intermediate between savers and investors, or whether the regulations have slowed innovation inhibiting efficient intermediation. It may be, however, that some of the previous increase in the growth potential that was attributed to financial intermediation was illusory and some financial innovations were counter-productive—producing products that did not benefit society at large. If so, then these resources could be redeployed and better used in other nonfinancial activities, thereby supplementing growth.

What will be the role of banks versus the role of nonbanks?

With banks constrained, nonbanks are bound to thrive. Lower leverage and higher required liquidity holdings within the banking system will likely result in greater demand to access credit through capital markets (e.g., corporate bonds). The need for higher lending spreads means that bank credit will be more expensive and hence those who are able to tap the now relatively cheaper capital markets for funding their investments will be more inclined to do so. While there may be higher demand for nonbank credit, a question remains as to whether there will be enough incentive to channel savings through alternative financial intermediaries (e.g., mutual funds, life insurance companies) to supply it. Will the less heavily regulated parts of the financial system be able to obtain funding and provide credit to households and corporations to replace the lower amounts supplied by banking institutions? Unless savers become highly risk averse, placing their funds on protected deposit accounts, intermediation outside the banking system is going to grow.

Because of the higher capital required to be held against risky assets, risky credits will likely shift out of the banking sector to the nonbank financial system. Regulations will need to be adopted to oversee the risks in the nonbank sector better. An important question is whether bank-like regulation will need to be extended to other institutions (e.g., private equity, hedge funds, real-estate investment trusts) currently viewed as "nonbank" but similarly characterized by high leverage and asset-liability mismatches in maturity, liquidity, or currency terms. And if so, whether these institutions will also be eligible for access to the same protections provided to deposit holders and for central banks' liquidity support mechanisms. Alternatively, policymakers may decide that such risk-shifting is acceptable as long as it remains outside a well-protected banking system. The key will be to be transparent about what are acceptable risks for various institutions to take and the protections that apply.

The extent of credit risk transfer (e.g., securitization) outside the banking system that takes place will depend importantly on how regulation is formulated. New regulations have already constrained some previously-used forms of securitization—generally the more complex forms—but securitization benefits economic growth and should thus be revived on a safer footing. For securitization to be sustained, longer-term investors (insurers, pension funds, and so on) will need to be convinced that the new regulations on securitization are adequate to prevent the abuses that occurred in the run-up to the crisis. But if regulations applied to securitization are too strict, originators may not find it economical to originate loans to distribute, potentially limiting the usefulness of securitization. A careful re-regulation of securitization markets is needed to restart this credit channel.

It could be that other institutional forms are used for risk taking, though they may seek safer ways to take specific risks. Allocations to proprietary trading desks in banks are being scaled back in anticipation of increased regulatory and capital costs. Counterparty risks will be reduced through better margining and centralized counterparty clearing facilities, but with higher costs of financial resources that serve as leverage, hedge funds and private equity funds may try to take on more specific types of risks rather than leverage up on commonly held trades.

Will the financial system be smaller as a proportion of the economy?

The new higher capital requirements and other regulatory strictures on banks imply that in the steady state, after the deleveraging effects of the crisis have worn off, the banking system is likely to be smaller overall. In the near term, bank deleveraging may overshoot and reduce the size of the banking system below its long run equilibrium. In this interim stage, the public sector has, and may need to continue, to play a more important role in support of the intermediation of savings to assure credit continues to be supplied. After this interim period the banking sector will likely be scaled back to a smaller, but more stable, size, particularly if the activities that a bank is able to undertake are more restricted.

If a smaller banking sector results, the likely size of the financial system, both bank and nonbank, (in terms of the value added to the economy, or assets, or assets as a percentage of GDP) could be difficult to judge, with factors pulling in both directions. To the extent that households in advanced economies need to rebuild savings and hence demand other financial services (not necessarily credit services), say, related to retirement, the nonbank sector will expand, at least partly offsetting the decline in traditional banking. Alternatively, if households and other investors become more cautious in light of recent shocks, they may prefer to place their funds in low risk investments, such as insured bank deposits or government securities that do not require much financial management, then depending on how the funds are used, the financial system could shrink overall.

At the global level, will financial expansion and integration continue?

At the global level, the degree of cross-border financial flows is difficult to predict and thus no easy answer is possible. Although many assume globalization of finance is an unstoppable trend, the crisis has led some countries to rethink their openness and their vulnerability, skeptical of mature markets' integrity. Fallout from the crisis may lead some countries to dissuade foreign entrants and governments may decide to encourage nationalization of certain financial institutions. Domestic investors may prefer to invest at home. There could be a generalized pull-back from cross-border relationships as the cost of managing a global institution on a consolidated basis increases, offsetting the gains that can come from managing liquidity on a global basis. Outright protectionism, for instance prohibitions of foreign ownership of domestic assets or firms may increase, but should be resisted.

On the more positive side, if globally-connected institutions are identified and their contribution to systemic risks, if any, is dealt with through enhanced cross-border cooperation to prevent crises or manage crises if they occur, globalization could be enhanced. Regarding prevention of crises, globally-accepted methods are not out of reach. For instance, the oversight of some cross-border financial institutions through "colleges of supervisors" (whereby supervisors from different countries exchange supervisory information and examination strategies about financial institutions that operate in each of multiple countries) is being strengthened. The various international bodies that coordinate banking supervision, securities market oversight, accounting rules and so on, already provide venues for discussion and re-regulation.

That said, there are some very difficult issues when it comes to managing and resolving crises that still require agreement, including the application of insolvency regimes and the sharing of losses. Some groups, including the IMF, are working to develop proposals for cross-border resolution regimes. The IMF has recently proposed an approach to cross-border resolution focused on enhanced coordination among national authorities. This proposal does not involve legally binding instruments such as treaties but rather cross-border collaboration between countries that adhere to certain "core coordination standards." These core standards seek to ensure that national bank supervisory and insolvency regimes are sufficiently robust and harmonized in key areas and that national bank insolvency regimes treat domestic and foreign creditors in a nondiscriminatory manner[9]

Emerging and developing economies have made good progress over the years in adopting global financial standards, constructing compatible market infrastructure, and improving their legal systems. In many cases, these economies have reaped the benefits of their financial development. However, the crisis has shaken confidence in this approach, causing some countries to question whether they are adopting potentially flawed regulations and supervisory practices. Is the "originate to distribute" model employed by financial institutions in some advanced countries still to be emulated? To keep globalization moving forward to the benefit of all countries, emerging and developing countries should continue to adopt tried and tested financial regulation and infrastructure making sure their systems are resilient and robust.

B. On the Banking Sector

What kind of banking system will we have? Bigger banks? Smaller banks? Or some of each, providing a more tiered banking system?

Whether large global banks become smaller or the system is made up of fewer very large institutions (i.e., more concentrated) depends on several forces, with the most likely outcome a more bifurcated system. Higher capital requirements and a supervisory focus penalizing "size" and complexity could drive banks to curtail growth and to divest themselves of noncore businesses. Even without additional regulation, the higher cost environment, the recent difficulty of managing complex organizational structures may cause bank managers to decide that divesting business lines and being more specialized may improve profitability. Indeed, some large banks are doing this already. Smaller, cooperative banks or mutual institutions may also thrive. These banks, less reliant on shareholders' expectations, were generally able to avoid many of the mistakes made by larger private sector institutions. Though not always considered the most efficient, vibrant, or innovative institutions, in many

[9]. See "Resolution of Cross-Border Banks—A Proposed Framework for Enhanced Coordination" available at http://www.imf.org/external/np/pp/eng/2010/061110.pdf

countries they dependably and safely supply the small and medium-sized enterprises and many households with their credit needs.

Pressures that lead banks to become larger include: a funding advantage for firms believed to be "systemic" or too-important-to-fail and thus backstopped by the government; remuneration schemes linked to size or number of deals rather than risk-based profitability; and a belief that a "full service" global bank is necessary to service clients requiring a global reach and broad product capabilities. As noted above, regulations are directed toward changing this landscape, making it more expensive to become systemically important. Competition policy, however, is ill-suited to address systemic risk, given its focus on financial product pricing distortions rather than financial stability. As a result, determining whether financial stability will be undermined by a financial institution's merger or acquisition should not be undertaken by competition authorities, but by those assigned the task of maintaining financial stability. New methods for this type of analysis will be required as it is much more related to issues of interconnectedness and the overall importance of an institution for the financial system rather than whether prices of bank services are too high because of a lack of competition with other banks. Thus new measures need to be designed alongside actions to dissuade institutions from acquiring the status of too-important-to-fail.

It may be that the new financial system forces a more tiered system with some becoming larger and others opting to be smaller. Some banks may be willing the pay the "systemic risk tax" (the design of which is being avidly discussed) and remain large or even grow larger and expect to receive public support having paid their dues. Other banks may decide they are unlikely to need public support and prefer to avoid the additional costs that go with systemic importance, deciding to divest themselves of some business lines or become smaller to avoid a tax.

C. On Financial Markets and Instruments

What type of markets will we have? Simpler? More transparent?

More transparent markets with greater amounts of trade information supplied to the market should be forthcoming to satisfy investor requirements. Already in many markets, participants are demanding better information and are receiving it. The calls for standards on information provision and best practices are emerging to cover a number of areas previously deemed to have lax reporting or where little information was available. If improvement is not provided by the private markets on their own, given that opacity is often in the interest of private firms, regulators should assess what information should be given out (and what should not) and to whom the information should be provided, as well as the cost of collection and disbursement. Too much information about an institution's positions or exposures could lead others to behave strategically in a way that undermines the trading process. However, further global coordination on what confidential information could be reported to supervisors could lower costs and allow various authorities to foresee dangerous developments.

More organized clearing venues versus bilateral over-the-counter trading?

Risk mitigation infrastructure will be an important part of the new financial system, with clearing facilities developing to lower OTC risks. The ability to identify and unwind positions smoothly is a prerequisite to allowing shocks to be absorbed easily in a financial system. This lesson is being relearned as much of recent instability arose because of lack of transparency in OTC markets about who owed what to whom, which increased perceived counterparty credit risks. For instance, the troubles in counterparty risks in credit default swaps—all of which were traded OTC—has motivated netting initiatives and the construction of several CCPs for these contracts. Through multilateral netting, these CCPs allow counterparties to offset exposures with each other in a way that lowers the overall exposures to the participating counterparties. By putting many trades in one place, however, the structural integrity of a CCP needs to be impeccable so that it can withstand the default of one or more of its counterparties without others being affected.

While CCPs are effective when instruments are standardized, other mechanisms such as valuation and matching facilities will also reduce risks. More robust margining systems, in which cash or collateral is held to protect against default or nonpayment, will also help in this regard. Already resources devoted to these issues are bearing fruit in the form of better modeling of margining systems and the development of trade repositories.

Will some instruments be encouraged or discouraged? For some types of institutions or investors?

Regulation will both explicitly and implicitly discourage certain types of instruments or markets. It is important that this is done consciously and not left to the realm of unintended consequences of actions taken. Regulation is mostly likely to discourage instruments that contain a high degree of risk (especially leverage), are difficult for users or investors to price, and may have some type of systemic or destabilizing effect on markets. Although standardization is to be encouraged, it will also make it more difficult to hedge custom-made or specialized risk, raising costs to some set of end-users. Overall, then, the key will be to ensure that there are standards defining acceptable use by certain types of investors and greater disclosure of the product's risks and returns.

If regulation is insufficiently consistent globally, however, the use of some types of instruments will simply move to unregulated, or less regulated, jurisdictions. This is especially problematic when the jurisdiction now originating the associated risks does not have the capacity to oversee their effects, particularly when the impact is felt cross-border. Worries about offshore financial centers fall into this category.

V. THE ROLE OF THE IMF

The IMF is playing a key role in the development of financial regulation and its implementation by national authorities. The IMF serves as a forum to ensure that reform efforts are both sustained, coordinated, and globally consistent. The IMF with its knowledge of members' financial systems and experience in monitoring global standards and codes is uniquely positioned to help ensure that a redesigned financial system benefits all its members, not just some. It is able to see the pros and cons of different regulatory structures, what has worked well, and what has not, and can help translate this into practical regulation. The IMF could advise countries about where best the country could place a mandate for financial stability, depending on its current financial architecture. The IMF may thus be able help to minimize collateral damage to households and firms that would otherwise occur if the reform of the financial system fails to occur or does so in an uncoordinated way, leading to an unlevel playing field. Through its surveillance activities, the IMF can help to bring peer pressure to bear on those countries that fail to conform to international best practice.

To help foster a more stable global financial system, the IMF will need to refine its surveillance of the financial system using a more global approach—including by looking at the connections between the financial system and the macroeconomy—so-called macrofinancial linkages—and to remove data gaps that inhibit observance of various linkages. IMF policy advice is being strengthened by enhancing the interaction between multilateral and bilateral surveillance and through more targeted technical assistance in the areas of supervision, regulation, and crisis management. Assessment of contingent fiscal liabilities to the financial sector and their impact on systemic risk is becoming a particular focus.

The IMF already contributes to ongoing discussions on regulatory reform through its interactions with the financial sector standard setters (Basel Committee on Banking Supervision, the International Organization of Securities Commissions, International Accounting Standards Board, and the International Association of Deposit Insurers). The IMF has been increasingly interacting with the FSB and the BIS on topics of mutual interest. The roles of these bodies will become further intertwined as the FSB helps advance the agenda for international financial regulatory changes, the BIS collects data and performs research, and the IMF brings to bear its members experience, tracking and encouraging the implementation of new standards and regulatory changes through its surveillance activities and technical assistance.

There is already an explicit expectation from the G-20 that the Financial Sector Assessment Programs (FSAPs) and the reviews of standards and codes (ROSCs) process be expanded to include surveillance of the evolving framework of macroprudential supervision once it is in place. The IMF's unique position in monitoring implementation and enforcement through the FSAP should help to spur reform efforts. To assure compliance with emerging regulations, best practices or guidelines, the IMF has recently developed additional ways for reviewing the implementation of new standards and codes, and adopted proposals for making the FSAPs and ROSCs more flexible in their application and more targeted and timely in their delivery.

VI. Concluding Remarks

In sum, the overall contours of the future financial system will likely be a simpler, safer, higher-cost financial system with perhaps slower, but more stable growth and fewer crises—assuming financial regulation and supervision are effectively reformed. The financial system will evolve to where there is less leverage, less profit, but more *bona fide* intermediation between savers and investors. This new, and improved, system may look less innovative and dynamic and more old-fashioned, but will likely deliver financial products that do a better job of satisfying the needs of households and firms. There will probably be less credit provided exclusively by banks and a larger diversity of types of institutions in the nonbank sector. Some banks may become smaller and more specialized, others may continue to be large and global, but with tighter strictures and oversight on how they operate.

To get to this safer, sounder financial system, coordinated and consistent implementation of better, smarter regulation and oversight will be needed. The IMF is well-placed to help its member countries obtain this objective. The recognition that individual financial institutions were inadequately regulated and supervised, in part because they were evaluated without regard to their increasing interconnections and the systemic risks they posed, will lead to regulatory framework that is more holistic and better suited to mitigate systemic risks. For this to occur, however, monetary, fiscal, and financial authorities need to work together across their usual policy boundaries to make sure their policies do not work at cross purposes. The more regulation can be made to set incentives so that the private sector operates safely and effectively, the less constrictive it needs to be. There is a risk, however, that at least influential parts of the private sector will resist even “incentive compatible” regulations since their flexibility and compensation will be reduced. Hence, reforms will need to be introduced with determination. To make such a transition to the new system in the more globalized financial world of today, a firm commitment to do so and international cooperation on the new financial regulatory structure will be essential.