BOX 11.2

Roles of Home/Host Supervisors for Subsidiaries and Branches Under the Basel and EU Rules

Basel Rules

The Basel Committee's position on home and host authorities' responsibilities with regard to supervision of branches of cross-border banks is described in the Basel Concordat and summarized in the Core Principles for Effective Banking Supervision (Core Principles).[1] The basic underlying principles are that the home-country supervisor should have access to all the information it needs to perform effective consolidated supervision and that all cross-border operations should be subject to effective home- and host-country oversight. Countries have taken different approaches, based on their circumstances, to put this into practice.

- Section VI of the Core Principles describes the obligations of home and host supervisors as follows: "Home supervisors must practice global consolidated supervision over their internationally active banking organizations, adequately monitoring and applying appropriate prudential norms to all aspects of the business conducted by these banking organizations worldwide, primarily at their foreign branches, joint ventures, and subsidiaries" (Principle 23).
- As regards the home authority's obligations vis-à-vis coordination with the relevant host authorities, the Core Principles provide that, "A key component of consolidated supervision is establishing contact and information exchange with the various supervisors involved, primarily host country supervisory authorities" (Principle 24).
- With regard to host-country responsibilities, there is an expectation that host supervisors will ensure that business conduct of local affiliates of foreign banks is of the same high standard expected and enforced for domestic institutions, and that they have the ability to share information with relevant home authorities in order for the latter to carry out satisfactory consolidated supervision (Principle 25).

European Union Rules

Within the EU membership, the power to grant authorization to conduct business within the membership, albeit outside of the home country, rests with the home country, which subsequently communicates its decision to the relevant host member state. In the case of a subsidiary, however, authorization to conduct business must be sought from the host-country authorities (potentially in addition to the home country).

- With regard to the supervision of branches, the host supervisor is expected to ensure compliance by locally active branches of cross-border banks domiciled within the EU with conduct-of-business rules (under Article 32(7) of MiFID). In fulfilling its obligations with regard to this article of the directive, the host supervisor/authority shall have the right to examine branch arrangements. It is, therefore, expected to examine branch arrangements and request such changes as are strictly needed by the authority to enforce conduct-of-business obligations.

BOX 11.2 ***(continued)***

- While responsibility for branch supervision rests with the home supervisor, Article 42(a) of the EU's Capital Requirements Directives stipulates conditions under which the host may designate a branch operating in its jurisdiction as *significant* (i.e., systemically important). Designation of such branch as significant improves the host's capacity to supervise the branch (e.g., for participation of the host supervisor in meetings of the supervisory college of the banking group where issues specific to the branch or group risks are discussed). To make supervision by the home authority possible, the host authority is obliged to facilitate onsite examination of locally active branches by the home supervisor of the corresponding cross-border bank/group. The host also retains supervision responsibility for liquidity and measures related to monetary policy implementation where the latter is independent. This is also true under the Basel Concordat, where the primary responsibility for supervising liquidity rests with the host authority.[3]
- In the case of subsidiaries, the host carries the responsibility for supervision of the locally incorporated affiliate of the cross-border bank.

[1]See also BCBS (1996 and 1997).
[2]See European Commission (2006 and 2007) and Markets in Financial Instruments Directive (MiFID), www.markets-in-financial-instruments-directive.com.
[3]See www.bis.org/publ/bcbsc312.pdf.

subsidiaries of foreign banks than their branches) and better off with the branch structure if facing a shock to the domestic economy or the financial system (as the branch structure entails stronger commitment, in principle, on the part of the parent bank to support its affiliates). The opposite is true for the home country—that is, the home country may prefer the organizational form that best facilitates drawing on capital or liquidity of affiliates (i.e., a branch structure) when a parent bank is facing a negative shock, and may prefer the advantages of having limited liability (a subsidiary structure) when it is the host country that experiences a negative macro-financial shock.

- *Extent of fiscal costs and/or banking-related contingent liabilities in the event of bank distress*: In the event that an affiliate operating in a host country falls into distress, the host country would have a relatively heavier obligation and burden when dealing with a subsidiary than with a branch, which is the responsibility of the parent bank (and home authorities). In fact, one could argue that for home countries with limited fiscal capacity, it might be prudent to encourage their large internationally active banks to organize themselves as subsidiary-based structures rather than as branch-based structures (IMF, 2010b).

In sum, from the financial stability viewpoint, both the branch and the subsidiary structure have their advantages and a variety of different considerations play a role in the authorities' preferences for a given structure. Barring the factors that affect the practical choice of different structures, home and host countries may both prefer a cross-border bank structure with stricter firewalls when conditions in their own country are better than those abroad, so as to protect their country from external shocks and minimize the fiscal costs of a failure. In the opposite case, they would prefer a model with weaker firewalls. Home and host authorities also focus on the implications of the choice for a number of other considerations, including supervisory quality (both of the home and host country), capacity of the home authority to support the affiliates in stress, level playing field concerns vis-à-vis domestic institutions, and the systemic importance of the affiliate for the host banking system.

The first-best solution to these tensions, therefore, lies in the design of appropriate mechanisms for: joint home/host supervision of cross-border groups in normal conditions, (harmonized) cross-border resolution regimes, and clear and effective burden-sharing arrangements in stressed or crisis conditions, along with effective risk management by the banking groups. After all, the problems experienced by cross-border banking groups during the recent crisis had little, if anything, to do with whether they were legally organized as branches or subsidiaries, and had much to do with the underlying weaknesses in risk management, regulation and supervision, supervisory coordination, and crisis management.[13]

The practical difficulties of global cooperation during a crisis have led some policymakers to explore the greater self-sufficiency of local operations of cross-border banks, regardless of their business models.[14] Absent effective information exchange and coordination among regulators and supervisors and effective cross-border resolution mechanisms, there will be a natural desire for host authorities to ensure that local banks maintain sufficient capital and liquidity buffers in their countries (e.g., through tighter intragroup limits on subsidiary operations) so as to minimize the chance of financial stability risks being imported from distressed foreign banks. In light of the recent crisis experience, some believe this is easier to do under a subsidiary structure. Apart from shielding a business from losses elsewhere in the group, an additional attraction of a subsidiary structure is the relative

[13]If the organizational structure of the banking group is too complex, it may be difficult for senior management of the group to monitor and stay on top of what risks are being assumed within the organization. The crisis produced examples of CEOs and other senior management acknowledging that they were unaware of the risks and exposures assumed by their institutions. The experience of some European banks and of Lehman during the recent crisis suggests that an affiliate can take on excessive risks and incur losses that could create significant financial stability risks, threatening the stability of the entire group regardless of its structure.

[14]An extreme variant of such self-sufficiency, the "stand-alone subsidiarization" (SAS) model, was explored by the U.K. Financial Services Authority (2009) as a way to reduce the likelihood of costly banking group failures by requiring group affiliates to be organized independently of each other and the parent, with complete firewalls between different parts of the group. While offering some potential benefits (e.g., by isolating the failure to the parent and/or specific affiliates), the adverse implications of SAS may be significant (e.g., hampering the ability of a banking group to manage liquidity and capital on a groupwide basis, given the strict constraints on intercompany flows and transfer of capital and liquidity to individual affiliates—factors that may in turn affect the stability of the group as a whole).

ease with which resolution authorities could spin off businesses and affiliates individually.[15]

Organizing banking groups as a constellation of separate legal subsidiaries may facilitate the implementation of living wills—recovery and resolution plans that provide systematic and holistic blueprints to facilitate the orderly wind down of systemically important financial groups in the event of failure.[16] These plans facilitate the resolution of such groups by simplifying the legal and financial structure of the banking group and by encouraging a more streamlined corporate structure. However, imposing self-sufficiency constraints on all banking groups regardless of their business models could be costly. Such costs would include: (i) constraints on management of liquidity and capital for the group as a whole; (ii) the need to hold higher capital and liquidity levels at a consolidated level over and above the Basel III requirements;[17] and (iii) potential opportunities for regulatory arbitrage created when varying standards are applied by different jurisdictions to restrict intragroup exposures.[18]

Effective international coordination of the supervision and resolution of cross-border groups and burden-sharing arrangements can provide financial stability benefits without these potential costs. Therefore, rather than imposing organizational constraints on foreign structures, it would be preferable to make tangible and rapid progress in reaching global agreements on satisfactory and enforceable cross-border resolution regimes and burden-sharing arrangements. In the absence of progress toward the first-best solution, restrictions on bank structure may be seen by some jurisdictions as the price to pay for financial stability while domestic authorities attempt to reduce the destabilizing effects of cross-border failures.

[15]A counterargument to this may be that a subsidiary structure may complicate, rather than facilitate, resolution. Recently, an informal group of 10 creditors proposed treating the many subsidiaries of Lehman Brothers as one entity in an effort to boost the payouts to bondholders and reduce those to subsidiary creditors. Creditors have argued that their payouts would be boosted if the various subsidiaries (18) are combined as opposed to carrying out the resolution with a subsidiary-by-subsidiary approach (see *Financial Times*, December 16, 2010, www.ft.com/cms/s/0/0eb247d6-08aa-11e0-b981-00144feabdc0.html#axzz19dMw9XHG).

[16]The idea of a living will—proposed by the United Kingdom's FSA—is a prominent example of a set of proposals targeted to preserve a firm as a going concern (without public support), to promote resilience of key functions, and to facilitate rapid resolution or wind down in a scenario of severe financial distress. The overall objective of all such proposals is similar to that of the idea discussed in this chapter, that is, to resolve TITF institutions without systemic disruption and without putting public finances at risk (also see Chapter 7 in this volume).

[17]See Appendix 11.3, which illustrates the point that under stricter forms of ring-fencing, banking groups have substantially larger needs for capital buffers at the parent and/or subsidiary level than under less strict (or in the absence of any) ring-fencing.

[18]These exclude costs that banking groups organized largely as branch-based structures may have to incur if they are transformed into subsidiaries. In discussions on this issue, many bankers say that the subsidiary approach may be more costly in terms of capital, liquidity, operating flexibility (e.g., lending limits, or requirements to conduct certain businesses), and administrative expense than a branch system. The impact on the parent bank's desired return from its operations in host countries may in some cases induce the bank to simply exit the market or refocus its activities. Empirical information to support these arguments, however, was not available.

CONCLUSIONS AND POLICY IMPLICATIONS

There is no one size that fits all when it comes to the choice of the organizational structure for cross-border banking groups, given the diversity of their business lines and the varying objectives and stages of financial development of different countries. The preference for a given structure depends, in general, on the stakeholders concerned.

From a banking group's perspective, the choice is affected by the group's business focus and by differences in tax and regulatory regimes across jurisdictions. Banks with significant wholesale operations would appear to favor a more centralized branch model, which provides the flexibility to manage liquidity and credit risks globally at lower funding costs, support individual affiliates where needed, and serve the needs of large clients. For a global retail bank tapping retail deposits, a more decentralized subsidiary model may be preferable because of the focus of the business on serving local retail clients and the greater importance of local deposit guarantees.

From the host- and home-country perspectives, home authorities would prefer a cross-border bank structure with stricter firewalls across parts of the group (the subsidiary model) when their banks expand into countries with weak economies and a risky business environment. Host authorities might also prefer the subsidiary model if conditions in their countries are better than those in the home country, in order to shield the local subsidiaries from the problems of the parent. By contrast, countries with underdeveloped financial systems and weak economies may prefer global banks to enter through the use of branches that can facilitate credit services based on the parent's strength. The quality of supervision, adequacy of information-sharing systems, and systemic importance of the affiliate for home and host financial systems also play a role in home/host preferences.

The legal structure for cross-border banking does not, in and of itself, affect the likelihood of a bank failure. Legally, a group is obligated to support a troubled branch but may walk away from a troubled subsidiary, but reputational risks may limit the group's ability to restrain contagion independent of the legal corporate structure. The problems experienced during the recent crisis had less to do with how groups were legally organized than with the underlying weaknesses in risk management, regulation and supervision, supervisory coordination, and crisis management tools.

These complexities argue for policies and practices that avoid bank business strategies and risk taking that pose undue systemic risk. This requires:

- strengthened capital and liquidity regimes to provide sufficient buffers against adverse shocks (e.g., along the lines proposed by the Basel Committee);
- adequate risk governance, assuring prudent risk management systems by banking groups to cover liquidity and funding pressures in both domestic and global markets;
- sound home and host supervisory regimes that are likely to act preemptively when a parent or an affiliate gets into difficulties, regardless of a branch or a subsidiary; and

- effective dialogue and information-sharing mechanisms between home and host supervisors (e.g., via supervisory colleges) to facilitate decisions about the groups' operations, including ensuring participation by host supervisors in supervisory colleges when the parent bank affiliates are systemically important in the host country financial system.

Greater and coordinated efforts are also needed to put in place mechanisms that allow effective resolution of cross-border banks in the event of their failure (see also Chapter 6 in this volume). This requires, in turn: (i) effective contingency planning arrangements, with a robust safety net that covers deposits in foreign branches; and (ii) satisfactory cross-border resolution regimes and burden-sharing arrangements between home and host authorities to provide national authorities with the legal powers to restructure the viable businesses of such groups and resolve the unviable ones without major systemic disruptions.

Having these elements in place would contribute to financial stability, make home and host authorities more indifferent as to specific legal structures, and allow banks to organize themselves in a way that best fits their business models. Imposing a particular organizational structure across the board would introduce inefficiencies and eliminate the advantages a given structure provides to a given business model, while imposing costs on the group's ability to manage risks during normal times and support affiliates at stressful times.

Until adequate progress is made in designing effective cross-border resolution regimes, resolving cross-border banking groups that are organized as subsidiaries may, in principle, be less costly or destabilizing than resolving banking groups organized as branches. For both retail and wholesale banks, healthy subsidiaries that operate independently of the parent bank will be better able to survive the failure of the parent or other affiliates within the group than individual branches, even though remaining subsidiaries could come under pressure due to confidence effects. In the event of a restructuring of a banking group, separate subsidiaries may be sold more easily to other investors and banks.

Although a subsidiary structure may partially address financial stability concerns, this solution does not justify abandoning the efforts to achieve the first-best solution. Effective and harmonized cross-border resolution regimes accompanied by equitable burden-sharing mechanisms should remain a key priority, along with adequate risk management systems, strong capital and liquidity frameworks, and effective home/host arrangements for supervision and coordination.

APPENDIX 11.I. THE SPANISH CROSS-BORDER BANKING MODEL

Major internationally active Spanish banks enter host-country financial systems through locally incorporated subsidiaries more often than other large, mature-market banks. The subsidiaries typically rely on local deposits and traditional sources of funding that they believe are sufficient for developing retail-oriented businesses. In case of domestic liquidity shortages, subsidiaries can tap the parent for assistance, albeit at a premium. In normal conditions, however, their business model has been designed to be decentralized, so that subsidiaries are self-sufficient in their funding, which is often raised under their own name. Moreover, some of them have implemented a model with decentralized management of the different currencies in which their business units operate.

The subsidiaries have independent governance, though boards of directors are appointed by the head office. Credit risk is managed at the subsidiary level subject to limits and tailored to specific host regulatory requirements. Risk management and control functions at the group level and individual units are characterized by common policies, tools, information systems, processes, and models.

A number of factors play a role in the choice of such a business model:

- The adoption of the subsidiary structure reflects the fact that the group strategy is based on a retail business model aimed at ensuring viability of the enterprise in the longer run. The guiding philosophy is that basing business on a network of self-financed entities provides for better risk management.
- The decentralized model is partly the legacy of past corporate structures and risk management arising from the groups' acquisitions. In some cases, a process of delocalization of business units was initiated in Latin America at a time when country risk was perceived to be high. Subsidiarization was a conscious choice to limit the spread of problems in individual units to the parent or the group.
- The home-country regulator, the Bank of Spain, supported a model of decentralized liquidity management. Moreover, in principle, it can limit overseas branching of Spanish banks on the basis of a set of factors (e.g., if the branch is not going to be subject to effective host supervisory control) that are more extensive than those with which it can limit subsidiaries.

Although management of funding is decentralized, the broad strategy of liquidity growth and the guidelines of funding policy are often set at the group level. In some cases, if a new funding tool is to be implemented in a particular country unit, the decision is made by the bank group's Asset Liabilities Committee with subsequent technical support from the parent.

APPENDIX 11.2. BANKING INDUSTRY VIEWS ON THE STAND-ALONE SUBSIDIARIZATION (SAS) APPROACH

TABLE 11.1

Banking Industry Views on SAS: A Survey of Selected Global Banks

Banking Groups Interviewed	Views Expressed[1]
Global Investment Bank A	• Trapping pools of liquidity in legal entities should be avoided, and banks should be able to transfer excess liquidity across the group. The bank uses branches in certain locations and subsidiaries in emerging markets and is concerned about losing flexibility in managing capital and liquidity within the group, which may in turn increase systemic risk.
Global Investment Bank B	• Concerned about the possibility of trapped liquidity at individual subsidiaries (through cushions of liquidity at subsidiaries and treatment of affiliates).
Global Retail Bank A	• The benefits to stability are significant and the costs manageable. • Subsidiarization provides a medium-term orientation for the business model, including funding stability and discipline for the local subsidiaries. • An important side effect is the development of local capital markets. • Business models heavily focused on local retail banking with minimal reliance on short-term wholesale funding are very compatible with SAS. • Broader franchise and reputational concerns are "an element" in the decision to provide a subsidiary with capital and liquidity support during a crisis (but at market prices or higher). • Forcing branches to convert into stand-alone subsidiaries would likely have a material impact on corporate lending activity for the bank's wholesale operations.
Global Universal Bank A	• Capital and liquidity pools in each of its affiliates and the way the bank is structured to ensure self-sufficiency have served the bank well. The bank is concerned about the loss of ability to initiate cross-border support within the group to cope with a temporary liquidity crisis and support affiliates when needed. The loss of these capabilities would be detrimental to the group as a whole. Reputational cost of not supporting subsidiaries is high. It is good to keep flexibility in structure.
Global Universal Bank B	• SAS will stop consolidation. Country by country silos will reduce banks' ability to expand in other countries and fund large customers. It will have direct effects on their business models since the banks tend to use a branch model for wholesale activities and a subsidiary model for retail activities. What is needed is an articulation of an effective exchange of information between home and host authorities.
Global Universal Bank C	• There should not be a forced change to a banking group structure; a mix of branches and subsidiaries should be permitted based on the business model of a particular group. • What is needed is better control/monitoring of capital and liquidity flows within the banking group; enhanced capital and liquidity regimes; effective coordination of regulation and supervision by home/host authorities; strong risk management and governance by banks; establishment of crisis management and contingency mechanisms. • Capital and liquidity being ring-fenced in different parts of the world will reduce the ability to serve large clients, manage liquidity risks, cope with stressful conditions; will lead to higher cost and reduced availability of credit; and cause increased concentration of risk.

(continued)

TABLE 11.1

Banking Industry Views on SAS: A Survey of Selected Global Banks (*continued*)

Banking Groups Interviewed	Views Expressed[1]
Global Universal Bank D	• Worried about a growing number of jurisdictions that are imposing restrictions on liquidity transfers not only on the subsidiaries but also on branches. This development is inefficient from a liquidity risk management perspective as well as from a systemic risk perspective, with the inability of the group to transfer liquidity from one location to where it is most needed. The bank questions the benefit for a bank holding company of having a stand-alone subsidiary and the limited resolution benefits given the importance of reputational costs.
Global Universal Bank E	• Significant concern about various jurisdictions adopting restrictive and nationalistic approaches on liquidity management of affiliates, which would raise the cost of funding and affect the liquidity risk management capacity of the group.

[1] These views paraphrase the anonymous comments from the interviews with selected individual global banks.

APPENDIX 11.3. AN ILLUSTRATIVE SIMULATION OF THE CAPITAL COSTS OF RING-FENCING[19]

This appendix illustrates the potential impact of ring-fencing (i.e., different restrictions on cross-border transfers of excess profits and/or capital between a parent bank and its subsidiaries located in different jurisdictions) on cross-border banks. The cost of ring-fencing for banks is measured in terms of the amount of additional capital that might be needed if these banks were restricted in the extent to which they could reallocate excess profits and capital across jurisdictions following a shock to credit quality in an affiliate. In particular, this appendix simulates the potential capital needs of 25 major European cross-border banking groups resulting from a credit shock affecting their affiliates in central, eastern, and southern Europe (CESE). The simulations show that under stricter forms of ring-fencing, sample banking groups have substantially larger needs for capital buffers at the parent and/or subsidiary level than under less strict (or in the absence of any) ring-fencing.

Data

The analysis focuses on 25 European cross-border banking groups that are domiciled in Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, and Sweden and that have significant presence in the CESE region (Figure 11.3), including through their 113 subsidiaries operating in 18 CESE countries. Although the main focus is on the groups' indirect exposures through the subsidiaries incorporated in the CESE countries, their direct cross-border lending and lending through branches in the CESE region are considered as well.

[19] For more details, see Cerutti and others (2010).

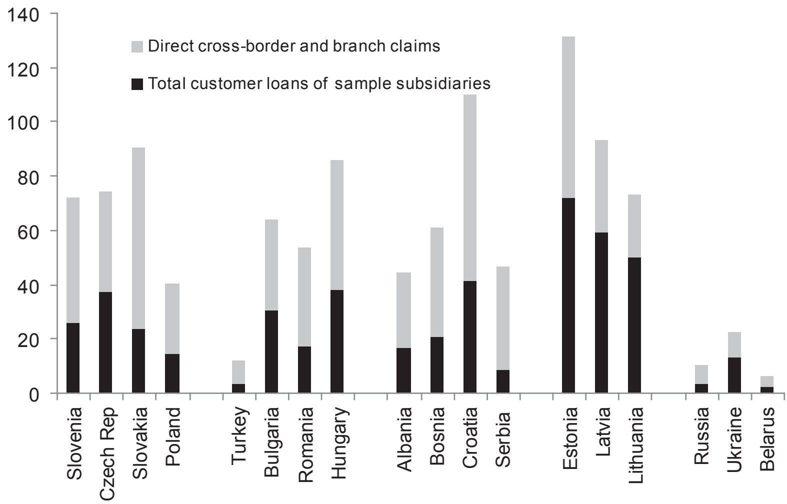

Figure 11.3 Total Foreign Claims of Sample Banking Groups on the CESE Countries, 2009 (in percent of host country GDP)
Sources: Bank for International Settlements; Bankscope; national authorities; and IMF staff estimates.

Methodology

The CESE credit shock refers to the deterioration in macroeconomic conditions over the period of 2009–10 that led to an increase in nonperforming loans and a decrease in returns on assets of the CESE subsidiaries. The simulation of the shock relies largely on the actual data for 2009 and on projections using panel regression models for the CESE country-level nonperforming loans and returns on assets for 2010.

The capital needs resulting from the CESE credit shock are estimated in two steps:

- For each subsidiary, the capital need is defined as the amount of capital required to bring its postshock capital-asset ratio back to either the country-specific (Basel II) regulatory minimum or to the subsidiary-specific preshock level. The latter is conservative in that it requires subsidiaries not to run down preshock buffers.
- At the group level, total capital needs are computed by adding up all the capital needs of individual subsidiaries (and also losses on direct cross-border exposures of parent banks, in some simulations) and offsetting them against any other funds (i.e., excess profits and/or capital) that can be reallocated from other parts of the banking group.

Hence, the resulting total capital needs at the group level depend on the availability of excess profits and/or capital in the subsidiaries and parent bank, as well as on the degree to which these funds (excess profits and/or capital) can be reallocated within a group.

TABLE 11.2

Definitions of Capital Needs Under Four Ring-Fencing Scenarios

Degree of Ring-Fencing	Capital Needs After a CESE Credit Shock (if positive)
No ring-fencing	CN(1) = sum of capital needs of all CESE subsidiaries − sum of excess profits and capital of all CESE subsidiaries − profits of the parent bank
Partial ring-fencing	CN(2) = sum of capital needs of all CESE subsidiaries − sum of excess profits of all CESE subsidiaries − profits of the parent bank
Near-complete ring-fencing	CN(3) = sum of capital needs of all CESE subsidiaries − profits of the parent bank
Stand-alone subsidiarization	CN(4) = sum of capital needs of all CESE subsidiaries

Note: CN = capital needs

Four scenarios with varying degree of ring-fencing are considered in the simulation exercise (see Table 11.2 for the detailed definitions of the banking groups' capital needs arising from a shock to their CESE subsidiaries):

- *The no ring-fencing* scenario assumes that the parent bank's profits, as well as subsidiaries' excess profits *and* excess capital buffers, can be used to cover a capital shortfall in any of the subsidiaries.
- *The partial ring-fencing* scenario assumes that the parent bank's profits and *only* its subsidiaries' excess profits, but not excess capital, can be reallocated within a group.
- The *near-complete ring-fencing* scenario assumes that only transfers from the parent to the subsidiaries are allowed.
- *The full ring-fencing*, i.e., stand-alone subsidiarization (SAS), assumes that no transfers between any of the group's affiliates (including from the parent bank to subsidiaries) can take place.

Results

For the sample cross-border banking groups, the differences between capital needs under different forms of ring-fencing turn out to be significant: in the ring-fencing/SAS scenarios, the sample banks' aggregate recapitalization needs are 1.5–3 times higher than in the case of no ring-fencing in response to a simulated credit shock affecting the banks' CESE subsidiaries over the 2009–10 period (Figure 11.4).

The results are robust to variations in the methodology for computing the banking groups' recapitalization needs, including (i) adding losses incurred on direct cross-border lending and lending through branches in the CESE region; (ii) redefining the recapitalization need of a subsidiary as the amount of capital required to bring its postshock capital-asset ratio back to the subsidiary-specific preshock (end-2008) level (instead of the country-specific regulatory minimum); and (iii) using different approaches to compute the postshock adjustment in risk-weighted assets for the postshock capital-asset ratios (standardized versus the Basel II Internal Ratings Based approach).

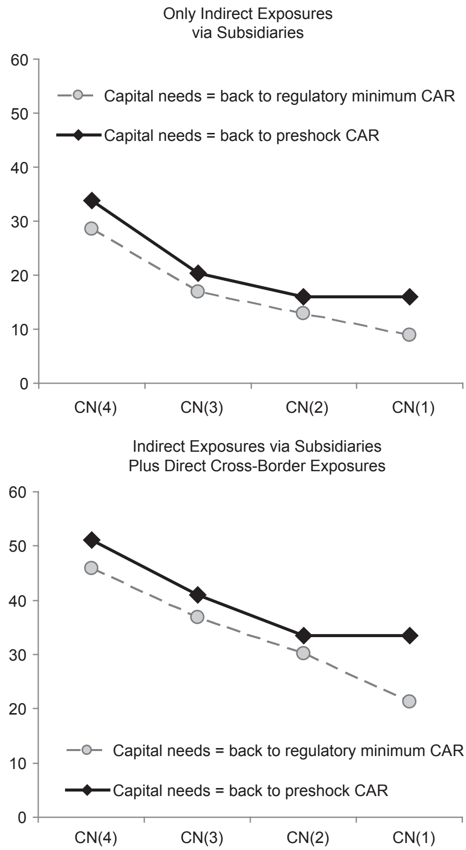

Figure 11.4 Aggregate Capital Needs Resulting from a CESE Shock (in billions of dollars)
Source: Authors' estimates
Note: CAR = capital-asset ratio; CN = capital needs.

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CHAPTER 12

Redesigning the Contours of the Future Financial System

LAURA KODRES AND ADITYA NARAIN[1]

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. This chapter 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 as opposed to what the future contours of the financial system should look like. The chapter also 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 saving 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—the behavior of market participants, policymakers, 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.

Although there were many causes of 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 in which 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.

[1]An earlier version of this chapter was also issued as an IMF Staff Position Note (SPN/10/10) on August 16, 2010.

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 trade-off—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 tightly 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. Although 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 that 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 period ahead.

- Scenario 1: 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.
- Scenario 2: 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, since this might be perceived as further deregulation. 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?

The chapter first reviews how the financial system ended up in the situation of today (see the section below, "What Went Wrong"), before attempting in the third section to answer these basic questions in light of potential regulatory responses. This is followed by a discussion of the role of the IMF in the financial sector reform efforts.

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.[2]

First, although not a 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.

[2]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.

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.

Although 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 in the regulatory approaches based on them.

- Although 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 of 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.

As reviewed in detail in Chapter 2 of this volume, 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.

- *Preventive measures*. Preventive measures focus on strengthening existing microprudential regulatory requirements and developing a framework for macroprudential (system-wide) regulation and supervision to enhance the shock absorbers available in the system—namely 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.
- *Resolution measures*. The latter efforts focus on developing special resolution regimes for financial institutions to assure the continuity of financial services during an unwinding or bankruptcy, avert a disruption in the flows of payments, underpin confidence in the financial system, and help avert panics and runs. They also aim at removing some of the informational and incentive problems that plagued securitized products, as well as at improving transparency of markets. As the crisis has shown, lack of transparency in markets can lead to mispricing, misuse, or risk concentrations and lay the basis for an eventual destabilizing adjustment.

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's reactions to the set of regulations that are being introduced or contemplated?

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 buildups 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. Although 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, in turn, should facilitate better reporting of risk exposures, and alongside that it should lower the hurdles to sharing information across regulatory entities and across borders. The unknown interconnections surrounding credit default swap (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 becomes 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. However, it may be that some of the previous increase in the growth potential that was attributed to financial intermediation was illusory and that some financial innovations were counterproductive—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. Although 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 in 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. If it does need to be extended, will these institutions 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 the acceptable risks are for various institutions to take and what protections 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 played, and may need to continue to play, a more important role in support of the intermediation of saving to ensure that 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 saving and hence demand other financial services (not necessarily credit services), for example, services 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. In that case, 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 that the 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 the 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, such as instance prohibitions of foreign ownership of domestic assets or firms, may increase, though it 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 the prevention of crises, globally accepted methods are not out of reach. For instance, the oversight of some cross-border financial institutions is being strengthened through “colleges of supervisors,” in which supervisors from different countries exchange supervisory information and examination strategies about financial institutions that operate in each of multiple countries. The various international bodies that coordinate banking supervision, securities market oversight, and accounting rules 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 (see Chapter 6). This proposal does not involve legally binding instruments such as treaties but, rather, promotes cross-border collaboration between countries that adhere to certain “core coordination standards.” These core standards would seek to ensure that national bank supervisory and insolvency regimes were sufficiently robust and harmonized in key areas and that national bank insolvency regimes treated domestic and foreign creditors in a nondiscriminatory manner (IMF, 2010g).

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.

For the Banking Sector

What Kind of Banking System Will We Have? Bigger Banks? Smaller Banks?

Whether large global banks become smaller or the system is made up of fewer very large institutions (i.e., more concentrated), or smaller ones, or some of each, depends on several forces. The most likely outcome is 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 and 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 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 (TITF) 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 be undertaken not by competition authorities but by those assigned the task of maintaining financial stability. New methods for this type of analysis will be required, since 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 TITF.

It may be that the new financial system forces a more tiered system, with some banks 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 once 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 such a tax.

For 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 them 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 OTC 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, since much of the recent instability arose because of a 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 central counterparties (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.

Although CCPs are effective when instruments are standardized, other mechanisms will also reduce risks, such as valuation and matching facilities. 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 Which Institutions/Investors?

Regulation will both explicitly and implicitly discourage certain types of instruments or markets. It is important that this be 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 a 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.

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 sustained, coordinated, and globally consistent. With its knowledge of members' financial systems and experience in monitoring global standards and codes, the IMF 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 they could best place a mandate for financial stability, depending on their current financial architecture. It may thus be able to help minimize collateral damage to households and firms that would otherwise occur if the reform of the financial system failed to occur or occurred in an uncoordinated way, leading to an unlevel playing field. Through its surveillance activities, the IMF could 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—the so-called macro-financial linkages—and to remove the data gaps that inhibit the observation 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, specifically the Basel Committee on Bank Supervision, the International Organization of Securities Commissions, the International Accounting Standards Board, and the International Association of Deposit Insurers. The IMF has been increasingly interacting with the Financial Stability Board (FSB) and the Bank for International Settlements (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 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, and guidelines, the IMF has recently developed additional methods for reviewing the implementation of new standards and codes, and adopted proposals for making the FSAPs and reviews of standards and codes more flexible in their application and more targeted and timely in their delivery.

CONCLUSION

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 it 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 a 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 are not 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 will need to be. There is a risk, however, that at least some influential parts of the private sector will resist even "incentive compatible" regulations, since their flexibility and compensation would be reduced. Reforms will therefore 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.

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