

Protecting the **WHOLE**

Keeping individual financial institutions sound is not enough. A broader macroprudential approach is needed to safeguard the financial system.

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GOVERNMENTS have long sought to regulate financial institutions to ensure that they are safe, sound, and able to honor their obligations—especially institutions like commercial banks that collect funds from the general public. But the global financial crisis demonstrated that traditional regulation, often called microprudential, is insufficient to guarantee the health of the financial system as a whole.

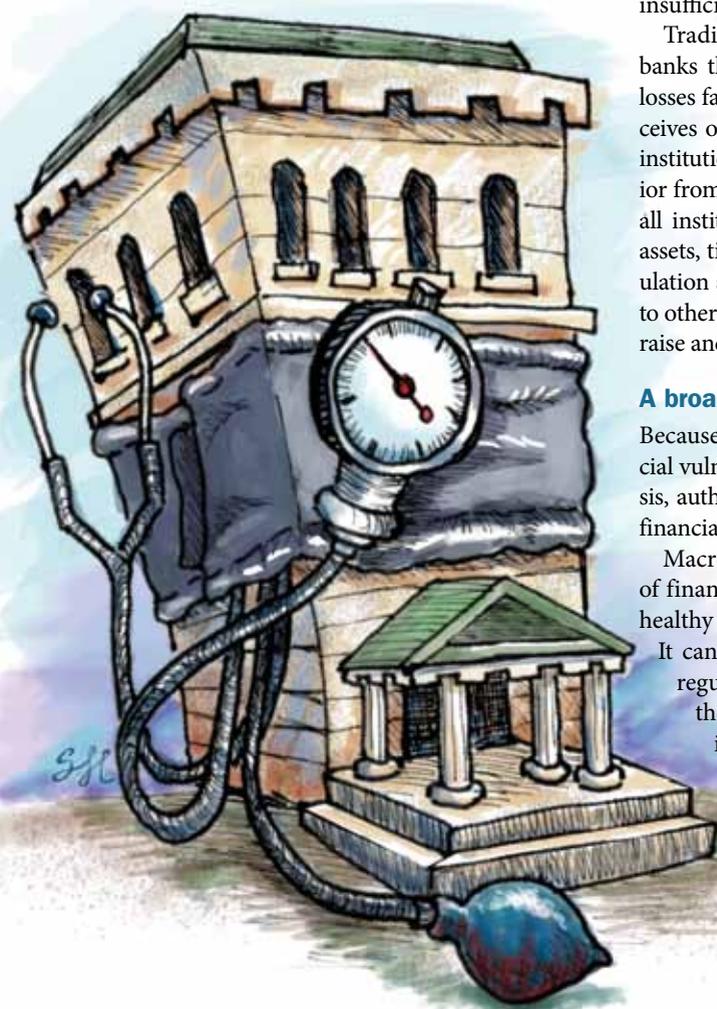
Traditional regulation tends to be light on institutions like investment banks that operate primarily in wholesale markets, where the potential for losses faced by retail depositors is less. Moreover, microprudential policy conceives of the stability of the financial system as the sum of individual sound institutions. It does not take into account that what constitutes prudent behavior from the point of view of one institution may create broad problems when all institutions engage in similar behavior—whether by selling questionable assets, tightening credit standards, or holding onto cash. Microprudential regulation also does not typically recognize that institutions can be a threat both to other financial institutions and to markets, where many large financial firms raise and place funds.

A broader approach

Because of increasing recognition that traditional regulation allowed financial vulnerabilities to grow unchecked, contributing to the global financial crisis, authorities in many countries are exploring a more systemic approach to financial regulation. This holistic approach is called *macroprudential policy*.

Macroprudential policy does not seek to replace traditional regulation of financial institutions, such as commercial banks, which are essential to a healthy system. Instead, it adds to and complements microprudential policy. It can often deploy traditional regulatory tools, and relies on traditional regulators for implementation and enforcement. But it adapts the use of these tools to counter growing risks in the financial system. This evolving approach may require a new type of regulatory setup to monitor the financial system for evidence of growing threats to stability and to enable the authorities to take action to counter those threats.

The notion of a macroprudential approach is not entirely new (Crockett, 2000). But it was only after the global financial crisis that policymakers fully came to appreciate the likelihood and costs of a systemic disruption in modern financial markets and the need to keep systemic risk in check. As a result, it is an approach that is still evolving (FSB/IMF/BIS, 2011).



The scope of macroprudential policies

Macroprudential policies are designed to identify and mitigate risks to systemic stability, in turn reducing the cost to the economy from a *disruption in financial services* that underpin the workings of financial markets—such as the provision of credit, but also of insurance and payment and settlement services (FSB/IMF/BIS, 2009; IMF 2011a).

An example of such a disruption is a *credit crunch*, in which losses suffered by banks and other lenders cause a curtailment of credit to households and firms that in turn depresses overall economic activity.

Such disruptions can arise either from the overall, or aggregate, weakness of the financial sector or from the failure of so-called systemic individual institutions—which are large and have financial relationships with many other institutions.

Aggregate weakness arises when the financial sector as a whole becomes overexposed to the same risks—whether these are credit (borrowers will not repay), market (collateral values will decline), or liquidity (assets cannot easily be sold or debts refinanced) risks. For example, in the run-up to the recent crisis, both in the United States and elsewhere, credit was increasingly tied to the value of real estate collateral. When the housing market collapsed, lenders were exposed both to market risk, because the value of the real estate declined, and to credit risk, because borrowers were less able to repay their loans. Moreover, in a number of countries, credit providers increasingly borrowed the funds they lent in wholesale markets (from money market mutual funds, for example), relying less on traditional deposits from customers. When those markets dried up (especially following the Lehman Brothers bankruptcy in 2008) those lenders faced liquidity risks because they could not refinance expiring debt (Merrouche and Nier, 2010).

If exposures to these sources of risk are *common* or *correlated* across financial institutions, many or all financial intermediaries (such as banks and other lenders) are likely to come under pressure because the value of assets goes down and the cost of replacing lendable funds (liabilities) goes up. That will hurt the ability of the system to provide key financial services, including credit and payments, to the economy.

The failure of an individual institution can create systemic risk when it impairs the ability of other institutions to continue to provide financial services to the economy. Usually only a large institution that is heavily connected to many other institutions can cause such spillovers that its failure threatens systemic stability. These spillovers can occur through one or more of four channels of contagion:

- direct exposure of other financial institutions to the stricken institution;
- fire sales of assets by the stricken institution that cause the value of all similar assets to decline, forcing other institutions to take losses on the assets they hold;
- reliance of other financial institutions on the continued provision of financial services, such as credit, insurance, and payment services, by the stricken institution; and
- increases in funding costs and runs on other institutions in the wake of the failure of the systemic institution (Nier, 2011).

For example, the 2008 Lehman Brothers failure led not only to direct losses at other financial institutions but also to sharp increases in funding costs for all financial institutions because providers of funds were uncertain about where the losses triggered by Lehman Brothers might have occurred, and were therefore wary of lending to any institution.

For macroprudential policy to be able to reduce the expected cost both of aggregate weakness and of disruption through failure of individual systemic institutions it must bring within its purview two sets of firms—systemic institutions and all leveraged credit providers (those that lend borrowed funds).

Systemic institutions include not only large banks, but also those that provide critical payment and insurance services to other financial institutions. For example, American International Group (AIG) essentially provided insurance to other financial institutions by protecting the value of mortgage-related securities held by those institutions. Had AIG been allowed to collapse, this insurance protection would have disappeared, exposing other institutions to large losses.

All leveraged providers of credit, regardless of size, are included in the purview of macroprudential policy because it is their collective weakness that can affect the provision of credit to the economy as a whole (Nier, 2011). Although banks are almost always the most important leveraged providers of credit, in some jurisdictions important classes of nonbank lenders must also be within the scope of macroprudential policy. Otherwise there is a risk that the provision of credit will migrate from banks to less-constrained nonbanks.

Policy in practice

Macroprudential policy must deploy a range of tools to address aggregate weakness and individual failures. Because a single tool is unlikely to be sufficient to address the various sources of systemic risk, the macroprudential authority must be able to tailor specific macroprudential instruments to the particular vulnerabilities identified by its analysis (Lim and others, 2011).

A number of tools are being developed or have recently been used to address the buildup of aggregate risks over time. An important one is the *dynamic capital buffer*. Financial institutions have long been required by regulators to maintain a certain amount of capital (normally equity and retained profits) to enable them to absorb (or buffer) losses on loans or securities. The dynamic buffer—proposed by an international panel of regulators that meets in Basel, Switzerland—would lead macroprudential authorities to require financial institutions to add to their capital when there are signs of unusually strong credit growth or when there are signs of a credit-driven asset price boom. The buildup of the capital buffer has a twofold impact. Because lenders must raise more costly equity funds, the cost of credit should rise and its growth should slow. At the same time, the buffer should increase the resilience of the system, allowing it to better absorb any losses when the boom gives way to bust. That in turn reduces the chance of a costly credit crunch.

The dynamic, or countercyclical, capital buffer is but one of the tools macroprudential authorities can use to target specific vulnerabilities. Many of them have already been used in the past (especially in emerging market economies) to prevent boom-bust credit cycles and include tools to address the interplay between market risks and credit risks—such as maximum loan-to-value ratios for home mortgages—and the buildup of liquidity risks as credit grows strongly—such as measures to discourage an overreliance on volatile wholesale funding:

- *Variation in sectoral risk weights:* Designed to be less blunt than dynamic capital buffers, these force institutions to add capital to cover new loans in sectors that are building up excessive risks. For example, Turkey recently increased requirements for new lending to households to stem high loan growth in this segment.

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- *Dynamic provisions:* These force banks to set aside money to cover loan losses in good times when credit losses are relatively low so that bank balance sheets are better prepared to absorb losses that build during downturns. A dynamic provisioning regime was introduced in Spain in 2000 and more recently in Chile, Colombia, Peru, and Uruguay.

- *Loan-to-value ratios:* Maximum loan-to-value ratios are increasingly being applied to reduce systemic risk from boom-bust episodes in real estate markets. By limiting the loan amount to well below the value of the property, loan-to-value ratios help limit household leverage. They can also put a brake on increases in house prices and reduce the chance of underwater households being driven to default on their loans when the housing cycle turns (IMF, 2011b). They are often complemented by debt-to-income ratios that seek to limit the fraction of household income spent on servicing debt.

- *Measures targeted at foreign currency lending:* If borrowers take out loans in a foreign currency, their ability to repay can be significantly affected if the value of the foreign currency rises and they have not protected themselves against such a swing. The threat of a rise in foreign currency value heightens credit risk for lenders because repayment becomes more expensive for borrowers. Macroprudential measures to reduce these risks include portfolio limits on foreign currency lending and other targeted restrictions, such as requiring more capital and tighter loan-to-value and debt-to-income ratios for foreign currency loans—an approach recently adopted in a number of countries in central and eastern emerging Europe.

- *Liquidity requirements:* When funding is easy to obtain, an increase in required buffers of liquid assets (those that can be easily and quickly converted to cash) provides cash

reserves that can be drawn on when funding dries up. Such a time-varying increase in liquidity requirements can also curb credit expansion fueled by short-term and volatile wholesale funding and reduce dangerous reliance on such funding. New Zealand and Korea recently introduced such measures.

- Authorities also need to be in a position to address the risk of failure of individually systemic financial institutions. Most tools currently under discussion in this regard are designed to reduce the likelihood of failure of institutions that are too important to fail. The Financial Stability Board, an international body of regulators set up in 2009, recently announced that a number of financial institutions important to the world economy—mainly banks and large investment banks with worldwide operations—will be subject to additional capital requirements in amounts related to the level of risk the institutions pose to the global financial system. While these additional capital requirements will help restrain the growth of such institutions and better prepare them to absorb losses, additional tools to ease the impact of failure of individual systemic institutions would also help. For example, there would seem to be a strong case for requiring institutions to maintain more capital when they are exposed to large systemic institutions, because it is those exposures that transmit the effects of a large institution's failure. Requiring greater transparency of exposures, including those between financial institutions in markets for derivatives, is another potentially powerful tool to reduce uncertainty and, in turn, the marketwide impact of the failure of individually systemic financial institutions. It was such uncertainties that contributed to the freeze-up of financial markets following the Lehman collapse.

Effective macroprudential policies

Because macroprudential policy is at an early stage of implementation, it faces three crucial issues before it can become fully effective:

- building—or refining—its institutional underpinnings;
- designing an analytical framework to effectively monitor and assess systemic risks, so as to guide the appropriate policy action; and
- establishing international cooperation.

Institutional underpinnings: While the design of institutional foundations for macroprudential policies should take into account country-specific circumstances and differences in institutional starting points, some general goals are likely to be relevant for all countries. The arrangements should foster effective identification of developing risks; provide strong incentives to take timely and effective action to counter those risks; and facilitate coordination across policies that affect systemic risk (Nier and others, 2011).

To achieve these goals, the setup should avoid complex and excessively fragmented structures. If there are many players, institutional silos and rivalries can hinder risk identification and mitigation of systemic risk, undermining the effectiveness of macroprudential policies. Moreover, to create strong incentives to act, the framework should identify a leading authority, vested with a clear mandate and

commensurate powers, so that it can be held accountable for achieving its objectives.

The independent central bank should play an important role in all arrangements. Not only do central banks have expertise in risk assessment, but as lenders of last resort to institutions facing liquidity problems, central banks are motivated to take timely action to reduce the buildup of risks. Moreover, a strong role for the central bank allows coordination with monetary policy, which sets the overall conditions that affect the demand for and supply of credit. Participation by the government is useful to ensure the support of tax policy and to facilitate legislative changes that may be needed to enable the authorities to mitigate systemic risk, such as the creation of regulatory authority over non-bank lenders and other systemic institutions. But because of the political nature of government, a strong role can pose risks because governments have incentives to oppose taking macroprudential measures in good times, when they are often most needed.

Measuring systemic risk: How to establish an analytical framework that is effective in identifying systemic risks at an early stage and that encourages the macroprudential authority to take timely and appropriate action is a major issue as well. Attempts have been made to develop a single measure of overall systemic risk that could trigger the use of macroprudential instruments. But as attractive as such a statistic would be—because it could be easily communicated and used to gauge the effectiveness of policy actions—finding one has proved impossible so far.

Instead policymakers are moving toward employing a set of indicators (IMF, 2011c). This approach recognizes that systemic risk has more than one dimension. More pieces of information also help policymakers identify which tool or combination of tools would be most effective in addressing potential problems. For example, to capture aggregate risk, the macroprudential authority must monitor overall credit, liquidity, and market risks, as well as any concentrations of those risks in a particular sector, such as housing or consumer credit. It should then analyze those risks to decide which policy tool is most effective to address them.

The international dimension: Because national financial systems are interconnected globally and financial services are provided across national borders, macroprudential policies must be coordinated among countries. International coordination is necessary because credit booms and asset bubbles can be fed by credit provided from abroad. Coordination also limits the potential for international systemic institutions to move operations to the least restrictive jurisdictions, thereby playing one country against another.

Coordination can be facilitated by common tools and international agreement on the “reciprocal” use of such tools. A good example is the dynamic capital buffer established under the auspices of the Financial Stability Board. But what happens when countries find they need to employ tools for which there are no reciprocity standards? This is unclear and should be the focus of international talks as the global financial system evolves.

No panacea

Even the best macroprudential policies cannot prevent all financial crises. As a result, there is a need for a strong and flexible lender of last resort—typically a central bank—to ease temporary shortages in liquidity and for credible policies to resolve or close failing financial institutions. Moreover, macroprudential policy does not operate in a vacuum. Sound monetary, taxing, and spending policies are essential to creating a stable environment conducive to a healthy financial system.

Finally, policymakers should be mindful that macroprudential policy, like any public policy, is not free of costs and that there may be trade-offs between the stability and the efficiency of financial systems. For instance, when requiring financial institutions to maintain a high level of capital and liquidity, policymakers may enhance the stability of the system, but they also are employing measures that make credit more expensive and thus may reduce economic growth. Balancing benefits and costs will often require difficult judgments. ■

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