

Finance doesn't need to be complex, and it can actually be helpful: an elderly man views stock prices at the Shanghai stock exchange.



# The role of the financial system in managing risk

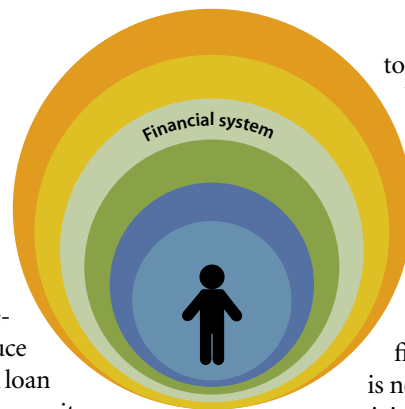
*More financial tools, fewer financial crises*

## The financial system can fulfill a socially beneficial function of risk management

In 1990, after the Velvet Revolution ushered in an era of reform in the Czech Republic, Jan Sarkis, the son of a Greek immigrant, decided to start a business to produce bottled juices. He took out a bank loan and, on the advice of his local community, bought flood insurance and put his savings in a bank to protect against local theft. When banks plunged into a crisis in 1997, Jan's loan repayments spiked; then his savings were frozen for 14 months because his bank went bankrupt. A one-in-one-hundred-year-flood in 2002 swept away his business, but, fortunately, his insurance settlement covered a majority of the losses. The twin experiences left Jan with mixed feelings about the financial system.

In 2006, the Czech National Bank, a credible public institution, became the integrated supervisor of financial services, and confidence in the Czech financial system rose. An entrepreneurial risk taker, Jan took out another credit line and consolidated his savings in one bank account for greater efficiency. Two years later, the global financial crisis hit. Thanks to conservative supervision, the Czech banking system was well prepared. But the Czech koruna depreciated, pushing up the price of imported goods, including drinks.

Jan took a big risk, using his credit line to introduce a new sparkling drink. It was a success! Mindful of past shocks and possible future ones, Jan decided



to protect his wealth by spreading his business risks and opportunities and taking his company public. The initial public offering on the regional Warsaw Stock Exchange was well subscribed, and he was able to diversify his wealth by buying stocks and bonds of other companies. Because of his wise decisions, and the financial system to support them, Jan is now a wealthy, respected man, focused on giving back to the community.<sup>1</sup>

As the ups and downs of Jan Sarkis's story illustrate, the financial system can help people manage risk by providing them with useful financial tools, protecting them from bad shocks, and better positioning them to take advantage of opportunities. Banks, insurance companies, brokerage houses, stock exchanges, other financial institutions, and the financial infrastructure (such as payment systems) that form the financial system can collectively fulfill this socially beneficial function of providing financial services and helping society manage risks. They can do so by offering people market insurance (such as disaster or life insurance), self-insurance (saving deposits), and self-protection (safe and efficient payments). People, including the poor, need not just credit but a range of financial tools to manage risk and pursue opportunity effectively and responsibly. However, the financial system can also hurt people if it fails to manage the risk it retains. It can generate bad shocks that affect people directly by hindering access to finance or indirectly by hampering refinancing of enterprises, straining public finances, and leading to loss of jobs, income, and wealth.

Public policy thus has two important roles, both of which help people manage risk. It can encourage the financial system to broaden the share of people with access to financial services (financial inclusion), giving more people more and better financial risk management tools. It can also encourage the financial system to better control systemic financial risk. Public policy should be selective, using direct interventions (such as subsidies and guarantees) sparingly to avoid distorting incentives in the financial market. It should focus on providing adequate financial infrastructure (payment systems, credit history information) and on implementing enabling regulation to promote greater competition and use of diverse financial tools by people. At the same time, the state needs to implement supervision of systemic risk in the financial sector that is prudent but promotes development in the sector. Specific recommendations to achieve these ends are discussed throughout the chapter.<sup>2</sup>

This chapter focuses on the risk-managing function of the formal financial system, whereas chapters 3 and 4, and, to some extent, chapter 5 address informal financial arrangements. The formal financial system can be defined in various ways. Here, the formal financial system is defined as consisting of firms whose primary business activity is financial activity. The system thus ranges from banks and insurance companies to microcredit and microinsurance firms. Financial systems perform several interconnected functions, including reallocating resources from savers to investors; monitoring managers and exerting corporate control; and facilitating trading, hedging, diversifying, and pooling of risk; this chapter concentrates on the risk management function.<sup>3</sup> Given the Report's focus on people, this chapter particularly examines the tension between financial inclusion and financial stability. Broader trade-offs between financial development and stability are discussed later in the context of institutional reforms to improve the formulation of financial sector policy.

### For good risk management, people need a range of financial tools

#### *Different financial tools serve different purposes*

The financial system supports risk management by offering various financial tools to people and their support systems (households, the community, enterprises, the state, and even the international community).<sup>4</sup> With these tools, people can smooth

consumption, finance their own or their children's education, deal with health and income shocks, improve nutrition, and plan for a better future, among other socially useful activities. In this way, the financial system can advance overall development and help create an environment of equal opportunity and a level playing field, including for the poor. Different types of financial risk-managing tools are designed to achieve different outcomes:

- *Payment and foreign exchange services* increase the security and ease of domestic transactions and international remittances, thus helping people self-protect.
- *Saving instruments* (bank deposits and liquid securities) help people smooth consumption and accumulate buffers for rainy days, thus providing self-insurance. Sometimes, savings can be a vehicle to finance unusually large expenses (investment) and to self-protect.
- *Credit* (such as education loans) helps people and their support systems alleviate financing constraints over time and exploit opportunities with greater flexibility and resilience, thus improving people's ability to self-protect. Access to credit in bad times, including credit they have lined up in advance to tap in event of shocks (contingent debt), can help people and support systems cope better.
- *Market insurance*, including hedging instruments, helps people and their support systems insure against the consequences of extreme adverse events such as death, impaired health or injury, or loss of income or wealth. The state can also benefit from market insurance against extreme losses.
- *Debt and equity investments* help people diversify wealth into a robust portfolio of instruments according to their risk preference, thus facilitating self-protection—and, if liquid, self-insurance, as well.
- *Risk-taking capital* (such as private equity or venture funds) enables firms, from small ones to international corporations, to take informed risks and innovate, including through innovation-driven start-ups and firm expansion.
- *Public trading of assets* (commodities, securities, financial derivatives) provides a mechanism for discovering and determining prices that match demand and supply. People then use this information to make decisions about their consumption and

saving, business opportunities, portfolio allocation, and strategic management of risks.

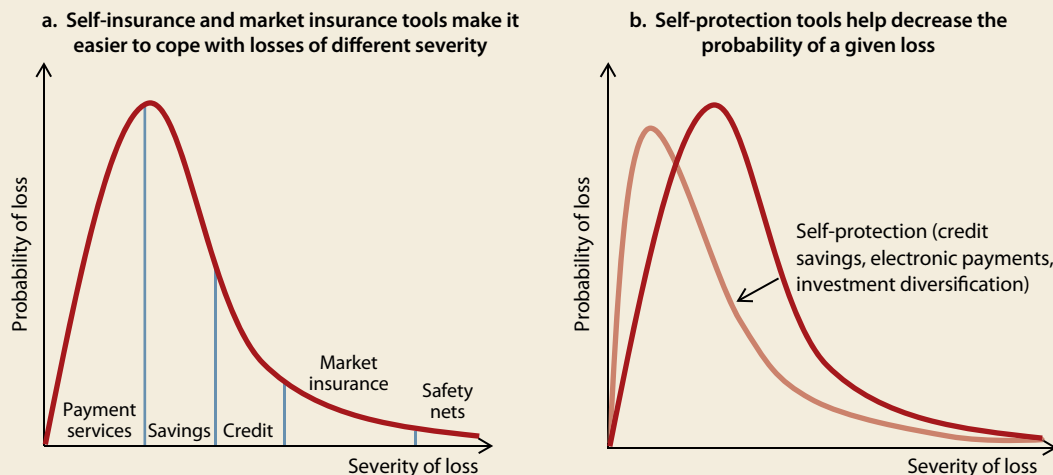
- *Risk pricing* information embedded in interest rates, insurance premiums, and other financial prices is provided by the financial system, thanks to its comparative advantage in this area. The financial sector “puts a price tag” on risk and thus helps the users of financial tools understand the cost and benefits of different strategies for managing their risks.

Each financial tool can manage only certain risks efficiently, based on their frequency, intensity, and impact. Self-insurance and market insurance help in coping with losses. Deposit accounts and electronic payment methods can make payment of current (expected) expenditures more efficient and secure. Remittances can also be securely and efficiently transferred to their receivers using electronic payments and foreign exchange services (box 6.1). When expenditures jump unexpectedly in the wake of a bad shock, the first wave of losses can be efficiently coped with by tapping saving deposits and liquid financial investments,

Because people face multiple risks, they must employ a range of tools for their financial strategies to be effective and reliable.

which act as a self-insurance buffer (diagram 6.1a). Using savings to self-insure against larger, less probable losses can be inefficient, however. Ideally, those types of losses can be insured efficiently through credit, but only if people and their support systems have access to credit in bad times or can arrange for a loan that they can rely on when bad times come (contingent debt). Even credit can be too expensive a financial tool to prepare for one-in-one-hundred-year events, however. For these events and losses, market insurance is the most efficient financial tool. And even market insurers are unable to efficiently price, retain, and manage losses from extreme unexpected events, whose impact is hard to predict; in those cases, social safety nets and other solidarity schemes can offer support. In their risk management strategy, enterprises can use risk-taking capital for losses larger than those efficiently covered by contingent credit and smaller than those efficiently covered by market insurance. Another type of hybrid financial tool is provided by religion-based (Islamic) finance. Islamic banking products such as partnership loans (under *mudaraba* or *musharaka*

**DIAGRAM 6.1** *Combining financial tools improves preparation for losses of different probability and severity*



Source: WDR 2014 team.

Note: The diagrams depict a stylized loss distribution with fitted financial tools according to their efficiency to insure and protect against possible losses (risk) of varying frequency and intensity. The personal loss distribution function (dark red line in panels a and b) improves (shifts down and to the left) when people use financial self-protection (light red line in panel b).

### BOX 6.1 *Better than cash: Electronic payments reduce risk and costs*

Cash may still be king at times, but compared with electronic payments, cash payments are inefficient, can carry significant handling and transportation costs, and run the risks of theft, loss, and counterfeiting. The use of cash also perpetuates the shadow economy by allowing business transactions and sales to stay off official books of accounts. Greater use of electronic payments, rather than cash, could save Brazil 0.7 percent of its gross domestic product (GDP) a year,<sup>a</sup> and India as much as 1.6 percent of GDP.<sup>b</sup>

Individuals and small firms using electronic payments benefit from convenient online authorizations, easier record keeping, and the availability of dispute resolution mechanisms. By promoting electronic payment, government policies have drastically reduced the risk of crime and have enabled beneficiaries to keep up with their financial obligations without delay. Importantly, electronic payment instruments must be linked to a deposit account either at a deposit-taking institution (bank) or in the form of e-money that can be used by banks, other financial firms, or mobile network operators. For the financially unserved and underserved, electronic payments are usually the first contact with formal financial services. In Pakistan, for example, more than 1.8 million branchless banking accounts process more than 10.4 million transactions monthly.<sup>c</sup>

Electronic transfers and payments of remittances offer significant benefits not only to migrants and their families but also to receiving countries. Remittances from 192 million international migrants (3 percent of the world's population) totaled \$501 billion in 2011, of which \$372 billion went to developing countries. Branchless banking and banking partnerships with mobile operators can

extend remittance services to millions of people who were previously unbanked in remote, rural areas. For example, in the Philippines, "G-Cash" and "SMART Money" serve the Filipino diaspora by providing remittances over their mobile money platforms.<sup>d</sup>

Electronic payments, however, involve some risks that can dampen consumer confidence: the risk of fraud, the risk that the payment product issuer will go bankrupt, and the risk that records of the customer's account will be corrupted or destroyed because of problems with the issuer's operating system. For payment products linked to bank accounts, the second and third risks can be mitigated by prudential and operational requirements for the bank, as well as by deposit insurance. Such arrangements may not cover non-bank issuers, but other mechanisms to mitigate these risks can be enforced. The industry actively manages security risks, and targeted consumer protection measures are being implemented.

Electronic payments can help manage fraud and leakage risks in government payment programs and ultimately improve transparency and accountability. For example, in Saudi Arabia, the implementation in 2002 of the SADAD payment system, an electronic bill payments and settlement platform, saves the government 10–15 percent of annual revenues previously lost to human error, fraud, and delay. In Brazil, a corporate card payment program (Cartão de Pagamento do Governo Federal) has replaced the use of cash and checks for low-value procurement that is not subject to a bidding process; it has allowed agencies and cardholders to track expenses, while a government website openly discloses the value of transactions, date, and type of merchants.

Source: Maria Teresa Chimienti for the WDR 2014.

a. Central Bank of Brazil, "Efficiency and Costs on Retail Payment Instruments Usage," [http://www.forodepagos.org/pdf/Custo\\_Eficiencia\\_English.pdf](http://www.forodepagos.org/pdf/Custo_Eficiencia_English.pdf).

b. Ehrbeck and others 2010.

c. Consultative Group to Assist the Poor (CGAP), "An Overview of the G2P Payments Sector in Pakistan," <http://www.cgap.org/publications/overview-g2p-payments-sector-pakistan>.

d. See CGAP website, <http://www.cgap.org/topics/paymentsremittances>, for more information on payments and remittances.

contracts) can offer entrepreneurs profit-loss risk-sharing qualities.<sup>5</sup>

Other financial tools decrease the chance and size of loss by enabling people to self-protect (diagram 6.1b). Education loans provide access to better education and thus can help decrease the chance of being unemployed. Housing loans ease access to better housing and associated infrastructure, such as sanitation, that can decrease the risk of water-borne diseases and pandemics (box 6.2). Saving deposits can be used to accumulate funds for large, infrequent investments that increase people's protection against risks (such as a pump that cleans water). Similarly, a greater variety of investment securities (stocks, bonds), issued by various companies and funds with varying risk characteristics, can help people diversify their assets and protect against loss of income and wealth. Investment deposits of Islamic banks, which finance partnership loans to entrepreneurs, offer

diversification possibilities for investors analogous to limited-duration equity investment.<sup>6</sup>

Because people face risks of varying frequency and intensity, a diversified financial risk management strategy that uses a range of financial tools is more effective than a strategy that uses only one or too few tools. Moreover, a diversified financial strategy will be more reliable because it provides a variety of backups and ways to spread the financial market risk that underlies any financial strategy. A mix of financial tools helps people increase resilience, because in real life, they do not manage each risk in isolation but different risks at the same time (chapter 1, table 1.1). Moreover, these risks are more or less either idiosyncratic or systemic in nature. To prepare for a large idiosyncratic risk (such as long-term illness), market insurance (such as health insurance) can be the most efficient financial risk management tool to use. Market insurance might be a bad tool for

### **BOX 6.2** *Housing finance can improve household resilience and opportunities*

A house can be a lifelong investment. Housing finance allows individuals to acquire property at an early age and spread repayments over time, as their income rises. Without proper financing, the alternative is to spend years saving while living in unsatisfactory conditions, or building housing little by little at a higher cost. In old age, home ownership provides security and resilience when income is lower and would not easily cover rent payments.

Housing finance can bring economic opportunity to households. By expanding access to secured credit collateralized by housing, housing finance can release family wealth for other diversified investments, unlocking the power of so-called “dead capital.”<sup>a</sup> A properly functioning titling system and housing finance products can thus play a role in creating economic opportunity.

Housing finance improves people’s resilience and helps them avoid poverty traps. To obtain a mortgage, households usually need to accumulate significant savings for the down payment. This “forced” saving alone can contribute substantially to a household’s resilience.<sup>b</sup> Through housing finance products, people have access to better housing with better sanitary conditions, thus improving their resilience to disease. Having utility connections, sanitation,

a waterproofed dwelling, and warmth or shade can all improve health conditions, especially among the more vulnerable young and elderly. Simple improvements like having a concrete floor can reduce mosquito breeding grounds and thus lead to lower levels of malaria. The availability of high-quality affordable homes enables families to spend a greater share of their household income on nutritious food, health care, and other essentials that promote good health. Greater residential stability also reduces the stress and disruption associated with frequent or unwanted moves and provides a stable base for individuals with chronic illnesses and other conditions to receive needed care.<sup>c</sup>

Improved housing contributes to safer and more resilient communities. In Honduras, for instance, criminal gangs are widespread, and lower-income communities are by far the most affected by the criminal activity. Improved housing through higher investment has helped reduce criminal activity and antisocial behavior. Effective housing projects have the power to change socioeconomic classification. Such projects have helped very low-income communities to achieve lower-middle income status and good educational levels, and otherwise marginal communities to enjoy higher security in Honduras.<sup>d</sup>

Source: Simon C. Walley for the WDR 2014.

a. De Soto 2000.

b. Collins and others 2009, 179.

c. Cohen 2007.

d. RTI International 2005.

protecting against a systemic risk (such as financial crisis) because it may fail if many insurance companies go bankrupt. At the individual level, people can prepare and cope better with systemic shocks by increasing their self-reliance (self-insurance and self-protection), including by using a range of suitable financial tools.

#### ***Some financial systems are better than others at offering access to variety***

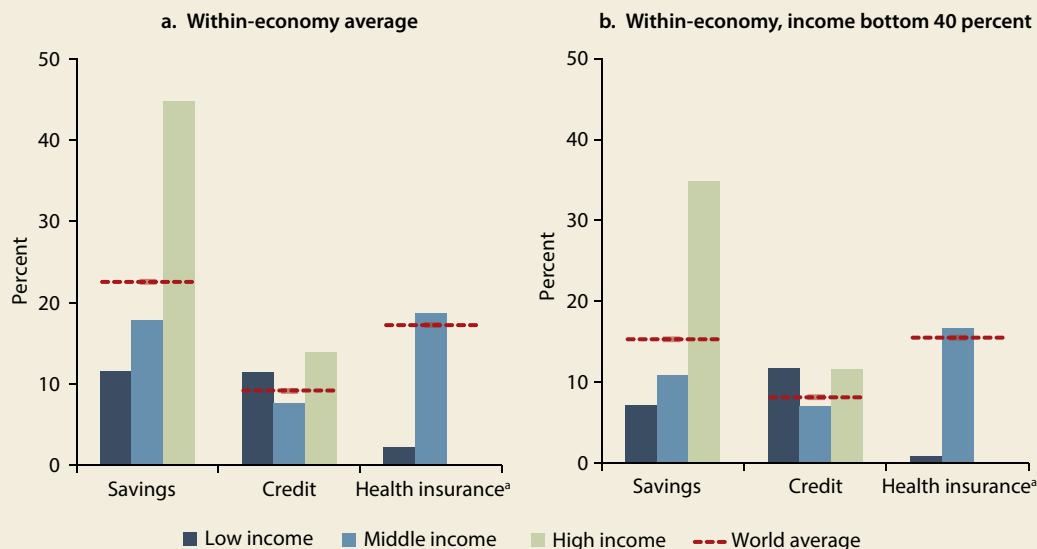
The range of financial tools supplied by the formal financial system varies considerably with the stage of development and personal income within a country. On average, people in high-income countries save through bank deposits much more than people in middle- and low-income countries (figure 6.1a). Even the poorest 40 percent of people in high-income countries (figure 6.1b) are much more likely to use formal saving deposits than people in middle-income and low-income countries. Formal credit is commonly used in high- and low-income countries; people in middle-income countries use credit much less. The use of private health insurance across middle- and low-income countries differs greatly, both on average and for the poorest 40 percent.

Savings is the most frequently used financial tool around the world, followed by insurance and credit. This pattern, however, may reflect various obstacles to implementing better financial risk-managing strategies, on both the supply and demand side.

#### **Supply-side factors that influence access**

In theory, it should not matter whether the financial instruments are provided by banks, microfinance firms, insurance companies, or capital markets as long as people have access to the range of financial tools they need.<sup>7</sup> In practice, however, the institutional form does matter because each financial firm is licensed to provide only a specific range of financial tools, even though several institutions can be integrated under one financial group or holding company. At lower levels of financial development, financial systems tend to be concentrated in banking; at higher levels of development, there is greater diversification into capital markets, insurance companies, and mutual funds (figure 6.2). Thus having a financial system heavily concentrated in banks may constrain the provision of insurance. Similarly, the absence of capital markets, mutual funds, or brokerage houses can constrain people’s options to diversify wealth.

**FIGURE 6.1** *The range of formal financial tools used by individuals varies by country and income*

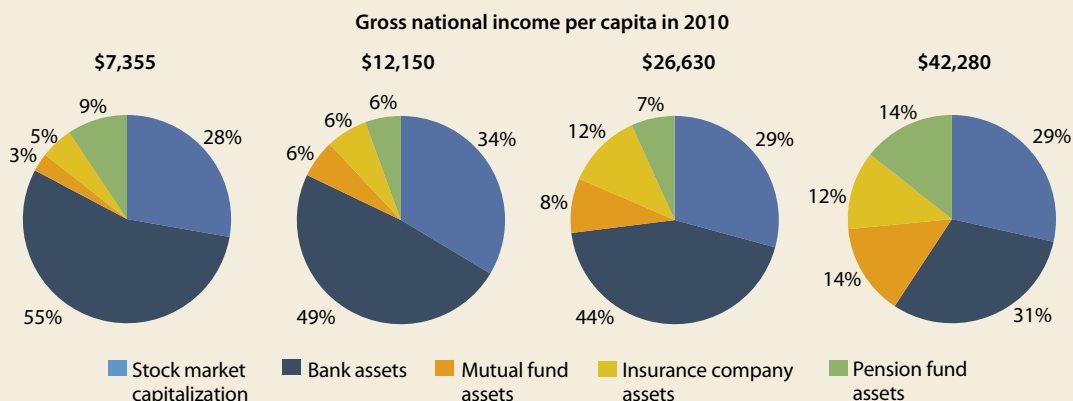


Source: WDR 2014 team based on data from World Bank Global Findex (database); Demirgüç-Kunt and Klapper 2012.

Note: The figure measures the percentage of adults using formal financial risk-management tools.

a. Data on self-paid health insurance were not available for high-income countries.

**FIGURE 6.2** *As financial systems deepen, they diversify their institutional structure*



Source: WDR 2014 team based on data from World Bank Global Financial Development Database.

Note: Size of financial system calculated for 56 countries (6 lower-middle-income, 20 upper-middle-income, and 30 high-income countries) as the sum of bank assets, stock market capitalization, mutual fund assets, insurance company assets, and pension fund assets.

Financial firms themselves may be constrained in risk management by not having access to needed financial infrastructure (electronic payment systems, credit information) or hedging tools (such as cross-currency or interest rate swaps). That, in turn, could limit their ability to offer a wider range of better fi-

ancial tools to people and their support systems, and to efficiently absorb more risk. Likewise, private firms may lack the capacity to assess and price certain risks (such as major natural catastrophes, terrorism, and epidemics) and thus focus on providing financial tools only for better-understood risks.

### BOX 6.3 Innovative insurance mechanisms in Mongolia and Mexico

#### Insuring against livestock mortality in Mongolia

Forty percent of Mongolia's workforce is engaged in agriculture, mainly in herding. Harsh climatic conditions periodically lead to catastrophic losses of livestock, posing a systemic risk to herders' livelihoods and to Mongolia's economy. In 2006, the government of Mongolia introduced an index-based livestock insurance project (IBLIP) to provide livestock mortality insurance to herders and increase the financial resilience of Mongolia's herders and its economy. When, in 2010, for example, a devastating winter killed nearly 22 percent of Mongolia's livestock, the IBLIP provided \$1.42 million in indemnity payments to 4,706 of the 5,628 covered herders.

The insurance program uses an index based on the average mortality of adult livestock in each of Mongolia's counties to determine payouts. The IBLIP has proven to be an effective tool for segmenting risk among herders, the domestic private insurance sector, the government, and the international reinsurance market. It ensures that each risk layer is effectively financed by the most appropriate stakeholder. Participating herders retain livestock mortality risk of up to 6 percent. From 6 to 30 percent, a commercial insurance product transfers this risk to a domestic pool of private insurers. Above 30 percent, the government finances a social safety net product. Herders who purchase the commercial insurance product are automatically registered for the social safety net product at no additional cost. The government also ring-fences its fiscal exposure to extreme livestock losses by ensuring that its liability is triggered only in the most extreme years, during which safety nets are required. Finally, by tapping international reinsurers, the IBLIP also facilitates the transfer of livestock mortality risk out of the country.

#### Financing postdisaster expenditures in Mexico

Mexico is exposed to earthquakes, hurricanes, floods, and a wide variety of other geological and hydrometeorological phenomena. Postdisaster recovery and reconstruction costs can jump because of

delays in funding or the reallocation of budgets intended for development purposes. In 1996, the government of Mexico established the Fund for Natural Disasters (FONDEN) to provide adequate financial resources for federal and state postdisaster reconstruction efforts without compromising government spending already committed. It has evolved significantly to include broader disaster risk management activities, such as funding risk assessment and risk reduction and rebuilding infrastructure to higher standards.

FONDEN, which supports an integrated risk financing strategy for the government's contingent liabilities from disasters, has three key features. The first is a risk assessment profile. The government has a well-defined loss-reporting mechanism that provides accurate information about expenditures from past events. To support evidence-based public decision making about disaster risk management, the government has invested in exposure data and an in-house probabilistic risk model. The second key feature is clarification of contingent liability. FONDEN rules and guidelines clarify how total authorized resources will be determined for rapid reconstruction of public infrastructure, low-income housing, and eligible natural environment assets, as well as how the liability will be split among federal and state governments. The third feature is risk financing. FONDEN's integrated disaster risk financing strategy relies on a combination of risk retention instruments (self-funding, exceptional budget allocation) to finance recurrent expenditures, and risk transfer instruments to provide additional financing for immediate response (catastrophe bonds) and longer-term reconstruction (reinsurance of excessive losses) after major disasters.

The federal and state governments spent \$1.46 billion a year on disaster response from 1999 to 2011, two-thirds of which was financed through FONDEN. The system is continuously evolving to integrate lessons learned from experience and to incorporate new budgetary tools and technology to make FONDEN more effective and efficient.

Source: Laura E. Boudreau, Daniel J. Clarke, and Olivier Mahul for the WDR 2014.

When firms offer a financial product to manage a risk they do not fully understand, they often misprice the product, jeopardizing their own stability and, if failing to pay out claims, damaging customer confidence as a result. For example, a private retirement insurance product in the Philippines was initially so underpriced that the offerer nearly went bankrupt.

In a competitive environment possibly enhanced by new entry of foreign firms, the financial industry can increase the share of people using financial services through responsible actions that account for risk.<sup>8</sup> Overall, the best way for financial firms to help advance financial inclusion is to offer simple, readily accessible, and reliable financial tools. For example, Kenya's M-PESA and M-KESHO projects have greatly broadened the use of electronic payments and mobile savings, and South Africa's Mzansi accounts are now used by one in six South Africans who use

banks.<sup>9</sup> The delivery of other financial tools, such as insurance and capital market investments, needs to include clear and thorough communication between the seller and the client to ensure that the seller understands the expectations (risk management needs) of the client and that the client is aware of the properties of the financial tool. For instance, clearly explaining to a buyer of insurance the risk that the insurance may not cover the complete insured loss (basis risk) is crucial for increasing take-up and renewal.<sup>10</sup> To provide financial tools that offer more complete solutions for risk management, financial firms should also innovate through partnerships with the state, including in the area of insurance (boxes 6.3 and 6.4).

The large size of the financially underserved population worldwide indicates that microfinance institutions (microcredit, microsavings, microinsurance) can play an important role. There have been waves of



### BOX 6.4 *Private pension insurance to confront the risk of income loss in old age*

Some 700 million people worldwide are over 60 years of age—a number that is expected to increase to 1.6 billion within the next 40 years. A majority of these people live in developing countries, where there are few government income programs to support them in their old age. The governments of advanced economies have various types of public income support programs for people who have not provided adequately for their retirement. But a rising elderly population and a shrinking working population are threatening the fiscal viability of these programs at their existing levels. Issues of viability aside, developing countries have very few such arrangements because their governments lack the capacity to finance and administer them.

In the absence of government support, income for the aged traditionally comes through the family and social networks, but these are breaking down. Decreases in birth rates are resulting in smaller families, and rapid urbanization is building a distance between the aged and their families and social networks. Increasingly, developing countries are turning to private pension systems to fill the vacuum.

Providing formal income support to the aged poses many challenges for policy makers and private providers alike, including making people aware of the need and motivating them to save for old age, establishing trust in the institutions that can provide support, and developing cost-effective distribution systems. These challenges have been addressed effectively in some of the very few private sector programs that have been implemented over the past two decades:

- Early unsuccessful attempts by CARD, a nongovernmental organization in the Philippines, illustrate the importance of planning and pricing retirement income products. In 1996, CARD introduced a product that provided members with ₱300 (\$5.45) a month from their 65th birthday until death, in return for premiums of ₱2.50 (\$0.05) a week paid from the date of membership until retirement. This product was extremely popular. CARD, however, had not ad-

equately assessed the impact of this product on the financial conditions of its institution. A later assessment showed that two years of premiums would cover just one month of benefits, a situation that threatened the capital of the entire institution, which also sold other insurance products. In 1999, the retirement income activities were separated from the institution and converted into a defined contribution scheme, with a significant loss to the original contributors.

- In 2001, Grameen Bank in Bangladesh introduced the Grameen Pension Scheme. The scheme attaches a mandatory retirement savings product to its loan products and requires borrowers to contribute a minimum of Tk 50 a month. Prospective borrowers are thus instructed in the need to save for old age. The bank generously subsidizes the earnings on the contributions—doubling the amounts contributed by individuals who make regular contributions. In turn, the bank benefits from the pension fund, which increases the pool of funds available to the bank to pursue its main business activity of providing microloans.
- The National Jua Kali Pension Scheme in Kenya is a voluntary pension savings program developed in 2011 by the National Federation of Kenya Jua Kali Associations and the Retirement Benefits Authority. In the first 12 months of operation, it attracted 25,000 members. By June 2012, the quarterly contribution flows exceeded K Sh 7 million (\$82,000). The key features that have contributed to the early success of the scheme are strong endorsement by the supervisor and the well-respected trade organization, low distribution costs (access is only through mobile phone), and an investment manager that is prepared to subsidize fund management costs.

The success of any private pension initiative will require a sound legal and regulatory framework, strong and capable supervisors, good corporate governance, prudent investment practices, and cost-effective administration and distribution systems.

Source: Anthony Randle for the WDR 2014.

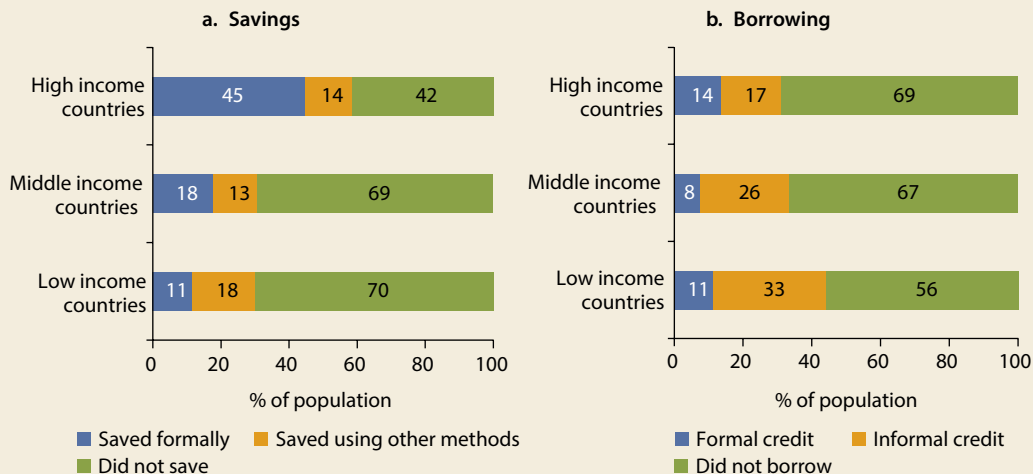
euphoria and criticism concerning microcredit and, more recently, microinsurance. Microfinance needs to assume a more realistic role in financial inclusion, taking into account business sustainability. Good examples exist in this respect, and it is time for others to follow. Procredit, established in 1996, is the first multinational microfinance bank; as of 2008, it was operating in 26 countries with 17,000 employees and \$6 billion in assets. It enjoys an investment-grade rating that enables it to raise long-term finance in the German bond market, in addition to mobilizing and providing access to saving deposits locally. In developing countries, microinsurance firms, requiring an insurance premium as low as 50 cents, insure anything from television sets to burial costs. The world's largest comprehensive contributory social security

scheme for workers in the informal economy is India's Integrated Social Security Programme, which insures more than 100,000 women workers and covers health insurance (including a maternity component), life insurance, and asset insurance. As many credit and insurance markets in advanced economies become saturated, multinational financial institutions (banks and insurance companies) are looking for sustainable growth opportunities; these include microfinance, which is increasingly becoming a mainstream activity in emerging markets.<sup>11</sup>

#### **Demand-side factors that influence access**

The large share of people who use only informal financial tools (savings, loans, insurance) or no financial tools at all reveals a great pool of potential clients

**FIGURE 6.3** *The shares of formal and informal saving and borrowing change as countries develop*



Source: WDR 2014 team based on data from World Bank Global Findex (database); Demirgüç-Kunt and Klapper 2012.

Note: The figure shows the percentage of adults saving or borrowing any money in the past year.

that could be commercially viable for the formal financial sector. For credit, it is probably not desirable to include everybody—not everyone is creditworthy or can handle credit responsibly—but a prudential limit may not exist for deposits and insurance.<sup>12</sup> More people use formal financial tools, such as savings and credit, as their countries develop and their average income rises (figure 6.3). However, even the poor use formal saving deposits that enable them to make investments and better plan how to break out of poverty. As countries develop, informal saving arrangements continue to coexist with formal ones. Informal saving and borrowing arrangements apparently have certain features that formal financial tools cannot provide. Completely replacing informal financial tools with formal ones may thus be neither feasible nor desirable.

People may not use formal financial tools for several reasons. The main reasons people give for not using a formal savings account are that “they do not have money to use it” (66 percent); “someone else in the family already has an account,” which suggests there are indirect users (23 percent); “bank accounts are too expensive” (24 percent); and “banks are too far away” (20 percent).<sup>13</sup> Lack of necessary documentation (17 percent) and mistrust in banks (13 percent) also discourage people from using bank

accounts and may keep some from using banks altogether. People also might prefer to stay in the informal sector (for example, refusing to use electronic payments), or they do not understand the benefit of using financial tools for risk management. In addition, low financial literacy often leads people to join Ponzi schemes, which frequently emerge and collapse in many developing countries (such as Albania, Nigeria, or the Philippines) and which may have damaged consumer confidence in any saving arrangements, including formal ones.

People are not the only ones to blame for the deficient use of financial tools. Bad corporate governance of financial firms contributes to low financial inclusion. Distorted incentives that focus on maximizing short-term profits are a particular problem: it takes time, effort, and up-front investment to broaden a client base and the range of financial tools. Many financial firms have not taken client needs sufficiently into account, including their risk profile and risk management goals, in designing and delivering financial tools. In Mexico, low-income consumers found greater price transparency at pawn shops than at microfinance institutions; they also trusted department stores to hold their savings more than they trusted banks. “They [department stores] don’t give us anything, but at least they don’t take any-

thing away,” some consumers noted, in reference to the various fees and hidden charges banks levied on their savings accounts. One consumer reported that “dormancy” and other charges had reduced the value of her bank savings account from 15,000 Mexican pesos to 9,000 over three years.<sup>14</sup>

### ***Public policy can help broaden the use of financial tools***

Experience teaches that direct policy interventions in the financial sector can have unintended consequences and distort proper incentives, especially with regard to shared responsibility for risk management. Prime examples of possibly distortive interventions include credit subsidies and guarantees.<sup>15</sup> Political capture and lobbying have often led to misallocation of credit within the economy, and poorly designed financial literacy programs have often failed to deliver desired results, become quickly obsolete, or built up false confidence of consumers in their financial skills.<sup>16</sup> Many small developing economies lack adequate financial infrastructure, which cannot be viably developed by the private sector because of the small scale of the market. Thus the infrastructure must be developed with the participation of the state, possibly through private-public partnerships, to enable greater financial inclusion and development.<sup>17</sup> Even where access to financial services exists, sound financial inclusion may be endangered by a lack of consumer protection regarding delivery of the services.<sup>18</sup>

What can public policy do to broaden the availability and use of financial tools to manage risk? Lessons from experience, as well as the conceptual framework of this Report, suggest the following:

#### *Minimize unintended consequences of policy interventions.*

- Direct public interventions should be implemented sparingly and be carefully designed to avoid distorting incentives and undermining risk management efforts of the financial firms and their clients. In some cases, subsidies and public guarantees could be useful to encourage take-up of private insurance, thereby shifting some of the government’s contingent liabilities to private insurers: possibilities include agricultural, health, or pension insurance (see box 6.3).
- The state should implement well-designed and well-targeted financial education programs to ensure the cost-effectiveness of its intervention and avoid unintended results. To overcome these

problems, the state should consider incorporating financial examples in regular public education curricula and partnering with the private sector to ensure proper design, implementation, and continuity of financial education programs.<sup>19</sup>

#### *Help overcome obstacles to introducing useful, innovative financial instruments.*

- Other direct interventions may be desirable. The state can help viable innovative financial products achieve scale and increase financial inclusion by, for example, introducing government-to-person (G2P) payments (as in India’s NREGA G2P program),<sup>20</sup> making car or mortgage insurance mandatory, or requiring that large transactions or tax-deductible expenses be made with electronic payments. In seeking the best solutions to advance financial inclusion, the state should consider partnering with the private sector (see boxes 6.3 and 6.4).
- Improving infrastructure is particularly important for payment and security settlement systems, credit information infrastructure (public credit registries and credit bureaus), and collateral frameworks (registries of movable and immovable collateral, collateral appraisal, execution and sale). In providing financial infrastructure, the state should partner with the private sector as much as possible to improve governance of the infrastructure providers, ensure timely upgrades of technology, and encourage continuous innovation. The 2013 *Doing Business* indicators suggest that the quality of collateral frameworks and the depth of credit information in developing countries are about 30 percent and 60 percent lower, respectively, than the quality and depth in advanced economies. Further, the state postal network could be used to house properly regulated financial agents, who could offer financial tools in an easily accessible manner, including in hard-to-reach neighborhoods and rural areas.

#### *Provide the right incentives, and heighten confidence in financial institutions.*

- The state should provide an enabling environment for market development by including a legal framework for electronic payments; by requiring the introduction of simple, low-cost bank accounts for vulnerable populations such as the poor and the young; and by allowing banks, nonbank financial institutions, and electronic payment providers to compete against each other in similar market

segments where appropriate. For example, the Philippines allowed Mobile Network Operators to take on many banking operations.<sup>21</sup>

- Regulatory reforms should focus on setting up an effective consumer protection framework that includes proper enforcement and dispute resolution mechanisms, such as a financial ombudsman (both Mexico and South Africa have established financial ombudsmen to resolve disputes in consumer finance).<sup>22</sup> A key goal is to instill trust in financial institutions, including through adequate insurance of retail deposits and improved quality of microprudential supervision. Microprudential and business conduct regulation should cover—using differentiated supervisory regimes—nonbank deposit-taking financial firms, such as saving houses, co-ops, and credit unions; nonfinancial firms that provide credit at the point of sale; microcredit and microinsurance companies; and payment and remittance services providers.<sup>23</sup>

*Build in information gathering and learning from impact evaluations of reforms.*

- The state should also develop data collection frameworks to continually assess gaps in financial inclusion and monitor and evaluate reforms. An example is Mexico's strategy of comprehensive data collection to better understand all challenges in access to finance; the data inform policy decisions, influence the business models of providers, and monitor progress. In 2011, the National Households Survey of Financial Services Usage was launched—and is to be repeated every three years—to understand household motivation for using financial services, as well as barriers to greater usage.<sup>24</sup>

*Enable the poor to break out of poverty traps by offering financial tools fitted to their needs.*

- When developing financial tools to help the poor, policy makers and microfinanciers should keep in mind the elements of reliability, convenience, flexibility, and structure. The great challenge of living on \$2 a day is that even those \$2 do not always come.<sup>25</sup> So second best to having reliable income is having reliable financial partners and portfolios. Convenience and flexibility are also important because the poor need to be able to deposit and withdraw savings and take out and repay loans frequently, close to home, and without obstacles. They need flexibility in building long-term savings so that short-term difficulties do not prevent them

from benefiting from the advantages of a saving account (such as forgoing interest caused by delays in depositing money). Similarly, flexible loan schedules that can be readily renegotiated or forborne in “hungry months” and prepaid when extra liquidity arrives are very useful to the poor. Finally, providing some structure helps sustain self-discipline and commitment: for instance, through planned savings and loan repayments schedules, supported by visits from microfinance workers. Microfinance institutions and some mainstream financial institutions could learn many useful lessons for expanding their client base and searching for new and sustainable business opportunities by looking at the successful programs run by nongovernmental organizations to improve financial inclusion of the poor and the extreme poor.<sup>26</sup>

When financial inclusion works, it promotes development and helps alleviate poverty. But when financial inclusion is excessive or risks in the financial system are mismanaged, financial crises can erupt with large costs to entire societies (cartoon 6.1). The origins, impacts, and ways to avoid or manage financial crises are discussed next.



**CARTOON 6.1** Finance can help but also hurt.

© Matt Cartoon, *The Daily Telegraph*, January 18, 2009

## Financial crises hurt people: How can they be prevented?

### *Financial crises hurt people directly and indirectly*

Banking crises can affect people's wealth, human capital, income, health, and even safety. By one measure, the average loss of output during banking crises in the past four decades has been substantial in both advanced countries (32.9 percent of GDP) and emerging economies (26 percent).<sup>27</sup> The average loss was much smaller in low-income countries (1.6 percent of real GDP), most likely because the penetration of financial services is low. Europe and Central Asia were especially affected by the 2008 wave of banking crises; about 62 percent of households in the region suffered a negative income shock mainly as a result of wage reduction (job loss, lower wage, or lower remittances). The costly coping strategies deployed by households to cope with this income shock included cuts in basic consumption, health care, and education.<sup>28</sup>

Financial shocks such as banking crises hurt people through four channels: the financial system, labor markets, product markets, and social services. Evidence from 147 banking crises in 116 countries from 1970 to 2011 suggests that the impact of banking crises is transmitted to households most strongly through the labor market channel.<sup>29</sup> The impact through the credit market seems to be less important. Only when banking crises coincide with currency crises (large local currency depreciations) are large changes in relative prices transmitted through the product market channel, where they affect urban households more than rural households. As for the social services channel, evidence from the Russian Federation suggests that the public sector cushioned rather than aggravated the impact of the 1998 banking, currency, and sovereign debt crisis.

Macroeconomic policy, the structure and infrastructure of the financial sector, and the design of formal safety nets play critical roles in amplifying or mitigating the propagation of financial crises to people. Household characteristics and microeconomic systems also play a crucial role. Evidence indicates that the most important mitigators of income shocks transmitted to households through the labor market channel are diversified household income, access to informal credit, and the buildup of a stock of durable consumption goods. Access to informal credit was an important microeconomic mitigator of the impact of the 2008 crisis in emerging and developing economies but not in advanced

economies. In countries in which the banking crisis was accompanied by a sharp currency devaluation (Hungary, Ukraine), the accumulation of foreign currency debt (euros, Swiss francs) by some households before the crisis may have amplified the impact of income shocks.<sup>30</sup>

Access to and the use of formal financial tools can also help people cope better with the impact of financial crises. In the 2008 banking crises, among households in Europe and Central Asia suffering income shocks, those that did not have a bank account or access to bank credit used costly coping strategies much more often (by 14 to 16 percent) than households that had such tools.

In banking crises, income redistribution effects between the wealthy and the poor can be large. For example, wealthy investors tend to be better informed and are able to liquidate their position first and limit their losses. Further, wealthy individuals tend to receive favorable treatment or evade controls imposed during crises. Moreover, large financial transfers and opportunities for arbitrage emerge during crises, which allow investors with deep pockets to purchase assets at deep discounts and make large profits.

### *How does systemic risk turn into a financial crisis?*

*Systemic risk builds up over the financial cycle.* The financial system is naturally procyclical. Procyclicality can originate from the behavior of financial intermediaries or from the procyclicality of the real economy.<sup>31</sup> Financial cycles are strongly related to business cycles. Notably, collapsing housing prices coincide with longer and deeper recessions, while rapid growth in credit and increases in housing prices coincide with stronger recoveries. Moreover, financial cycles are highly synchronized within a country (credit and housing price cycles) and across countries (credit and equity cycles). Not only do the financial and real cycles move together but banking crises can spill over to macroeconomic (sovereign debt or currency) crises, such as in Malaysia in 1997, or be triggered by a spillover from macroeconomic crises, such as in Russia in 1998.

Banking crises in Colombia (1982), Thailand (1997), and Ukraine (2008) were preceded by excessive credit growth of 40 percent, 25 percent, and 70 percent a year, respectively.<sup>32</sup> Accordingly, a major concern for all countries is provision of the right amount of "equilibrium" credit: not too much and not too little. International standard setters have proposed estimating equilibrium credit as the trend

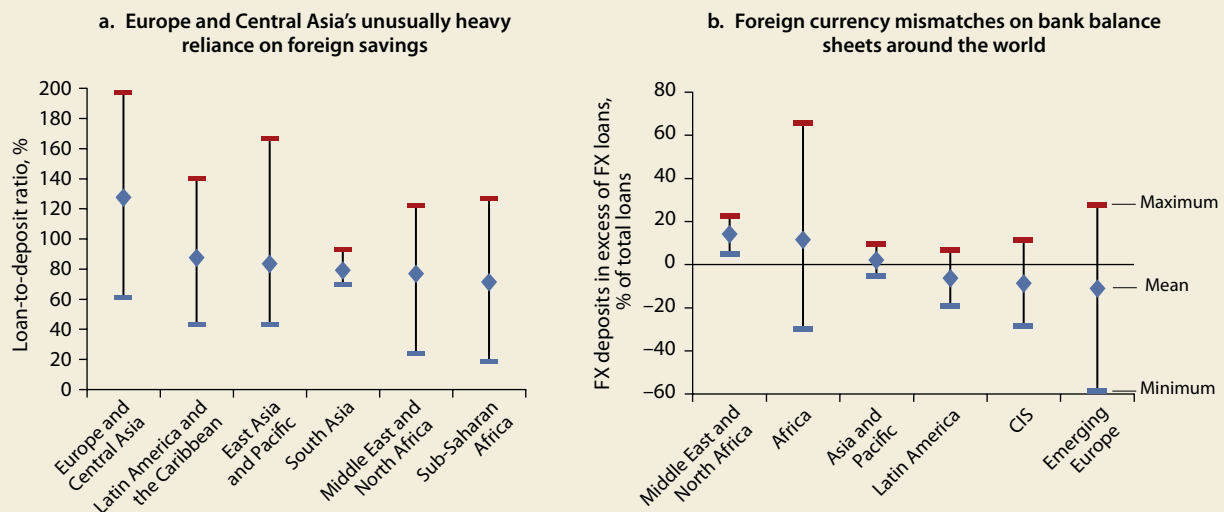
in the credit-to-GDP ratio, obtained through statistical filtering. Although such an approach can seem simple and transparent, its purely statistical nature disregards fundamental changes in equilibrium credit caused by economic and financial developments. To strike a better balance between financial development and stability, the academic literature has proposed structural frameworks to account for the impact of development on equilibrium credit.<sup>33</sup>

Banking systems in developing countries can incur additional exposures to systemic risk. Large investment needs alongside short-term and often small domestic savings add to systemic risk because banks can finance only short term (generally 6 to 12 months) compared with the investment financing needs of the real economy (typically, 7 to 8 years, with a 2-year grace period). Using foreign savings to obtain longer-term financing can expose the banking sector to aggregate refinancing risks, and the banks or the borrowers to foreign currency mismatches between their assets and liabilities (figure 6.4). Another, often neglected, systemic risk for small developing economies comes from lending that is concentrated in a small number of borrowers or sectors of the real economy. In early stages of development, countries initially specialize as they open to foreign trade, which naturally concentrates lending in fewer economic sectors. The economic structure diversifies

only later when countries reach higher income levels. Lending concentration can also arise because of an underdeveloped financial infrastructure, related-party lending, pyramid ownership schemes, and overall lack of competition in the financial system.<sup>34</sup>

*Interconnectedness can transform the risk from a single institution (idiosyncratic risk) into systemic risk.* On the one hand, interconnectedness of financial institutions can have a positive impact on financial development because it promotes greater completeness of financial markets and better distribution of financial risks in normal times, including through innovative financial instruments, or derivatives. On the other hand, the interconnected balance sheets of financial firms, through their participation in joint financial infrastructure, can spread a shock throughout the national and even international financial system and sometimes amplify those shocks.<sup>35</sup> Adverse shocks can originate from problems in one systemic institution or from exposure of many financial firms to a single asset class, such as commercial real estate. The interconnectedness and common exposures of the U.S and European banks transmitted the 2007 U.S. subprime mortgage crisis first to Europe, and then, through the links between European parent banks and their subsidiaries and branches, to emerging Europe. Two aspects of interconnectedness are especially

**FIGURE 6.4** Banks' aggregate refinancing risk and foreign currency mismatches can increase systemic risk in developing countries



Source: WDR 2014 team based on data from World Bank FinStats (internal database) (panel a) and Chitu 2012 (panel b). Note: Data for panel a are as of end-2008. Regions in panel b are grouped as in Chitu 2012, with data as of end-2006. CIS = Commonwealth of Independent States. FX = foreign currency.

important for developing countries: banks' ties to the shadow banking system, and cross-border banking.

In developing countries, the shadow banking sector comprises financial firms focused on providing alternative sources of financing to the economy.<sup>36</sup> These firms include leasing and factoring companies, credit unions, cooperatives, microfinance companies, and pawn shops. In Thailand, the sector covers nearly 40 percent of the financial system, while in Bulgaria, its share grew rapidly by 14 percentage points from 2003 to 2010. The concerns about shadow banking relate to regulatory arbitrage (lending through firms with the lowest capital requirements), mostly among banks and nonbank credit institutions. Developing countries need to ensure that shadow banks help provide alternative but safe financial services, without generating unacceptable systemic risks. In addition, other modes of finance such as Islamic banking (and insurance) have grown into systemic importance in some countries (such as Saudi Arabia, United Arab Emirates, and Malaysia), even though they account for only about 1.5 percent of global banking assets, or \$0.9 trillion in 2011. While Islamic banks could be less cost-effective compared with conventional banks, they tend to be better capitalized, have higher asset quality, and be less likely to disintermediate during crises.<sup>37</sup>

Financial globalization, involving cross-border activities of banks, has been accompanied by many benefits, including protecting domestic economies from domestic shocks. From 2002 to 2012, the funds provided by banks from advanced economies to banks in developing countries increased from about \$0.4 trillion to \$1.7 trillion, translating into an average inflow of \$130 billion a year.<sup>38</sup> By 2012, the global systemically important financial institutions (G-SIFIs) had 71 systemically important subsidiaries or branches (local SIFIs) in 43 developing countries. Brazil, Mexico, Peru, and Uruguay have the greatest systemic links to G-SIFIs, with six, four, four, and four local SIFIs linked to G-SIFIs, respectively.<sup>39</sup> This growing exposure to advanced economies can also pose potential dangers for financial stability, including exposing the domestic economy to foreign shocks. For instance, in response to a negative shock in the home country, foreign banks may decide to curtail lending or withdraw from the host country entirely. Many countries have managed such risk by requiring foreign banks to operate through an incorporated subsidiary with its own capital, rather than through a branch. Regional policy efforts to manage cross-border banking risk include the Vienna Initiative, which prevented regional banking groups from

withdrawing liquid funds from Central and Eastern Europe in 2009.<sup>40</sup>

*Possibility of contagion can further amplify systemic risk.* Contagion typically relates to the breakdown in confidence as systemic risk materializes; contagion can cause runs on bank deposits, freezes of money and asset markets, or both. A recent example is the collapse of Lehman Brothers in 2008, which shattered confidence in money market mutual funds. Four days after Lehman's bankruptcy, the U.S. government was forced to announce guarantees for the entire sector. In developing countries, contagion risk relates mainly to depositor confidence. Because banks finance their long-term, illiquid assets with demandable debt in the form of first-come, first-serve deposits, depositors can consider them inherently unstable. Bank runs can occur when depositors fear others will withdraw before they do, leaving nothing for them. Important contagion effects for developing countries can also arise in the context of cross-border banking.<sup>41</sup>

### *Where did financial firms and past public policies fail the most?*

Recently, bad corporate governance, distorted private incentives, short-term horizons for profit maximization, and coordination failures have resulted in excessive risk taking.<sup>42</sup> Financial firms have been largely unsuccessful in implementing good corporate governance, so the prevailing perverse incentives, including bad compensation policies, led bankers (from managers to loan officers) to maximize short-term profits and disregard prudent risk. Bank managers generally lack adequate personal responsibility for taking too much financial risk and are not held legally accountable for their bad practices. Further, financial firms, including SIFIs, ignored their own contributions (negative externalities) to systemic risk, and market discipline failed to enforce consideration of these externalities. Transparency and clear disclosure of information are important to achieve proper incentives, but for the most part the financial system has not implemented these mechanisms. In this environment, investors (bond holders and equity holders) failed to perform their basic monitoring and disciplining functions to correct the incentives of financial firms.

Some public policies have distorted private sector incentives for managing risk responsibly, have lacked a systematic approach, and have aided moral hazard behavior. Regulatory failures raise questions about

the appropriate level of government involvement in the operation of the financial system. Supervisors have failed to measure banks' risks accurately or to set and enforce sufficient capital requirements for banks to be able to absorb unexpected losses reliably. Supervisors have also failed to design and enforce timely resolution of failing banks, which would limit the exposure of taxpayers to problem SIFIs.<sup>43</sup> The ineffective resolution frameworks for SIFIs have led to expectations of government bailouts. The SIFIs have thus tended to privatize their profits and socialize their losses. Moreover, various public guarantees and subsidies (implicit and explicit, including for lending to households) have distorted the incentives for risk management of both banks and their clients. Most recently, the regulatory uncertainty caused by the failure of governments in several developed countries to promptly decide on, coordinate, and implement financial sector reforms held back operations of the financial system and the recovery of the real economy. Too much has been expected of government regulation and supervisory capacity, in many cases. More selective policy interventions, minimizing unintended consequences, would be more appropriate, in some instances.

Moreover, some public policies regulating systemic risk have been subject to capture by the financial industry.<sup>44</sup> The observations from the 2008 global financial crisis suggest significant influence of the industry lobby on the supervision of systemic risk, resolution of the crisis, and future regulatory reforms. The enduring challenge is to create mechanisms that can negate the "grabbing hand" of the financial industry and politicians, while creating strong incentives for official agencies to improve social welfare.<sup>45</sup> Making regulators politically and financially independent is the first step in this direction.

### ***What are the best-practice policies for managing systemic risk and banking crises?***

*Pursue macroprudential policy.* Macroprudential policy seeks to foster financial stability by managing systemic risk and keeping it at a socially acceptable level. Such policy is needed because policy measures focusing on the financial stability of financial institutions and their actions at the individual level are insufficient to foster financial stability at the aggregate level.

The actions of individual financial firms can generate negative externalities that can allow systemic risk to build up. Moreover, monetary and fiscal policies can be ineffective in managing systemic risks in the financial system, especially in developing countries.

Central banks (as in the Czech Republic, South Africa, and Thailand) seem to be best equipped to assume the responsibility for macroprudential policy.<sup>46</sup> First, they have an advantage in monitoring macroeconomic developments. Second, centralizing macroprudential supervision in the central bank improves coordination of crisis management activities, especially if the central bank is also the banking sector regulator. Third, monetary policy decisions undertaken by the central bank have potential implications for financial leverage (debt load) and risk taking. As an emerging best practice, implementation of macroprudential policy is being conducted by macroprudential policy committees—an analog to monetary policy committees (for example, the macroprudential committee of the Bank of England).<sup>47</sup>

*Choose the right indicators of systemic risk.* To assess and monitor systemic risk, the macroprudential supervisor uses analytical tools, such as stress tests, early warning models, and assessments of systemic importance. Systemic risk assessment and monitoring need to be forward-looking, timely, and presented in a user-friendly way to ensure that policy makers act on the information received. Macroprudential stress tests are "what if" scenario exercises to assess the resilience of the system as a whole to extreme but plausible shocks.<sup>48</sup> Early warning models and assessments of systemic importance are less common in developing countries that are still working on building and using practical approaches to stress testing. From the points of view of practicality and accountability, monitoring a selected set of simple and robust financial indicators could be preferable to a more complex approach involving composite indicators or outputs from complex models.<sup>49</sup> Central banks often publish these systemic risk assessments as part of their financial stability reports to alert market participants, inform the public, and increase accountability of the macroprudential supervisors.<sup>50</sup>

*Calibrate macroprudential tools to the specifics of the country.* To manage systemic risk, macroprudential

**Making  
macroprudential  
regulators independent  
and giving them  
adequate policy tools are  
the basics for successful  
management of  
systemic risk.**



**TABLE 6.1** *A taxonomy of macroprudential tools*

Selected measures	Main characteristics	Country examples
<b>Aimed at borrowers</b>		
Loan-to-value caps	Reduces vulnerability arising from highly geared borrowing	Brazil; Bulgaria; Canada; Chile; China; Colombia; Croatia; France; Hong Kong SAR, China; Hungary; India; Italy; Korea, Rep.; Malaysia; Mexico; Norway; Philippines; Poland; Romania; Singapore; Spain; Sweden; Thailand; Turkey
Debt-to-income caps	Reduces vulnerability arising from highly geared borrowing	China; Colombia; Hong Kong SAR, China; Korea, Rep.; Poland; Romania; Serbia
<b>Aimed at financial institutions (addressing the asset side)</b>		
Credit growth caps	Reduces credit growth directly	China, Colombia, Malaysia, Nigeria, Serbia, Singapore
Foreign currency lending limits	Reduces vulnerability to foreign exchange risks; reduces credit growth directly	Argentina, Austria, Brazil, Hungary, Poland, Romania, Serbia, Turkey
<b>Aimed at financial institutions (addressing the liabilities side)</b>		
Reserve requirements	Reduces vulnerability to funding risks; reduces credit growth indirectly	Brazil, Bulgaria, China, Colombia, Russian Federation
<b>Aimed at financial institutions (addressing bank buffers)</b>		
Dynamic loan-loss provisioning	Increases resilience and reduces credit growth indirectly	Brazil, Bulgaria, Colombia, India, Mongolia, Peru, Russian Federation, Spain, Uruguay
Countercyclical capital requirements	Increases resilience and reduces credit growth indirectly	Brazil, India
Profit distribution restrictions	Limits dividend payments in good times to help build up capital buffers in bad times	Argentina, Colombia, Poland, Romania, Slovak Republic, Turkey

Source: WDR 2014 team based on Claessens, Ghosh, and Mihet, forthcoming.

Note: Countries listed in the table adopted corresponding macroprudential tools in various years from 2000 to 2010, some of them temporarily.

supervisors use policy tools such as variable capital buffers and dynamic provisioning, as well as caps on leverage, credit growth, and the debt-to-income ratio (table 6.1).<sup>51</sup> The use of macroprudential policy tools has been increasing, particularly in managing systemic risk in the financial sector. Macroprudential tools, such as capital controls, could also be used more broadly in the context of macroeconomic management (chapter 7). Interestingly, emerging markets have been three to four times more likely to use macroprudential tools than advanced economies.<sup>52</sup> For instance, in 2011, the Republic of Korea imposed a levy of up to 0.2 percent on bank noncore financial liabilities to manage speculative inflows of foreign capital.<sup>53</sup> Some macroprudential tools are intended to mitigate externalities that occur in the upturn of the financial cycle, while others are deployed to build buffers to mitigate any bust. For example, caps on debt-to-income and loan-to-value ratios could be effective in reducing risk exposures in booms, while countercyclical buffers, such as additional capital and reserve requirements, could help mitigate excessive

deleveraging in severe downturns. In any case, the use of macroprudential tools needs to be calibrated to the specifics of a given country.<sup>54</sup>

*Focus on crisis preparedness for effective management of future financial crises.* In crises, policy makers face deep uncertainty about market conditions. They must be able to mobilize expertise to decide and act, transparently deploy legislated crisis management tools, communicate with the public to contain uncertainty, and ensure adequate loss sharing to avoid moral hazard going forward (box 6.5). The resolution of banking crises will always be country specific because of differences in legal framework, but resolution should not compromise the bottom line of minimizing the fiscal cost and avoiding moral hazard in the future. Concerns of widespread liquidity runs on banks usually mean that blanket guarantees are given to all bank creditors. While liquidity assistance to banks needs to be provided early on, open-ended liquidity support has proven to prolong crises and could result in future macroeconomic risks (chap-

**BOX 6.5** *Preparing for a banking crisis with crisis simulation exercises*

To test crisis preparedness and practice using existing or proposed arrangements for crisis management, the World Bank, since 2009, has been encouraging financial policy makers to participate in financial crisis simulation exercises. During the exercise, participants receive a stream of (generally bad) news describing the “scenario” they must deal with and the tools provided by their (real or assumed) legal, regulatory, and operational frameworks. This news arrives in two forms: as “public information,” understood to be simultaneously available to all participant teams (including financial sector supervisory authorities, the central bank, the finance ministry, and the deposit insurer) and the market; and as “private information” from several fictional characters (analysts, bank inspectors, advisers, bankers, journalists, foreign authorities, politicians). Participants must share their respective pieces of information and analyses to understand the scenario and coordinate their actions.

Areas for improvement are identified through exhaustive analysis of the exchanges that take place among the participants (typically running into the hundreds of written memos and e-mails), as well as between them and the fictitious characters.

While comparisons and generalizations are difficult, given the small sample size and highly localized conditions (reflected both in the institutional identity of the participating teams and the situations proposed by the fictional scenario), it is nonetheless possible to offer tentative impressions about the adequacy of participant responses to some common challenges and about the way participants tend to underestimate and underreact, or overestimate and overreact, to bad news:

Source: Aquiles A. Almansi for the WDR 2014.

- Most participants—often the nation’s top decision makers—take these exercises quite seriously, typically spending one or more days fully concentrating on them. Their actions tend to be conditioned by whether they perceive the exercise as a (perhaps imposed) “test” or as a (freely requested) “drill.” Ownership of the exercise by the participating public representatives is thus crucial for the success of the exercise.
- Public representatives frequently overestimate parent bank or shareholder capacity and willingness to provide support. This overestimation then typically leads to public agencies’ inaction before and during the crisis, and protracted coping and recovery from the crisis.
- Formal arrangements to share information and coordinate action tend to spring up voluntarily and ignore possible conflicts of interest.
- Simple information sharing is much more common than joint analysis of all relevant information by all responsible parties.
- Governments tend to postpone decisions on resolution of problem banks—including restructuring, recapitalization, merger, closure, or liquidation—by implicitly or explicitly nationalizing them.
- Coordination of public communications is limited, if not entirely absent.

Some of the judgment and behavior observed in the exercises reveals cognitive and behavioral failures in policy-making decisions and actions in the face of risk, as discussed in chapter 2.

ter 7).<sup>55</sup> Emergency liquidity assistance from the central bank should be provided only to solvent banks.<sup>56</sup> Insolvent banks should be closed transparently to avoid moral hazard in the future. Prompt interventions can reduce costs and improve efficiency.<sup>57</sup>

*Seek private sector solutions to pass bank losses to existing shareholders, managers, and in some cases uninsured creditors first.* For systemwide crises, finding domestic private sector solutions could be difficult, and reliance on foreign takeovers or government-assisted mergers may be needed. The fiscal cost of banking crises averaged almost 7 percent of GDP during 1970–2011 (4 and 10 percent of GDP in advanced and developing countries, respectively). The two costliest banking crises occurred in Indonesia (1997) and Argentina (1980), with fiscal costs reaching 57 and 55 percent of GDP, respectively.<sup>58</sup> Overall, government interventions and assistance in managing banking crises need to be based on a sound legal framework to avoid ad hoc interventions outside the existing legal framework, which can have large redistribution effects. Countries must devote time and

resources to preparing such frameworks in normal times because crises are not likely to go away.

*Resolve failures of systematically important financial institutions fairly and effectively.* Failing SIFIs must be resolved promptly in the view of the trade-off between minimizing negative spillovers to the rest of the financial system and minimizing future moral hazard, while protecting taxpayers’ money (box 6.6). To improve the resilience of global and national SIFIs, recent proposals recommend that SIFIs hold more capital and other instruments that can promptly increase their capacity to absorb losses and mitigate the possibility of negative spillovers to the rest of the financial system in advance.<sup>59</sup> To further enhance crisis preparation, SIFIs should be required to prepare so-called “living wills” to assist the management and the authorities in prompt resolution of failing SIFIs, including through partitioning and sales. Resolution could also involve the injection of public capital or other government support, provided that sufficient fiscal space exists for such contingent liabilities, that costs to taxpayers are minimized, and that large re-

### BOX 6.6 Financial bailouts: “Too big to fail” versus moral hazard

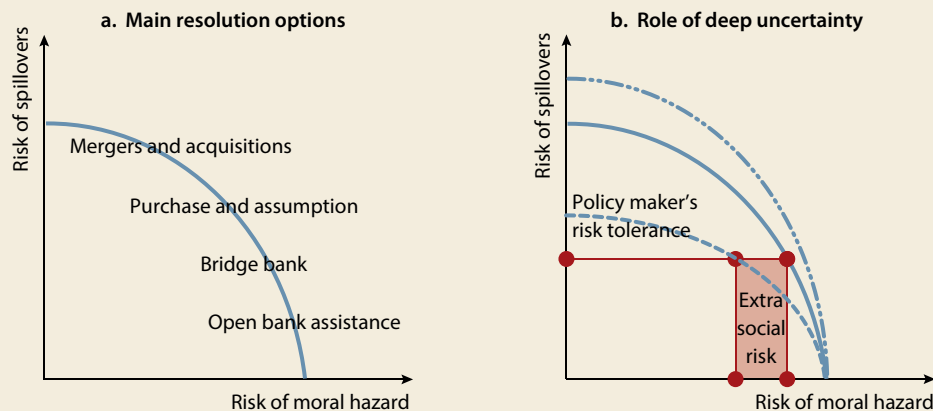
Domestic systemic banks are banks whose failure or severe problems might generate significant negative externalities for the rest of the domestic financial system and the economy. While in many cases banks of systemic importance can be identified ex ante using appropriate assessment methodology, it is hard to assess ex ante which banks will not be systemically important in stressed market conditions. Thus if a bank is in trouble, policy makers first need to determine whether the bank is systemically important in current market conditions, with a view to available legal resolution options and fiscal space, political economy factors, and uncertainty about possible spillovers to the financial system and the real economy.<sup>a</sup> This box focuses on systemic banks with insolvency problems after those banks have exhausted all possible insurance and protection measures arranged ex ante, such as capital buffers, bail-in or contingent debt, or sale of assets.

Available resolution options are an important factor shaping the possibility frontier of resolving systemic banks (panel a). Market solutions are preferable at all times and may include indirect support (mergers forced by the supervisor) or direct support from the government (purchase and assumption, with credit enhancement from the deposit insurance fund). However, if the market is small or in distress, private sector solutions may not be available. In contrast,

injecting public capital into failing systemic banks may be fiscally unsustainable, counterproductive by increasing moral hazard, and potentially inequitable by introducing large redistribution effects, benefiting shareholders or creditors of the failing bank at the expense of taxpayers. Other resolution options, which are preferable in certain market conditions, include establishing a bridge bank so that the systemic part of failing bank is transferred to a new entity owned by the ministry of finance and operated by the bank supervisor or resolution agency, with little or no permanent support of public capital.<sup>b</sup>

If public funds are used in systemic bank resolution, political economy constraints become an even more important factor shaping the possibility frontier (panel a) because the legislature or the ministry of finance that provides public capital get involved in the decision making. The decision about the resolution method, timing of the intervention, and its particular execution (placing government deposits in the bank, nationalizing it, or using the bridge bank) will be influenced by politicians and the political lobby.<sup>c</sup> For systemic banks, the least-cost solution must consider the cost to society rather than the deposit insurance fund (bank resolution agency), given the likely spillover of the problem to the real economy.

#### The possibility frontier of systemic bank resolution



Source: WDR 2014 team based on Beck 2011.

In times of financial stress, policy makers face the additional challenge of deep uncertainty about negative spillovers that can be triggered by the closure of a systemic bank. They typically have some idea about the trade-offs, thanks to prior systemic risk and resolvability assessments (solid line, panel b). However, if such assessments are not being performed, policy makers can underestimate the real spillover potential, represented by the upper dashed line. To complicate matters, financial firms do not fully share all private information. In times of stress, they can use this information asymmetry to their advantage to lobby for higher public support than would be appropriate. This private information, if revealed, could show that the spillover potential is much smaller in reality, as depicted by the lower dashed line. Unnecessarily large bailouts

using public money then reinforce moral hazard and result in larger redistribution effects, to the detriment of market discipline and taxpayers (shaded area depicting extra social risk, panel b).

Resolution of Turkey's 2001 systemic banking crisis through a public recapitalization program provides some elements of good practice in the presence of a too-important-to-fail and too-many-to-fail problem. The Turkish crisis started from mounting weaknesses in the banking system and collapse in investor confidence after the fall of a medium-sized bank. A successful design of the 2002 public recapitalization program prevented misuse of public funds through strict eligibility criteria, an in-depth audit to transparently disclose capital shortfalls, and the mandatory participation of bank owners in recapitalization. Between 1997 and 2004, 21 banks

(continued)

**BOX 6.6** *Financial bailouts: “Too big to fail” versus moral hazard* (continued)

representing about 20 percent of banking sector assets were transferred to the bank resolution agency, and all but one bank were resolved through mergers, sales, and liquidation by 2004. The efforts of Turkish authorities to minimize the fiscal costs of the restructuring program and future moral hazard have contributed to greater self-reliance and self-discipline on the part of the Turkish banking sector, including improvements in bank risk management. This in turn underpinned the resilience of the Turkish banking sector to the spillovers from the 2008 global financial crisis.<sup>d</sup>

Systemic banks are likely to experience troubles in the future, especially if system-wide financial stresses emerge. Governments should therefore be well prepared to resolve troubled systemic banks while minimizing moral hazard and redistribution effects. Developing a legal framework for resolving systemic banks, preparing recovery and resolution plans (living wills) for banks of

systemic importance in any market conditions, and preparing systemic risk assessment approaches to determine systemic importance of banks in specific market conditions should be essential parts of any crisis preparedness efforts. In particular, recovery plans can help increase the resilience of systemic banks and their ability to recover from stresses, thus indirectly enhancing overall financial stability.<sup>e</sup> To address political economy issues, decisions about troubled systemic banks should be broad-based, and involve the banking supervisor, resolution agency, central bank (the financial stability supervisor), and ministry of finance. The right platform for such decisions can be the financial stability committee (table 6.3), in which all these agencies typically participate. In addition, if the impact of resolving a domestic systemic bank crosses national borders, such as the case of the Icelandic bank Kaupthing, the resolution will require cross-country or regional coordination.<sup>f</sup>

Source: WDR 2014 team.

a. BIS 2012.

b. Beck 2011.

c. Brown and Dinc 2005.

d. Josefsson 2006.

e. BIS 2012.

f. BIS 2010b.

distribution effects are avoided. Another option is to close the SIFI and transfer its systemically important part to a temporary bridge bank, owned, managed, and then sold in a timely manner by public authorities.<sup>60</sup>

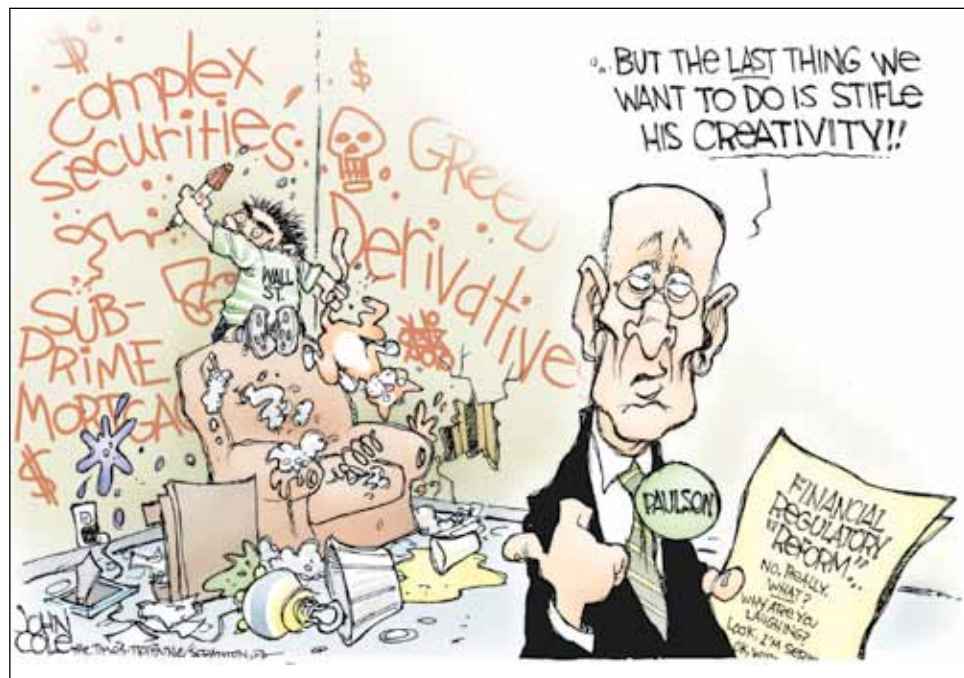
*Reduce regulatory uncertainty.* Regulatory uncertainty can paralyze recovery from a crisis. Government interventions to manage banking crises could have large repercussions for the government fiscal position and redistribution effects from taxpayers to creditors and shareholders (consider the Euro Area crisis resolution, for instance).<sup>61</sup> For this reason, the government could be forced to reset its tax policy and reform financial regulation as it learns about the causes of the crisis. This process could involve many stakeholders and might need to be coordinated at the regional or international level. As a result, regulatory reforms could be protracted and their outcomes very uncertain. Banks uncertain about how much capital and liquidity they will need to hold will curtail their lending. Investors will hold back their projects because once they take into account the uncertainty about future taxes and the cost of finance, most projects will become financially unviable. Thus tax and regulatory reforms in response to crises need to be timely and decisive to ease recovery. For that to happen, improved coordination at the national, regional, and international level needs to be established and put into practice.

## Resolving the tension between financial development and financial stability

Important complementarities and trade-offs exist between boosting financial inclusion and fostering financial stability (cartoon 6.2). This section focuses on these complementarities and trade-offs, as well as on financial sector development and stability more generally.

### *Financial inclusion can aid stability*

Greater financial inclusion can improve the efficiency and stability of financial intermediation by making greater and more diversified domestic savings available to banks. As a result, a country's banking system can ease its reliance on reversible foreign capital and thereby enhance its stability. Indeed, preliminary evidence suggests that a broader use of bank saving deposits made the banking systems of middle-income countries more resilient to deposit withdrawals and the slowdown in deposit growth during the 2008 crisis (figure 6.5a). Similarly, the performance of loan portfolios of Chilean banks suggests that aggregated losses on small loans present less systemic risk than large, infrequent, but also less predictable losses on large loans.<sup>62</sup> Thus greater financial inclusion and diversified credit allocation may coincide with greater stability of individual financial firms and of the entire



**CARTOON 6.2** Trade-offs in financial sector policy pose a challenge.

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system. Greater financial inclusion can also enhance financial stability indirectly by providing households (and firms) with access to savings, credit, and insurance tools that can bolster resilience and stability of the real economy and thus the financial system that serves it.

If financial inclusion can enhance financial stability, can exclusion from formal financial services lead to greater instability? Households (and small firms) in countries with high levels of financial exclusion must rely on informal financial services that can be poor substitutes for formal services.<sup>63</sup> In extreme cases, informal services can increase people's risk exposure to shocks and be a source of instability themselves. For example, pyramid schemes organized as informal savings and investment opportunities have been known to trigger both political and social unrest and lack of confidence in the banking system.<sup>64</sup>

### *Stability is endangered when financial inclusion is excessive*

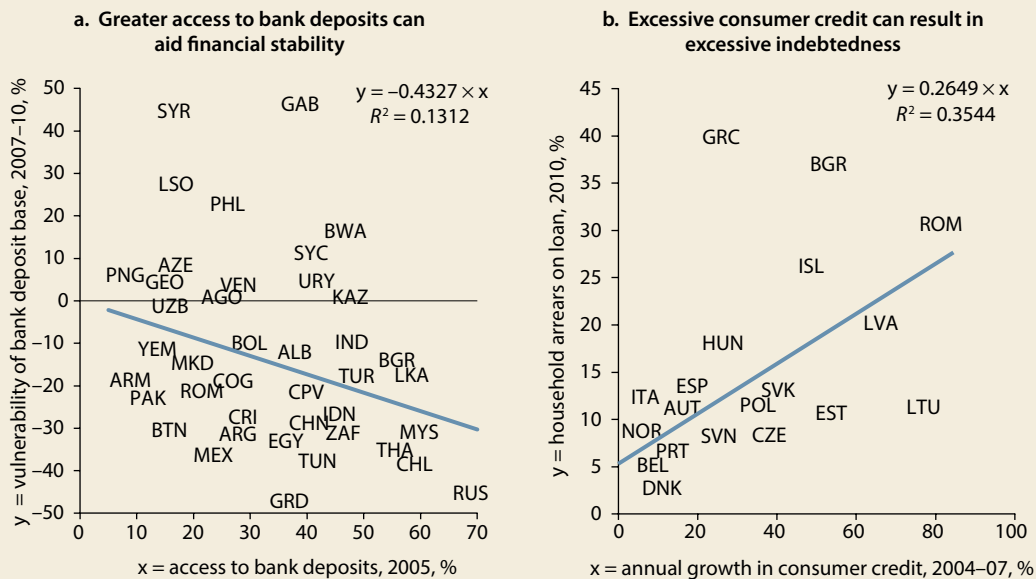
Inclusion of everybody in each and every financial service cannot be the social objective. The U.S. sub-prime crisis showed that subsidized, excessive access to credit, combined with tolerated predatory lending, is bad policy. Similarly, in Russia, where consumer loans grew from about \$10 billion in 2003 to more

than \$170 billion in 2008, people with low financial literacy underestimated the increased burden of debt-servicing costs in bad times, which significantly impaired their spending capacity.<sup>65</sup> Preliminary evidence suggests that excessive credit growth can impose heavy financial burdens on people when market conditions deteriorate (figure 6.5b). Households that purchase the “wrong” financial tools that add to their risk, whether a result of their own irresponsible risk taking or irresponsible delivery of financial services by financial firms, jeopardize their own financial stability—and collectively, possibly the stability of the financial system. Such risk exposures at the micro level can be mitigated by an adequate level of financial education and consumer protection. Financial tools with a risk profile matching that of the clients can improve outcomes in financial markets.

### *Stability is also impaired if the system tries to do more than its development permits*

There appears to be a limit on how much and what services the financial system can provide to whom at a given stage of its development. This limit (a financial-possibility frontier) is affected by many development factors driving the provision of financial services on the supply side (financial system) and constraining participation on the demand side

**FIGURE 6.5** Prudent financial inclusion can enhance financial stability but, if excessive, can weaken it



Source: WDR 2014 team based on data from Han and Melecky 2013 for the WDR 2014 (panel a); European Credit Research Institute Lending to Households in Europe (database), and European Union Statistics on Income and Living Conditions (EU-SILC) Survey (panel b).

Note: The solid (regression) lines in the figures depict the fitted linear relationships between the y- and x-axis variables. For panel a, the vulnerability of the bank deposit base is conditional on per capita income, bank z-score, occurrence of a banking crisis, and implemented explicit deposit insurance. For measurement of access to bank deposits, the composite index of access to financial services by Honohan 2008 was used. Regression results are available upon request. All middle-income countries for which data are available are included. For panel b, the countries are the EU-27 (excluding Ireland and Cyprus) plus Norway and Iceland. The arrears are on consumer loan repayments. The results hold if arrears are replaced by self-reported financial burden, or if the annual growth in consumer credit in 2004–07 is controlled for the size of subsequent bust in consumer credit in 2008–10.

(individuals and firms).<sup>66</sup> Following the concept of financial-possibility frontiers, countries can face three broad challenges. First, the frontier of a given country may be low relative to its level of economic development because of deficient structural factors (such as low population density or a high degree of economic informality) or nonstructural factors (such as inadequate contract enforcement or protection of property rights, or macroeconomic stability). Second, a country's financial system can be below its frontier because of demand constraints (such as self-exclusion stemming from low financial literacy and trust in banks) or supply-side constraints (such as lack of competition due to poor financial infrastructure or regulatory restrictions on new products). Third, a country's financial system can move beyond the frontier, expanding unsustainably through excessive investment and risk taking by market participants in environments of weak supervision, corporate governance, and market discipline.

In such environments, financial innovation—which can promote financial deepening and inclusion in other contexts—could pose a challenge for financial stability, especially if it becomes self-interested and unnecessarily complex.

Bank competition can be beneficial if it improves financial inclusion, deepens financial markets, and generates useful innovative services at the acceptable level of systemic risk. More intense competition among banks can have positive effects on financial depth, income distribution, growth, and efficiency. At the same time, it can also negatively affect the stability of the banking system; with more pressure on profits, bankers have incentives to take excessive risks.<sup>67</sup> However, competitive lending rates reduce entrepreneurs' cost of borrowing and increase the success rate of entrepreneurs' investments. Banks, in turn, experience lower default rates on their loan portfolio, and the banking system as a whole enjoys greater stability. The role of regulatory frameworks

could be critical in shaping the tension between bank competition and financial stability. Recent evidence, more attentive to systemic risk measurement, confirms that greater bank competition can be associated with greater financial stability.<sup>68</sup>

### *Policy, to succeed, must consider trade-offs and synergies in finance*

At the level of the national government, the national financial sector strategy formulates the policy for the financial sector. A well-formulated strategy should set development targets that take into account the systemic risk involved in achieving them and that communicate the systemic risk appetite (tolerance) of the country in the financial area. Preliminary evidence from a survey of national financial sector strategies indicates that most strategy documents have a clear statement of intent, but less than half have a quantifiable indicator included in their objective statements (table 6.2). Although most documents refer to systemic risk in general terms, very few refer to specific measures of systemic risk. With a few exceptions, the strategy implementation plans do not discuss specific trade-offs between financial development goals and the management of systemic risk, even though many countries commit to achieving both goals within the same strategy document. While the strategies include a rich numerical analysis of recent de-

**Financial policy must consider the synergies and trade-offs between promoting access to more and better financial tools and controlling systemic risk in the financial sector.**

velopments in the sector, the use of quantifiable data to specify their forward-looking objectives is weak. Instead of choices (which would lead to a discussion of trade-offs), conventional strategies tend to focus on issues.<sup>69</sup> Governments should instead adopt an approach that explicitly addresses policy trade-offs and begins by recognizing that the government must make choices and that each choice has consequences.

The national financial sector strategy should clearly assign implementation of the targeted financial development at the (identified) acceptable level of systemic risk to individual government agencies in accord with their mandate. For instance, the ministry of finance (or economy) could be responsible for financial development, while the central bank could be responsible for the supervision of systemic risk (as in Moldova). In their financial sector strategies, most countries broadly identify the implementing government agencies based on their overall mandates (table 6.2). Countries less often clearly assign specific agency responsibility for implementing measures to achieve development goals or to manage systemic risk at acceptable levels. Financial sector strategies should not only include such assignments in the implementation plan but should also present a mechanism through which the implementation will be coordinated, such as a standing committee.

A financial policy committee with an effective governance structure that includes major stakeholders in

**TABLE 6.2** *National financial sector strategy documents rarely consider the trade-off between financial development and stability*

<b>Development objectives</b>	Clear development goals set	94
	Development goals quantified	42
	Tools to achieve goals identified	58
<b>Systemic risk</b>	Risk associated with achieving goals identified	94
	Systemic risk quantified	6
	Tools to manage systemic risk identified	53
<b>Trade-off</b>	Trade-off in development and systemic risk is communicated	11
<b>Implementation plan</b>	Agencies to execute the strategy identified	92
	Agencies to implement development goals assigned	64
	Agencies to manage systemic risk assigned	33

Source: WDR 2014 team based on Maimbo and Melecky 2013 for the WDR 2014.

Note: The table summarizes the percentage of countries meeting each requirement in a sample of 36 countries, consisting of six countries in each of the six regions: Latin America and the Caribbean, Sub-Saharan Africa, East Asia and Pacific, Europe and Central Asia, Middle East and North Africa, and South Asia.

**TABLE 6.3** *Composition of financial stability committees in selected developing countries*

Country	Coordination body	Chair	Members
India	Financial Stability and Development Council	Minister of finance	CB, MOF, regulators for securities, insurance, and pension
Indonesia	Financial System Stability Coordination Forum	Minister of finance	CB, MOF, regulators for deposit insurance and financial services
Mexico	Financial Systemic Stability Council	Minister of finance	CB, MOF, regulators for securities and banking, insurance, pension and deposit insurance
Poland	Financial Stability Committee	Minister of finance	CB, MOF, and the regulator for financial services
South Africa	Financial Stability Oversight Committee (interim)	CB governor and minister of finance	CB, Treasury, and the regulator for financial services
Turkey	Financial Stability Committee	Deputy prime minister	CB, Treasury, regulators for banking, capital markets and deposit insurance

Source: WDR 2014 team based on information from the International Monetary Fund, national central banks, and ministries of finance.

Note: CB = central bank. MOF = ministry of finance.

financial sector policy, can improve policy coordination and produce balanced policies. To set compatible and sustainable policies, a group of policy makers and experts that understands the trade-offs between risk and development in the financial sector should be established. Many countries have established financial stability committees to manage systemic risk and crises, notably in the aftermath of the 2008 crisis (table 6.3). These committees are chaired by a high-level public official and include major policy makers in the financial area. It would be practical to extend a mandate to these high-level committees to prepare a holistic, national financial sector strategy, including with the participation of relevant experts from academia and the financial industry. Intermediate solutions also exist. For instance in Malaysia, the central bank engages with major stakeholders in financial sector policy, including the ministry of finance and private sector experts, to prepare a national financial sector strategy that takes into account tradeoffs between financial (inclusion) development and systemic risk in the financial system.

In implementing the financial sector strategy, some direct policy interventions (such as provision of financial infrastructure) could be beneficial, while others (support of state-owned banks, for example) could be controversial. Most public policies should be indirect and focused on proper regulation, because direct policy interventions can lead to unintended consequences, including large redistribution effects and distorted incentives in the private sector.<sup>70</sup> Coordination of policy implementation should also be the task of the proposed financial policy committee, which can revise the strategy periodically in light

of new circumstances and newly identified gaps or policy tools concerning financial development and stability. In improving regulatory frameworks and adopting best practices in regulation, national policy makers are supported by international standard setters such as the Financial Stability Board, Basel Committee on Bank Supervision, International Association of Insurance Supervisors, and International Organization of Securities Commissions. The standard setters, apart from developing guidelines for best-practice regulation, provide assistance in building capacity, so that national regulators advance their knowledge and skills to further develop their national financial markets. At the regional level—closer to implementing regulatory frameworks—global best-practice guidelines could be elaborated on or turned into rules by regional standard setters. At the level of the European Union, these standard setters would include the European Systemic Risk Board, the European Banking Authority, European Securities and Markets Authority, and European Insurance and Occupational Pensions Authority.

Implementation should focus on enforcing good corporate governance to correct the incentives of financial firms and the financial system to take on excessive risk or pursue too much or too little financial inclusion, and to ensure that private decision making is governed by a long-term view and attention to business sustainability. Enforcing good standards of corporate governance pertains to both the development and offering of *useful, accessible, and reliable* financial services and to responsible risk taking that accounts for systemic externalities. The key areas



to improve bank corporate governance include the following:<sup>71</sup>

- Boards should incorporate a balance of expertise to approve and monitor the overall business strategy of the bank, considering its long-term financial interests, exposure to risk, and ability to manage risk effectively.
- Senior management should ensure that bank activities are consistent with the bank's business strategy, risk appetite (tolerance), and policies approved by the board.
- Risk management, compliance, and internal audit functions should be established, each with sufficient authority, independence, resources, and access to the board.
- Compensation schemes should encourage an orientation to client needs, responsible provision of financial services and risk taking by the bank employees, and a long-term view in business conduct.<sup>72</sup>
- The board and senior management should understand and guide the bank's overall structure and its evolution, ensure that the structure is justified, and avoid undue complexity.
- Disclosure requirements should enhance accountability of banks to depositors, creditors, and other clients and stakeholders; for instance, key points on its governance structure and risk appetite should be clearly disclosed.

In addition, external auditors should monitor compliance with any mandatory or voluntary corporate governance codes adopted by the financial industry, and identify in their reports any gaps between the existing practice and the adopted code.

The jury is still out on the effects of bank (financial institutions) specialization versus diversification—for instance in lending—on financial development and stability. On the one hand, lending expertise gained through specialization in certain sectors can benefit banks by enhancing their screening and monitoring efficiency. On the other hand, diversification of lending risk across many sectors can enhance the stability of an individual bank by protecting it from correlated losses. At the system level, the impact of lending specialization as opposed to diversification could be critical. Diversified banks that look alike or purposely herd can actually reduce systemic stability.<sup>73</sup> Hence, from the system's perspective, promoting diversity among banks could be

an important area of policy reforms. In this regard, promoting diverse business models, including that of Islamic banking, can increase the system's diversity along with greater financial inclusion. Furthermore, promoting diversity beyond the banking sector could be equally important and can involve insurance companies and nonbanking credit institutions.

Overall, public policy should encourage diversification of financial intermediation away from banks into capital markets to enhance the stability of the financial system. Recent evidence suggests that although bank lending to firms declined during the global crisis, bond financing actually increased to make up much of the gap in some countries.<sup>74</sup> Although banks may have practical advantage in developing countries, building local currency capital markets is desirable. Certain preconditions must be established, involving both the government and the private sector, such as adequate property rights, a legal framework, infrastructure (payment and security settlement systems), corporate governance, financial accounting standards, and a credible auditing industry. Some economies may still be far from establishing these preconditions, and some small economies may never generate the necessary scale. Still, firms in those countries could list on regional or global stock exchanges, and individual investors could access foreign capital markets through brokers or investment funds. Small economies with necessary preconditions in place and problems of small scale could consider developing local trading platforms integrated with regional or global stock exchanges—the way that Estonia, Latvia, and Lithuania integrated under the Baltic Stock Exchange. Regional and international initiatives have emerged to aid diversification of financial intermediation into capital markets. They include the 2003 Asian Bond Markets and Asian Bond Fund Initiatives; the 2008 Global Emerging Markets Local Currency Bond program of the World Bank; and the Vienna Initiative, a regional public-private coordination framework for development of local currency capital markets.

### A summary of policy recommendations

This chapter has explored the tension between financial inclusion and stability and stressed that this tension must be addressed when financial sector policy is formulated and implemented. On the one hand, excessive and reckless financial inclusion can endanger financial stability. On the other hand, responsible financial inclusion can enhance the financial system's stability directly or indirectly through greater resil-

**TABLE 6.4** Policy priorities to improve the financial system's role in risk management

	POLICIES TO SUPPORT RISK MANAGEMENT			
	FOUNDATIONAL			ADVANCED
<b>Knowledge</b>	Collection and analysis of data on gaps in financial inclusion	Targeted financial education	IT solutions for better access to financial prices	
	System-wide collection of macroprudential data	Financial stability reports	Early warning models	
	Public communication of concerns about systemic risk and steps to resolve the crisis			
<b>Protection</b>	Legal frameworks and financial infrastructure	Consumer protection	G2P payments	Access to capital market instruments
	Independent financial regulators	Macroprudential regulation	Crisis preparedness frameworks	Crisis simulation exercises
	Corporate governance standards (for example, disclosure of ultimate controllers, risk management and internal controls, compensation policies)			
<b>Insurance</b>	Legal frameworks and financial infrastructure	Consumer protection	Compulsory insurance (for example, car, mortgage)	Fiscal insurance including PPPs
	Macroprudential capital buffers	Systemic risk surcharges	Foreign exchange reserves	Fiscal contingent liabilities
<b>Coping</b>	Contract enforcement	Efficient insolvency regimes and bad debt workouts	Preserved access to credit	Consumer protection
	Failing bank resolution	Emergency liquidity assistance	Blanket deposit guarantees	Lending guarantees

Source: WDR 2014 team.

Note: The table presents a sequencing of policies based on the guidance of chapter 2 for establishing policy priorities: *be realistic* in designing policies tailored to the institutional capacity of the country, and *build a strong foundation* that addresses the most critical obstacles sustainably, and that can be improved over time. G2P = government to person. IT = information technology. PPPs = public-private partnerships.

ience of the financial system's clients (individuals, firms, the state). In practice, middle-income countries face the greatest tension between allowing rapid financial inclusion and fostering financial stability. Low-income countries cannot mobilize as much savings from households that are often constrained in their consumption. Nor are low-income countries well-enough integrated into global finance to import large amounts of foreign savings. In contrast, financial inclusion in high-income countries approaches 90 to 100 percent, and high-income countries focus mainly on fostering financial stability.

Table 6.4 summarizes policy recommendations to promote financial inclusion and enhance financial stability in view of this tension. The recommendations are grouped according to the main components of effective risk management (knowledge, protection, insurance, and coping) and follow a foundational approach from the most needed to advanced measures in support of risk management.

To broaden the availability and use of financial tools for managing risk, public policy should focus on overcoming obstacles related to financial infrastructure, the small scale of the market, and adoption of innovative financial instruments. The state should promote competition among different types of financial institutions and support delivery of financial tools within efficient consumer protection frameworks. To enhance management of systemic risk in the financial system, public policy should focus on establishing strong macroprudential frameworks, including crisis preparedness and resolution measures, that are equipped with adequate macroprudential tools, while fostering the safety and efficiency of financial market infrastructure. Most important, the process of public policy formulation must account for the trade-offs and synergies in finance to produce balanced policies that respect both a country's development goals and risk appetite in the financial area.

## Notes

1. This story is a composite of events and recent business practices in the Czech Republic.
2. This chapter focuses on the financial system, not on individual financial institutions. Thus it does not discuss issues related to microprudential supervision and deposit insurance, for instance.
3. Levine 1997.
4. For a more extensive discussion of financial inclusion, see World Bank 2013.
5. Beck, Demirgüç-Kunt, and Merrouche 2013.
6. Beck, Demirgüç-Kunt, and Merrouche 2013.
7. Levine 1997.
8. The picture of competition in the financial system, based on available studies and data, is incomplete. Studies have focused mostly on banking; much less research has been done on competition in the insurance sector, capital markets (pension funds, mutual funds, brokerage houses), and the sector of nonbank credit institutions and payment services providers. For an extensive discussion of bank competition and enabling public policies, see World Bank 2012b, chapter 3. See BIS 2004 on the benefits of foreign direct investment in financial systems.
9. Demombynes and Thegeya 2012; Bankable Frontier Associates 2009.
10. Clarke and others 2012; Mobarak and Rosenzweig 2013.
11. Green 2008.
12. This section is focused on development. It thus does not deal with issues such as unmet demand for credit that results from tight credit standards in recessions or crisis periods.
13. Allen and others 2012.
14. Collins, Jentzsch, and Mazer 2011.
15. Dowd 2009; Honohan 2010. Similarly, public deposit insurance should strike a balance between protecting the vulnerable and discouraging moral hazard; it should not, for example, distort market discipline by letting depositors ignore bank risk and simply deposit funds for the highest interest rates.
16. Braun and Raddatz 2010; Willis 2009.
17. Beck 2013 for the WDR 2014.
18. OECD 2011.
19. See OECD, <http://www.financial-education.org>; World Bank, <http://responsiblefinance.worldbank.org>; and Russia Trust Fund on Financial Literacy and Education and Trust, <http://www.finlitedu.org>, managed by the World Bank, for information on designing financial education programs.
20. In 2008, India's National Rural Employment Guarantee Act (NREGA) made more than 45 million payments to poor people living in rural areas. People can receive their G2P payment from post office saving accounts, bank accounts, and village officials.
21. Gupta 2013.
22. Brix and McKee 2010.
23. World Bank 2012a.
24. World Bank 2012a, box 3.
25. Collins and others 2009.
26. Faz and Breloff 2012; Hashemi and de Montesquiou 2011.
27. Output losses are computed as the cumulative sum of the differences between actual and trend real GDP over the period ( $T, T + 3$ ), expressed as a percentage of trend real GDP, with  $T$  the starting year of the crisis. See Laeven and Valencia 2012 for more details.
28. Mongolia, Nigeria, and the United States are the only countries outside that region that experienced a banking crisis from 2007 to 2011 (Laeven and Valencia 2012; Brown 2013 for the WDR 2014).
29. Brown 2013 for the WDR 2014.
30. See Brown 2013 for the WDR 2014 for further details and references.
31. Claessens, Ghosh, and Mihet, forthcoming; Claessens, Kose, and Terrones 2012.
32. World Bank FinStats (internal database), calculated as the three-year average growth of nominal credit before the crisis.
33. Reinhart and Rogoff 2009; BIS 2011a; Buncic and Melecky 2013a for the WDR 2014.
34. Beck and De Jonghe 2013 for the WDR 2014.
35. Allen and Gale 2000; Claessens, Ghosh, and Mihet, forthcoming.
36. Ghosh, Gonzalez del Mazo, and Ötker-Robe 2012.
37. Beck, Demirgüç-Kunt, and Merrouche 2013.
38. WDR 2014 team calculations based on data from the Bank for International Settlements on locational banking statistics by residence (claims of Bank for International Settlements reporting banks on banks in developing countries).
39. WDR 2014 team calculations based on Bankscope data and the initial list of 29 G-SIFIs issued by the Financial Stability Board. Local SIFIs are defined as the top 10 banks of the domestic financial system ranked by assets.
40. Empirical studies confirm that lending by subsidiaries is more stable than direct cross-border lending (Allen and others 2011); Vienna Initiative, <http://vienna-initiative.com/vienna-initiative-part-1/>.
41. Laeven and Valencia 2012. Contagion can occur through depressed asset prices (as a result of fire sales) and information (where one institution's failure can cause investors to withdraw their investments in other banks in the country). Similarly, as retail runs on banks occur, cross-border wholesale and interbank runs on solvent domestic banks can also happen because of coordination problems (Allen and others 2011).
42. BIS 2010a; Cole, Kanz, and Klapper 2012; Aebi, Sabato, and Schmid 2012.
43. Calomiris 2011; FSB 2010.
44. Braun and Raddatz 2010; Hardy 2006.
45. Senior Supervisors Group 2009; Beck, Demirgüç-Kunt, and Levine 2003.
46. BIS 2011b.
47. BIS 2011b; Bank of England 2013. Some proposals suggest that macroprudential policy committees consist of five members, all from outside government and international organizations: a macroeconomist, a microeconomist, a research accountant, a financial engineer, and a practitioner. The board should not include supervisors and regulators. Its composition should provide for objective and independent judgment.
48. IMF 2012b; Melecky and Podpiera 2012. See Buncic and Melecky 2013b for applications of practical stress-testing approaches for macroprudential policy.
49. Arnold and others 2012; Bank of England 2013.
50. Cihak and others 2012.
51. See also Lim and others 2011 for detailed country examples of the use of macroprudential tools.
52. Claessens, Ghosh, and Mihet, forthcoming.
53. Shin 2010; IMF 2012a.
54. For an example of a policy statement outlining a detailed approach to implementing macroprudential buffers in the United Kingdom, see Bank of England 2013. Lim and others 2011, figure 1, offers a useful conceptual framework on how to use macroprudential instruments.

55. Hoggarth, Reidhill, and Sinclair 2004.
56. In principle, the framework for emergency liquidity assistance should allow central bank lending against a broader pool of collateral (including highly rated corporate bonds or foreign governments bonds) that is properly discounted to avoid situations in which the central bank takes on excessive counterparty (credit) risk and needs to be recapitalized by the ministry of finance.
57. Dziobek and Pazarbasoglu 1997.
58. Laeven and Valencia 2012.
59. See FSB 2010; BIS 2011a. The instruments comprise systemic capital surcharges, obligatory issuance of contingent capital obligations (CoCOs), and bail-in debt instruments.
60. See, for instance, BIS 2012.
61. De Grauwe 2010.
62. Adasme, Majnoni, and Uribe 2006.
63. Collins and others 2009; Cull, Demirgüç-Kunt, and Lyman 2012.
64. CGAP 2011.
65. Klapper, Lusardi, and Panos 2012.
66. Beck 2013 for the WDR 2014.
67. Beck and De Jonghe 2013 for the WDR 2014.
68. Anginer, Demirgüç-Kunt, and Zhu 2012.
69. Lafley and others 2012.
70. World Bank 2012b.
71. BIS 2010a; FSB 2013.
72. European Commission 2009.
73. Beck and De Jonghe 2013 for the WDR 2014.
74. Adrian, Colla, and Shin 2012.

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