CHAPTER 1: KEY MESSAGES

- Long-term finance—defined here as any source of funding with maturity exceeding at least one year—can contribute to economic growth and shared prosperity in multiple ways. Long-term finance reduces firms’ exposure to rollover risks, enabling them to undertake longer-term fixed investments, contributing to economic growth and welfare. Access to long-term financial instruments allows households to smooth income over their life cycle—by investing in housing or education, for example—and to benefit from higher long-term returns on their savings.

- Firm and household data show limited use of long-term finance in developing countries, particularly among poorer households and smaller firms. As financial systems develop, the maturity of external finance lengthens. Banks are the main providers of long-term finance and the share of their lending that is long term increases with countries’ income. As countries’ income grows, economies have more developed capital markets and institutional investors that can support long-term finance.

- The use of long-term finance reflects both the demand for and supply of contracts with long-term maturities and reveals the allocation of risk between users and providers. Greater use of long-term finance implies that lenders are exposed to greater risk relative to borrowers. Optimal risk sharing between borrowers and lenders may lead to different equilibrium levels of use of long-term finance for different borrowers and lenders, and in different countries and at different points in time.

- Governments have a role to play in promoting long-term finance when it is undersupplied because of market failures and policy distortions. The government can promote long-term finance without introducing distortions by pursuing policies that foster macroeconomic stability, low inflation, and viable investment opportunities; promoting a contestable banking system with healthy entry and exit and supported with strong regulation and supervision; putting in place a legal and contractual environment that adequately protects the rights of creditors and borrowers; fostering financial infrastructures that limit information asymmetries; and promoting the development of capital markets and institutional investors. In contrast, efforts to promote long-term finance through directed credit, subsidies, and government-owned banks have not been successful in general because of political capture and poor corporate governance practices.
A developed financial sector should offer a wide range of maturities to meet the varying needs of different borrowers. Depending on the circumstances, borrowers might prefer long-term debt contracts, and providers will find it to their advantage to offer such contracts. This chapter begins by laying out a conceptual framework for understanding when firms and households find it beneficial to use long-term finance, when short-term debt will be preferred, and when and why long-term finance might be scarce and government action might be required. Next, the chapter presents basic stylized facts about the users and intermediaries of long-term finance, across developing and high-income countries, as a preview for the discussion and analysis in the rest of the report. Finally, the chapter discusses in very broad terms the role of the government in promoting long-term finance.

**A CONCEPTUAL FRAMEWORK FOR UNDERSTANDING THE USE OF LONG-TERM FINANCE**

Users—firms, households, and governments—might prefer long-term debt because it allows them to reduce rollover and interest rate risks. The rollover risk is the risk that credit lines are canceled or modified at short notice, and the interest rate risk is the risk that interest rates are changed at short notice. These risks generate economic costs because the mismatch between the time horizon of financing and the time horizon of investment projects can force the premature liquidation of long-term projects, which is socially inefficient. This mismatch can also discourage profitable investments with a longer time horizon from being undertaken in the first place. Moreover, the academic literature has argued that “short-termism” can explain several well-known financial crises in both developing and developed countries (Eichengreen and Hausmann 1999; Rodrik and Velasco 2000; Tirole 2003; Borensztein and others 2005; Alfaro and Kanczuk 2009; Brunnermeier 2009; Jeanne 2009; Raddatz 2010; Broner, Lorenzoni, and Schmukler 2013).

Households might prefer long-term finance because it can raise their welfare by allowing them to smooth their consumption over time and by facilitating lumpy investments such as housing. The fact that long-term finance can facilitate access to housing is important because, as an asset, housing can have large...
effects on consumption through wealth effects (that is, increases in value that raise household wealth); these kinds of wealth effects have been found to exceed those of stock ownership (Case, Quigley, and Shiller 2013). Home ownership also provides households with collateral that can help alleviate borrowing constraints and facilitate consumption risk sharing (Lustig and Van Nieuwerburgh 2004). Finally, home equity provides collateral to finance consumption, with potential aggregate effects on demand and the likelihood of starting a small business, and can also foster self-employment (Adelino, Schoar, and Severino 2013).

On the savings side, investing long term allows households to address life-cycle challenges and to ensure that the financial benefits of economic growth are shared within the society. Households require long-term financial vehicles to insure against the challenges of retirement, education needs, health shocks, premature death, or longevity risks, and more generally to smooth consumption over time. Moreover, a financial system’s capacity to spread risk effectively across time and agents is crucial to viable funded pension, education, and health systems.

Long-term financing is also important for firms because it allows them to undertake lumpy and large investments that might be critical for their growth. In the absence of long-term financing, firms might have to rely on short-term debt, and their inability to roll over short-term debt might cause a firm to exit or to curtail profitable long-term investments with consequences for their growth potential (Almeida and others 2011).

For the economy as a whole, long-term finance contributes to higher growth by lowering macroeconomic volatility. Because long-term investments take longer to complete, they have a relatively less procyclical return but also face a higher liquidity risk. Under complete financial markets, long-term investments are countercyclical because their opportunity costs are lower during recessions (the return on short-term investments is correlated with the cycle). But when firms face rollover risks, fixed investments turn procyclical because funding shocks are more likely to interrupt them than short-term investments. That, in turn, amplifies volatility and lowers economic growth. Tighter credit for long-term investment therefore leads to both higher aggregate volatility and lower mean growth for a given total investment rate, a prediction consistent with cross-country evidence (Aghion, Howitt, and Mayer 2005).

Long-term finance is also critical for infrastructure projects, which by nature take many years to complete and require lumpy investments. In turn, infrastructure development has been found to have positive and significant impact on long-run growth and to lessen income inequality (box 1.1).

Long-term finance can be defined in many different ways. One common definition considers it to be any source of funding with maturity exceeding one year. This definition corresponds to the definition of fixed investment in national accounts. The Group of 20, by comparison, uses a maturity of five years (G-20 2013). Depending on data availability, the report uses one of these two definitions to characterize the extent of long-term finance. Moreover, because there is no consensus on the precise definition of long-term finance, wherever possible, rather than use a specific definition of long-term finance, the report provides granular data showing as many maturity buckets and comparisons as possible.

Long-term finance encompasses many instruments and intermediaries. Bank loans and bond markets are typically discussed in the literature. To some extent, equity (public or private) can be considered a form of long-term financing, since it is a financial instrument with no final repayment date.

The benefits of long-term finance can accrue not only to borrowers but also to providers (savers in the economy) and financial intermediaries (banks and institutional investors). Savers might engage in long-term financial contracts because returns are higher than short-term contracts and because the maturity of these contracts might match their long-term saving needs. Although different financial intermediaries differ in the composition of their funding structure, some might find it profitable to engage in long-term contracts for similar reasons as savers do.
A vast theoretical and empirical literature, recently summarized by Calderón and Servén (2014), underscores the importance of infrastructure for economic development. In particular, one strand focuses on the contribution of infrastructure to the level or growth rate of aggregate output or productivity. The output impact of infrastructure is typically modeled by including either the stock of infrastructure assets or the flow of infrastructure services as an input in the economy’s aggregate production function and by assuming that infrastructure is a complement to noninfrastructure inputs such as labor and noninfrastructure capital (Arrow and Kurz 1970).

In such a setting, an increase in the volume of infrastructure services raises output not only directly but also indirectly, by “crowding in” other inputs owing to the accompanying rise in their marginal productivity. However, in an endogenous growth model setting, such as Barro (1990), the increasing taxation to finance public infrastructure beyond a certain optimal level can crowd out the use of other inputs, which can offset the crowding-in effect from productivity. The welfare-maximizing level of productive expenditure, which maximizes the economy’s growth rate, is achieved when the share of productive government expenditure in the gross domestic product (GDP) equals the elasticity of aggregate output with respect to the same variable—what is often called the Barro rule.

Beyond its potential role as another input in the production function, infrastructure may also enter the production function as a determinant of aggregate total factor productivity. For example, Bougheas, Demetriades, and Mamuneas (2000) and Agénor (2013) argue that transport and telecommunications services facilitate innovation and technological upgrading, which in turn raise output growth, by reducing the fixed cost of producing new varieties of intermediate inputs. Another strand of the literature highlights the role of infrastructure in the accumulation of other inputs. For example, better transport networks may reduce installation costs of new capital (Turnovsky 1996). Similarly, better access to electricity may raise educational attainment and reduce the cost of human capital accumulation, also fostering growth (Agénor 2011).

Empirically, many studies have demonstrated that infrastructure matters for output and productivity growth (Calderón and Servén 2014). For example, employing physical measures of infrastructure assets and using cross-country panel data sets, studies such as Canning (1999), Calderón and Servén (2004), and Calderón, Moral-Benito, and Servén (2015) report a significant GDP (or productivity) contribution of infrastructure.

In addition to its impact on aggregate income, infrastructure can also have an impact on income inequality. In particular, infrastructure development may have a differential effect on the incomes of the poor, over and above its impact on aggregate income, by facilitating the poor’s access to productive opportunities and by raising the value of their assets. It can also improve their health and education outcomes, thus enhancing their human capital. Empirically, a number of studies that have examined the inequality impact of infrastructure at the aggregate level, by regressing Gini coefficients and similar inequality measures on indicators of infrastructure development in a cross-country panel data setting find that, all else equal, income inequality is negatively related to their respective measures of infrastructure development (Calderón and Chong 2004; Calderón and Servén 2004, 2010a, 2010b; López 2004).

Because infrastructure can both raise income levels and reduce income inequality, its development has the potential to offer a powerful tool for reducing poverty and boosting shared prosperity. For this reason, infrastructure development has become a priority for the World Bank. To support infrastructure projects, the World Bank has partnered with some of the world’s largest asset management and private equity firms, pension and insurance funds, commercial banks, multinational development institutions, and donor nations to set up the Global Infrastructure Facility (GIF). Launched in October 2014, GIF is envisioned as a global open platform that will facilitate the preparation and structuring of complex infrastructure public-private partnerships to mobilize private sector and institutional investor capital. While many development finance institutions and other entities (private and public) already provide similar support to projects, this support is often fragmented, with coordination largely dependent upon coincidental relationships. The aim of the GIF is to coordinate preparation and structuring support more systematically and to provide resources to fill gaps, ensuring a high-quality, comprehensive approach and early consideration of financing options with the potential to attract a wider range of investors. More time is needed to evaluate this novel initiative.
Providers of financing may at times prefer short-term contracts to guard against moral hazard and agency problems in lending. Financing contracts with a short maturity improve the lender’s ability to monitor borrowers through the implicit threat of restricted access to credit in the future in case of default (Rajan 1992; Rey and Stiglitz 1993; Diamond and Rajan 2001). In particular, because debtors need to roll over their financing when debt is short term, creditors are able to cut financing if debtors are not taking actions that maximize the repayment probability of the financing obtained. Equity might mitigate some of the monitoring issues that lead to short-term financing because shareholders and, in particular, private equity investors can control the management of an investee firm more directly than a financial institution can.

Users might also prefer short-term finance in some instances. Firms tend to match the maturity of their assets and liabilities; hence, the faster the returns to investment are realized, the shorter the optimal payment structure will be (Hart and Moore 1995). Thus, long-term loans are usually used to acquire fixed assets, equipment, and the like. Short-term loans, on the other hand, tend to be used for working capital, such as payroll, inventory, and seasonal imbalances. In addition, a firm or a household that anticipates improvements in its financial situation might prefer short-term financing rather than being locked in a longer contract that might not reflect the medium- or long-term prospects. For example, research suggests that firms with high credit ratings might prefer short-term debt because it allows them to refinance the terms of their debt when good news arrives (Diamond 1991). Households and firms might also prefer short-term contracts if the payoffs from available investment projects have a similarly short-term horizon or if the cost of long-term finance is too high.

In essence, the use of long-term finance can be better understood as a risk-sharing problem between providers and users of finance. Long-term finance shifts risk to the providers because they have to bear the fluctuations in the probability of default and the loss in the event of default, along with other changing conditions in financial markets, such as interest rate risk. Naturally, providers require a premium as part of the compensation for the higher risk this type of financing implies, the size of which depends on the degree of their risk appetite. In contrast, short-term finance shifts risk to users because it forces them to roll over financing constantly.

Therefore, long-term finance may not always be optimal for the economy as a whole. Providers and users will decide how they share the risk involved in financing at different maturities, depending on their needs. What matters for the economic efficiency of the financing arrangements is that borrowers have access to financial instruments that allow them to match the time horizons of their investment opportunities with the time horizons of their financing, conditional on economic risks and volatility in the economy (for which long-term financing may provide a partial insurance mechanism). At the same time, savers would need to be compensated for the extra risk they might take. For this reason, it is still important to understand where different economies stand in the allocation of short- and long-term finance, because each one has its pros and cons that imply different responses from policy makers (box 1.2).

Because of information asymmetries and other market failures, the amount contracted in equilibrium could be lower than desired in situations when both users and providers of finance would ideally prefer long-term finance contracts. Because extending long-term finance implies large risks for providers, the same rationale provided by Stiglitz and Weiss (1981) showing rationing in credit markets could be applied. In particular, information asymmetries could prevent the creditor from knowing the true repayment capacity and willingness to pay of the borrower, thus making the creditor reluctant to agree to the amount of long-term finance requested.

Coordination problems are another form of market failure that can shorten debt maturity. When the seniority of claims is not well enforced and lenders cannot coordinate their
Incentive problems can also give rise to short-term bias in financing contracts. Even in economies with a well-developed financial sector, the institutional and managerial incentives of financial intermediaries may lead to an undersupply of long-term financing. Opazo, Raddatz, and Schmukler (2015) looked at the universe of institutional investors in Chile and found that mutual and
Firms

Early literature on corporate debt structures, using data from the 1980s and 1990s, has documented that corporate debt is of shorter maturity in developing countries than in developed economies (Demirgüç-Kunt and Maksimovic 1999; Booth and others 2001). Moreover, in developing countries, firms have lower leverage (defined as the ratio of total debt to total assets). To the extent that external equity is more difficult to raise than debt finance, this finding indicates a more general reduced reliance on external long-term finance in developing economies to finance investment.

More recent research confirms the differences in corporate debt maturity structures across countries at different levels of economic development and across firms of different sizes. In particular, Demirgüç-Kunt, Martínez Pería, and Tressel (2015a) show that the median share of long-term debt (that is, debt of remaining maturity greater than a year) to total debt is smaller in developing countries than in high-income economies across all firm size groups (figure 1.1).² The authors based their findings on data for the period 2004–11 from ORBIS, a commercial dataset produced by Bureau van Dijk.

SOME STYLISTED FACTS ABOUT THE USERS AND PROVIDERS OF LONG-TERM FINANCE

The use and availability of long-term finance can be analyzed by looking at data from the point of view of the users, intermediaries, and the markets where transactions occur. Firms and households are the main private sector users of long-term finance.¹ Banks and institutional investors such as mutual funds, pension funds, insurance companies, and private equity investors are the main intermediaries. Corporate bond and equity markets are also key in understanding the use of long-term finance, as is syndicated lending (box 1.3).

BOX 1.3 Intermediaries and Markets for Long-Term Finance

Various domestic and foreign institutions and markets may have a role to play in the provision of long-term finance. The following taxonomy builds on earlier World Bank work, including regional reports on Latin America and the Caribbean (de la Torre, Ize, and Schmukler 2012), Africa (Beck and others 2011), and the Middle East and North Africa (World Bank 2011).

Commercial banks and nonbank intermediaries. Commercial banks can play a key role in providing long-term finance to the real economy. By pooling savings, banks assume a maturity mismatch and create long-term claims while providing liquid financial instruments to savers subject to idiosyncratic needs. Banks have a comparative advantage in monitoring productive projects and can be significantly leveraged, thus transforming the maturity of financial claims to allow the financing of illiquid investments (Diamond 1984). However, banks that become too dependent on short-term liabilities may shorten the maturity of their loan portfolio to reduce the rollover risk (Paligovora and Santos 2014).

Bond markets. Corporate bond markets offer an alternative to bank financing and could be particu-
larly useful for large firms, for large financing needs that exceed the capacity of the banking system, or where asymmetries of information and agency problems are mitigated in stronger institutional environments. A developed bond market may also enhance the efficiency of bank financing by allowing securitization or by matching the longer-term assets to their liabilities and by enhancing competition.

**Stock markets.** The presence of a developed and liquid stock market develops and aggregates information through stock prices and underwriting, brokerage, and other activities and is associated with higher borrowing capacity for firms (Demirgüç-Kunt and Maksimovic 1998). More generally, securities markets allow a more efficient allocation of resources and contribute to market discipline through price signals, information production, and takeover activities.

**Institutional investors.** Life insurance companies, pension funds, endowments funds (such as sovereign wealth funds), and mutual funds are, in principle, suitable providers and intermediaries of long-term funding to the financial system. Long investment horizons, particularly for pension funds, sovereign wealth funds, and insurance companies, may allow these investors to take advantage of long-term risk and illiquidity premiums, and, relative to banks, they are less vulnerable to liquidity runs. Some institutional investors are subject to short-run performance metrics, however, which might bias their holdings toward the short term.

**Hedge funds, venture capital funds, and private equity funds.** High-risk, low-liquidity funds aim at the next stage of wealth and sophistication. They are starting to appear in the deepest emerging markets, such as Brazil, with an often dominant participation of offshore funds. These types of funds are only very lightly regulated. How much they invest in long-term assets remains difficult to ascertain, given the dearth of data. Their volumes and performance may be particularly sensitive to various country risks and governance arrangements, given their often high illiquidity and the idiosyncratic specificities of the projects financed. Private equity has become a growing part of the financial sector, especially for long-term finance, in many developing economies. Following the financial crisis, the recovery of private fundraising momentum was particularly strong in Sub-Saharan Africa and Latin America.

**International capital markets.** When domestic savings are not sufficient, individual countries turn to international capital markets for long-term finance. Foreign direct investments, bank loans, and portfolio investments have flowed from advanced economies, where long-term finance is more abundant, to developing countries, where higher returns can be gained when appropriate institutional and policy environments are in place. In particular, private equity funds in advanced economies are increasingly investing in emerging markets. International syndicated loans for project financing have been dominated by advanced economies’ banks—in particular, those from European countries. Emerging markets and other developing countries have for many decades borrowed from banks in advanced economies or through foreign currency international bond markets. The presence of foreign investors in domestic capital markets has increased, but evidence is scant on their impact on the maturity of claims, while the recent crisis has heightened the traditional trade-off between access to lower financing costs and the risks from external factors, causing volatility in the availability of foreign long-term finance.

**State-owned financial intermediaries.** The debate on the rationale for state intervention in the financial sector usually centers on market failures and externalities (World Bank 2013a). Direct state participation is warranted to compensate for market imperfections that leave socially profitable long-term investments underfinanced. State-owned financial institutions, particularly development banks, have returned to the spotlight of the public debate in recent years, partly in response to their role during the global financial crisis. Concerned about the lack of notable progress in increasing access to long-term finance, policy makers are discussing the efficacy of development banks, despite the well-recognized misallocation and efficiency losses stemming from weak governance and politically motivated lending in underdeveloped institutional environments.
exception. Bank finance accounts for 42 percent of financing for fixed investment for these firms; informal sources and family members, which account for 24 percent of external financing for fixed investments, make up a large part of the difference.

**Households**

Housing finance is arguably the most important type of long-term financing used by households. A house is the largest asset most individuals will acquire during their lifetime. Mortgage loans allow households to spread the cost of the purchase over many years while enjoying the immediate benefit of having housing.

Mortgage market development varies significantly across countries. Mortgage depth is defined as the outstanding mortgage debt relative to gross domestic product (GDP). Badev and others (2014) find that while mortgage depth averages close to 40 percent of GDP in high-income countries, it averages only 7 percent in upper-middle-income countries and 3 percent in lower-middle- and low-income countries (figure 1.3). The figures for

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**FIGURE 1.1** Ratio of Firms’ Median Long-Term Debt to Total Debt by Country Income Group and Firm Size, 2004–11

![Graph showing ratio of firms’ median long-term debt to total debt by country income group and firm size, 2004–11.](image)

Source: Demirgüç-Kunt, Martinez Pería, Tressel 2015a.

Banks are the main source of external financing for fixed investments, which tend to be long term. Data from the World Bank Enterprise Surveys conducted between 2006 and 2014 show that on average firms finance 50 percent or more of their investments with bank loans (figure 1.2). Small firms in lower-middle- and low-income countries are the

**FIGURE 1.2** Sources of External Financing for Fixed Asset Investment by Country Income Group and Firm Size, 2006–14

![Graph showing sources of external financing for fixed asset investment by country income group and firm size, 2006–14.](image)

the medians are lower but the patterns are the same.

Survey data suggest that across the world only a small percentage of individuals has outstanding housing loans, but differences across groups are significant. Individual-level Global Findex data suggest that on average across all countries, only 8 percent of adult individuals report having an outstanding loan (formal or informal) to purchase a home (figure 1.4). Comparisons across country groupings and across income categories within country groupings vary substantially. The average share of individuals with an outstanding home loan is 21 percent in high-income economies, while it is 3 percent in developing countries. Within each of these country groupings, the share of individuals with a housing loan among those in the top 60 percent of income is between 1.5 to 2 times larger than that for those in the bottom 40 percent.

The availability of long-term finance for households can also facilitate the accumulation of human capital. The second important category of financing with a maturity of more than one year that is frequently used by households is education loans. Education loans can facilitate investment in human capital, especially in environments where these investments are not subsidized by the governments and they impose significant financial costs on the household, since returns are realized only with a significant delay.

The use of credit to finance investments in education in developing countries is very low and is more pervasive among richer

![FIGURE 1.3 Outstanding Mortgage Debt by Country Income Group, 1980–2011](image-url)

![FIGURE 1.4 Share of Population with an Outstanding Mortgage by Income and Country Income Group, 2011](image-url)
individuals. According to data from the Global Findex, only 5.4 percent of individuals in middle- and low-income countries have an outstanding loan to pay for school fees.3

**FIGURE 1.5 Maturity Structure of Bank Loans by Country Income Group, 2000–13**

<table>
<thead>
<tr>
<th>Country Income Group</th>
<th>% of Total Bank Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income countries</td>
<td>12.0</td>
</tr>
<tr>
<td>Upper-middle-income countries</td>
<td>34.3</td>
</tr>
<tr>
<td>Lower-middle- and low-income countries</td>
<td>34.7</td>
</tr>
</tbody>
</table>


**FIGURE 1.6 Annual Issuance of Syndicated Loans and Average Maturity by Country Income Group**

<table>
<thead>
<tr>
<th>Country Income Group</th>
<th>Issuance Volume</th>
<th>Average Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income countries</td>
<td>6.5</td>
<td>6.6</td>
</tr>
<tr>
<td>Upper-middle-income countries</td>
<td>5.2</td>
<td>6.7</td>
</tr>
<tr>
<td>Lower-middle- and low-income countries</td>
<td>1.6</td>
<td>6.7</td>
</tr>
</tbody>
</table>


**Banks**

Banks are the most important providers of long-term finance, and long-term financing from banks is particularly important for households and small firms. By pooling savings and transforming short-term deposits into long-term loans, banks take on liquidity risks (arising from the maturity mismatch between their assets and liabilities) and can provide financing for illiquid long-term projects (Diamond and Dybvig 1983). The extent to which banks can perform this intermediary function depends, among other factors, on how well a bank can both assess credit risks to screen prospective borrowers and monitor borrowers once a loan has been issued.

The average share of bank loans with maturity above five years is higher in richer countries. Bank balance sheet data from Bankscope, a commercial dataset produced by Bureau van Dijk, indicates that among high-income economies the share of bank loans with maturities exceeding five years reaches 33 percent on average, compared with about 23 percent for upper-middle-income countries and only 12 percent in lower-middle- and low-income countries (figure 1.5). At the same time, the share of loans with maturity between one and five years is more similar across income groups, accounting for almost 30 percent among high-income economies and 35 percent among developing countries.

**Syndicated Lending**

Syndicated lending as a percentage of GDP is substantially higher in high-income countries relative to developing countries. The average share of syndicated lending to GDP in high-income countries is 6.5 percent and the median is 5.2 percent (figure 1.6). In contrast, in middle- and low-income countries, both the average and median shares are close to 2 percent.

The maturity of syndicated loans in high-income countries is lower than that for loans in developing countries. The median and average maturity of syndicated loans in high-income countries is close to six years, while in middle- and low-income countries these statistics are
closer to seven years (see figure 1.6). Differences in loan types are the main reason for the differences in maturities. In developing countries, most syndicated loans are for project finance or infrastructure loans, which tend to have longer maturities, while in high-income countries the majority of syndicated loans are general purpose corporate loans with shorter maturities. Chapter 3 offers more granular data and discussion of these patterns.

**Capital Markets**

Capital markets, comprising bond and stock markets, are another potential source of long-term financing for firms. These markets are significantly more developed in high-income countries. From 2000 to 2011, the total capitalization of these markets averaged approximately 203 percent of GDP in high-income countries, almost 98 percent in upper-middle-income countries, and 62 percent in lower-income countries (figure 1.7). Median values are lower (in particular, among high-income countries), showing the influence of outliers within each income category, but the main pattern remains the same—capital market capitalization is positively correlated with income.

The structure of capital markets differs significantly across high-income and developing countries. In high-income economies, stock markets tend to dominate, followed by private bond markets. On average, the two markets account for 157 percent of GDP: stock market capitalization is almost 81 percent of GDP, and private bond market capitalization accounts for close to 76 percent. In developing countries, stock markets are also important, but public instead of private debt markets come second in importance. On average, in upper-middle-income countries stock market capitalization is almost 43 percent of GDP, and public bond market capitalization accounts for 38 percent. In contrast, private bond markets account for 17 percent of market capitalization on average. In the two lower-income groups, private debt markets are very small at 3 percent of GDP.

The maturity of corporate bond issues is not clearly tied to country income. While

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**FIGURE 1.7** Capital Market Sizes by Country Income Group, 2000–11

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<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income countries</td>
<td>203.1</td>
<td>165.8</td>
<td>98.0</td>
<td>70.7</td>
<td>62.4</td>
<td>53.0</td>
</tr>
<tr>
<td>Upper-middle-income</td>
<td>81.3</td>
<td>69.5</td>
<td>42.6</td>
<td>27.4</td>
<td>25.5</td>
<td>17.5</td>
</tr>
<tr>
<td>Lower-middle- and low-income countries</td>
<td>46.0</td>
<td>40.6</td>
<td>17.1</td>
<td>15.1</td>
<td>3.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>


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**FIGURE 1.8** Maturity of Corporate Bond Issues by Country Income Group, 2000–13

<table>
<thead>
<tr>
<th>Income Group</th>
<th>Mean Years</th>
<th>Median Years</th>
<th>Mean Years</th>
<th>Median Years</th>
<th>Mean Years</th>
<th>Median Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income countries</td>
<td>6.7</td>
<td>6.4</td>
<td>7.6</td>
<td>8.0</td>
<td>6.3</td>
<td>5.4</td>
</tr>
<tr>
<td>Upper-middle-income</td>
<td>5.6</td>
<td>5.3</td>
<td>6.2</td>
<td>6.0</td>
<td>5.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Lower-middle- and low-income countries</td>
<td>4.7</td>
<td>4.4</td>
<td>5.2</td>
<td>5.0</td>
<td>4.1</td>
<td>3.8</td>
</tr>
</tbody>
</table>

for firms in these countries is 7.6 years and the median is 8 years. One reason driving lower maturities for high-income countries is that a larger percentage of bond issues is by financial firms, and these issues tend to have a shorter maturity. Chapter 3 offers more granular data and in-depth discussion of these patterns.

Institutional Investors

Institutional investors are often discussed as an important source of finance with the potential to be long term. During 2000–11, however, their participation in developing economies was still relatively small. The cumulative assets of institutional investors—pension funds, mutual funds, and insurance companies—averaged 99 percent of GDP in high-income economies, with broadly similar shares for the three sets of institutional investors (figure 1.9). In contrast, the assets of these institutions averaged only 25 percent of GDP in upper-middle-income economies, and pension funds dominated. In lower-income countries, the share of assets to GDP was even lower, averaging close to 12 percent, with pension funds accounting for half of the total. Median shares are significantly lower across all income groups, showing that there is quite a bit of heterogeneity in the importance of institutional investors within each income category. That is especially the case in both groups of developing countries, where the medians are close to half or less of the average.

Although private equity is considered a promising source of long-term financing, it is still negligible in developing countries and is concentrated in just a few. Statistics compiled by the Emerging Markets Private Equity Association (EMPEA) for the period 2008–13 show that while private equity financing averaged around $230 billion in high-income countries, in developing countries it averaged $30 billion or 10 percent of the global amount of private equity (figure 1.10). Furthermore, the significance of private equity financing is very unbalanced within the developing world, averaging approximately $17 billion in developing Asian countries, four times more than the average for Latin America, the region with the second-highest presence of private equity financing.
Empirical studies confirm that political and macroeconomic instability (in particular, high inflation) are among the leading reasons for the lack of long-term finance and private investment. Demirgüç-Kunt and Maksimovic (1999) showed that inflation is negatively related to the use of long-term debt. Kpodar and Gbenyo (2010) found that the share of long-term credit to total credit in countries that are part of the West African Economic and Monetary Union was higher for countries with lower and less volatile inflation and for countries with stable political regimes. Qian and Strahan (2007) and Bae and Goyal (2009) found that increased country risk is associated with shorter loan maturity. Tasić and Valev (2008) also found that inflation has a negative impact on maturity of domestic bank credit to the private sector in 74 countries. Tasić and Valev (2010) found similar results using a panel dataset for a sample of transition economies.

Not only the current level of inflation but also a history of past inflation can have a negative effect on debt maturity. Using a database on government debt in 19 emerging countries over the period 1980–2002, Jeanne and Guscina (2006) observed substantial cross-country variation in the maturity structure of debt, finding that countries with lower long-term debt are those with a history of high inflation (that is, inflation of over 100 percent in the previous decade). A history of high inflation is often linked to short-term debt and investments in Brazil, despite the many reforms adopted by the country to develop long-term finance (Park 2012).

To ensure an adequate supply of finance, including long-term debt, the government needs to build a strong legal and institutional framework. When a country’s contracting institutions offer only very weak protections for lenders against nonpayment of debt, lenders tend to rely on short-term lending agreements for formal debt contracts, which make it easier for the lender to discipline the borrower through the threat of withholding future financing in case of nonrepayment. Consistent with these predictions, Warnock and Warnock (2008) found that countries

THE ROLE OF THE GOVERNMENT IN PROMOTING LONG-TERM FINANCE

Government intervention to promote long-term finance is clearly justified when market failures that limit its use prevail in financial markets. As discussed, these market failures can arise from asymmetric information, coordination, and incentive problems.

Government policies that reduce information asymmetries are useful for promoting the availability of long-term finance. The existence of credit bureaus and other mechanisms that share information among financial intermediaries improves access to financial services generally and to long-term finance in particular. Using data on the maturity of domestic bank credit to the private sector in 74 countries from 1990 to 2005, Tasić and Valev (2008) found that the presence of a credit bureau or registry is associated with longer debt maturity. This result is confirmed more robustly by Martínez Pería and Singh (2014), using multiyear firm-level surveys for 60 countries covering more than 60,000 firms over the period 2002–11. Among other results, they show that after the introduction of a credit bureau, the maturity of firm loans lengthens.

The other important role for the government is to avoid policy distortions that give rise to an unstable political or macroeconomic environment, which can reduce the amount of long-term finance used in the economy. A stable political and macroeconomic environment is a necessary condition for long-term finance to thrive because it underpins the ability of economic agents to predict the risks and returns associated with that finance. If political risk is significant or the macroeconomic environment is unstable, the market is unlikely to provide long-term finance at a reasonable premium. Instead, short-term finance, often of small amounts, will be the most prevalent form of external financing (Caprio and Demirgüç-Kunt 1998). At the same time, prospective borrowers will be reluctant to invest in their future, and the demand for long-term finance will be low.
with stronger protections for legal rights have deeper housing finance systems. Using firm-level data for 39 countries between 1991 and 2006, Fan, Titman, and Twite (2012) found that firms in countries with a weaker legal environment tend to use more short-term debt. Qian and Strahan (2007) found that creditor rights are positively associated with loan maturity.

A good legal framework for collateral is also needed to foster the availability of long-term finance. Long-term financial contracts lack the disciplining effect of short-term debt on borrowers and therefore require assets to be pledged to alleviate moral hazard. Evidence shows that collateral requirements are often stringent for loans financing fixed assets (which are usually long term) and that the lack of collateral is often a constraint on investment in fixed assets (Beck, Demirgüç-Kunt, and Maksimovic 2005). Using data for transition economies, De Haas, Ferreira, and Taci (2010) found that banks that perceive the legal collateral environment to be good tend to focus more on mortgage lending. Reforms of collateral registries have also been found to have a significant impact on loans to finance fixed assets and on the maturity of these loans (Love, Martínez Pería, and Singh, forthcoming). Further evidence shows that collateral requirements become even more important in environments with corruption and poor property rights, suggesting that reforms reducing the cost of collateral may have stronger impacts in weaker institutional environments (Qian and Strahan 2007).5

A strong capability to enforce contracts is also required to promote the use of longer-term financial contracts. In the absence of contract enforcement, financiers would avoid lending long term and rely on short-term contracts to discipline and ensure repayment by borrowers. Using loan- and firm-level data, respectively, Bae and Goyal (2009) and Fan, Titman, and Twite (2012) found that better contract enforcement is associated with longer debt maturity. In fact, Bae and Goyal found that contract enforcement is more significantly and consistently associated with longer maturities than are creditor rights.

The government can also influence the supply of long-term finance by ensuring the existence of competitive and contestable markets for financing. For example, by minimizing entry barriers, ensuring a level playing field, and otherwise facilitating bank competition, and by allowing the functioning of other intermediaries—leasing companies, private equity investors, venture capitalists—that can also provide long-term finance, the government can shape and potentially play a role in expanding the supply of long-term finance. Thus, the presence of a strong supervisory and regulatory framework that promotes contestability among existing and potential providers of long-term finance can be very important for the development of long-term finance.

Policies and regulations that improve the quality of corporate governance and accounting standards can also support the development of markets for long-term finance. In many developing countries, investment constraints stemming from political and macroeconomic risks are compounded by insufficient transparency at the firm level, caused by poor corporate governance and accounting standards. Lack of transparency makes reliable risk assessments difficult, especially over a long time horizon, and reduces the availability of long-term financing. Existing research has consistently found a positive association between corporate governance and the availability of long-term finance.6

By providing a legal and regulatory framework that facilitates the development of efficient capital markets, the government can also foster long-term financing. Well-functioning capital markets aggregate information and reduce informational asymmetries between market participants, facilitating the provision of long-term financing (Demirgüç-Kunt and Maksimovic 2002). Governments can pursue several policies to support the development of deep and liquid capital markets. De la Torre, Gozzi, and Schmukler (2007), for example, studied the impact of a set of reforms on stock market development in emerging markets, namely, stock market liberalization, enforcement of insider trading laws, introduction of...
Restrictions on portfolio allocations that limit the long-term instruments these funds can invest in should also be removed.

The evidence on the effects of the direct provision of long-term financing by governments is generally not encouraging. It shows that lending by government-owned banks has often been associated with political capture and a misallocation of resources. In particular, cross-country studies show that greater government participation in bank ownership tends to be associated with lower levels of financial development, more politically motivated lending, lower banking-sector outreach, wider intermediation spreads, greater financial instability, and slower economic growth (Barth, Caprio, and Levine 2001, 2004; Caprio and Martinez Pería 2002; La Porta, López-de-Silanes, and Shleifer 2002; Dinç 2005; and Micco, Panizza, and Yañez 2007). Moreover, detailed case studies on government-owned banks in developing and even some developed countries offer more robust evidence that government bank lending is subject to political manipulation and rarely results in improved access for constrained borrowers (see, for example, Sapienza 2004 for evidence on Italy; Khwaja and Mian 2005 for evidence on Pakistan; Cole 2009a, 2009b for evidence on India; and Carvalho 2014 for evidence on Brazil).

The government can also promote long-term financing through policies that support the development of institutional investors; these policies include setting the right incentives and removing unnecessary restrictions on their portfolio allocations so that these investors invest long term. Institutional investors can play an important role in the development of markets for long-term finance. The expectation is that they are better able to mobilize assets, diversify risks, and overcome transaction costs and information problems that prevent other market participants from investing long term (Caprio and Demirgüç-Kunt 1998; Corbo and Schmidt-Hebbel 2003; Borensztein and others 2008; Eichengreen 2009). To invest long term, however, investors have to be provided with the right incentives. In particular, governments need to ensure that compensation and benchmarking practices followed by institutional investors have a long-run horizon to avoid some of the short-termism that has been observed in some cases (for example, the holdings of pension funds in Chile, as shown by Opazo, Raddatz, and Schmukler, 2015).
BOX 1.4 Development Banks and Long-Term Finance: Two Different Approaches

The Brazilian Banco Nacional de Desenvolvimento Econômico e Social (BNDES) and the Colombian Financiera de Desarrollo Nacional (FDN) highlight two very different approaches to supporting long-term finance through government-owned financial institutions.

Brazil’s development bank BNDES has historically played a major role in providing long-term finance through directed lending. This approach has advantages and drawbacks. On the one hand, the scale of BNDES’s direct lending operations has enabled the bank to provide long-term financing in cases where private credit might not have been available as a substitute. For example, BNDES has provided extensive financing for large-scale investments in physical and social infrastructure whose social returns may not be fully internalized by private investors. Because government banks do not face the same redemption risk as private lenders, it has also been argued that government banks are well suited to provide countercyclical financing during times of economic crisis.

Some evidence suggests that direct lending by BNDES had a stabilizing effect on Brazilian credit markets during the recent global financial crisis (Coleman and Feler 2015). While private sector banks in Brazil and elsewhere contracted lending and loan maturities in the aftermath of the financial crisis, Brazil used its government banks, including BNDES, to play a countercyclical role. The share of credit extended by Brazil’s government banks rose from 13 to 18 percent of gross domestic product between September 2008 and 2009. Thanks to a generous capital injection by the government (R$100 billion in 2009), BNDES was able to extend special credit facilities with maturities of more than one year at substantially discounted interest rates and increased lending, from R$160 billion (at 2005 prices) in Q4 2008 to R$277 billion in Q4 2009. The reference interest rate for long-term loans was set at 6 percent, which was 7.5 percentage points below the market rate (Lazzarini and others 2015).

On the other hand, the surge of BNDES lending—while compensating for the contraction of private credit and for the shortening of loan maturities during the crisis—may have come at the cost of significant market distortions in the longer run. The available evidence shows significant political distortions in lending by Brazilian government banks during noncrisis times, with funds being channeled to constituencies in which political incumbents face competition (Carvalho 2014) or to firms that make political donations (Claessens, Feyen, and Laeven 2008). There is, as a consequence, no indication that this additional credit has had any positive effect on employment or firm performance (Carvalho 2014; Lazzarini and others 2015). Moreover, the scale of the intervention is likely to have fiscal effects that are damaging to the market for long-term credit more broadly. The substantial government transfer to BNDES, financed through bond issuance, is likely to crowd out private credit, keep long-term interest rates high, and reduce the overall availability of private credit in the economy.

Colombia’s development bank FDN has followed a very different approach, supporting long-term finance through strategic interventions that crowd in private investment and through financial innovations that promote the development of markets for long-term finance. FDN’s mandate is to focus specifically on support for long-term infrastructure financing in Colombia. Being both smaller and more specialized than other government banks, FDN aims to increase the impact of its investments by mobilizing co-investments by the private sector.

One of the bank’s flagship projects is the construction of 8,000 kilometers of toll road at a cost of about $23 billion. FDN bears the risk of the fixed up-front investment, and private investors are extensively engaged in the operational cycle of the project. To ensure private sector participation in long-term projects of this kind, FDN has established a special public-private partnerships unit that will focus on structuring “bankable” infrastructure projects. So far, FDN’s efforts at mobilizing long-term finance has focused on domestic lenders. In the longer term, an important goal is to establish conditions that enable the participation of institutional investors so that FDN can mobilize joint long-term financing from banks and from capital markets.

FDN has also been active in supporting financial innovations that can help mobilize long-term finance. In particular, the bank is developing bonds, partial guarantees, and other innovative instruments.

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difficult in weak institutional environments where good governance is difficult to establish. Catalytic investments that crowd in cofounding by the private sector for projects with high social returns can be structured as public-private partnerships (PPPs). These can improve the incentive environment and reduce the risk that public spending crowds out private investment.

Public-private partnerships are another example of how public institutions can support the provision of long-term finance without distorting market incentives. PPPs are commonly used for large infrastructure projects such as highways, ports, and airports. In a PPP, a consortium of public and private investors finances and manages the construction and then maintains and operates the facilities for a long period of time, often over several decades. In the construction phase, private investment is combined with bank loans and government grants to diversify the risks of a large up-front investment. During the operation phase, the private investor covers operational costs and receives a stream of payments as a return. The PPP contract is appealing to private investors because it allows for the clear assignment and pricing of the risks at each project phase. For the government, long-term finance through PPPs for long-term projects is an attractive alternative to direct public financing for several reasons. First, PPPs reduce the well-known problem of from becoming a source of market distortions in the longer run. Box 1.4 provides a discussion of two different approaches to development banking.

To mitigate political interference, the corporate governance and risk management framework of government-owned banks needs to be especially strong. A strong framework entails a number of requirements, as outlined by Scott (2007). First, there has to be an agency within the government that is expressly responsible and accountable for representing the shareholder. Second, board members need to be appointed in a transparent manner for a fixed period of time, and they should be accountable for their actions, as they would be in listed companies. Third, senior management at the bank needs to be qualified and be held accountable by the board of directors.

Governments can share risk and extend maturity structures through providing credit guarantees. Government-backed guarantee schemes are often designed to encourage lending to certain sectors—for example, small and medium enterprises—and can allow more risky borrowers to receive loans and also extend maturity structures (box 1.5). However, in practice, it is not clear if these schemes lead to additional lending, and they may distort incentives for lenders and borrowers, increasing default rates and leading to large-scale losses. Following best practice in design and management of these schemes tends to be difficult in weak institutional environments where good governance is difficult to establish. Catalytic investments that crowd in cofounding by the private sector for projects with high social returns can be structured as public-private partnerships (PPPs). These can improve the incentive environment and reduce the risk that public spending crowds out private investment.

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Lending long term exposes financial institutions to fluctuations in the probability of borrower default and changing conditions in financial markets. Governments or international organizations can offer credit guarantees to share some of this risk. In fact, many countries have credit guarantee schemes where the guarantor (often the government) pledges to repay a percentage of individual loan amounts or of a loan portfolio to a lender in case of borrower default. A large number of guarantee schemes were established to assist not only small and medium enterprises, but also other target firms in specific geographic areas, sectors such as agriculture, or groups such as women or minority populations (Beck, Klapper, and Mendoza 2010). Some guarantee schemes specifically support loans for capital investment. In addition to credit guarantees for firms, some countries also provide guarantees for housing loans.

In practice, a concern with credit guarantees is that they may not lead to additional lending. Instead, lenders may use guarantees to lower risk on loans that they would have issued even in the absence of the guarantees. Some of the most rigorous studies on this topic examine FOGAPE (Fondo de Garantía para Pequeños Empresarios, Guarantee Fund for Small Businesses), a fund managed by a large public bank (BancoEstado) in Chile that provides guarantees for loans to small firms. Two separate studies suggest that FOGAPE has generated additional loans to firms (Larrain and Quiroz 2006; Cowan, Drexler, and Yañez 2012). However, another study questions whether FOGAPE truly leads to additional lending. It points out that approximately 80 percent of the firms that participate in FOGAPE had bank loans in the past and that many of these firms had previously received guarantees (Benavente, Galetovic, and Sanchez 2006).

Another potential issue with credit guarantees is that they can distort incentives for lenders and borrowers, thereby increasing default rates and costs for the guarantor. Cowan, Drexler, and Yañez (2012) find that borrowers are less likely to repay guaranteed loans than uninsured loans. The study also shows that the drop in the repayment rate appears to be due to a decrease in collection efforts by lenders. It is thus important to take incentives into account when designing credit guarantee schemes.

Research and practitioner experience suggest that best practices for credit guarantee schemes include leaving credit assessments and decision making to the private sector, capping coverage ratios and delaying the payout of the guarantee until recovery actions are taken by the lender, pricing guarantees to take into account the need for financial sustainability and risk minimization, and encouraging the use of risk management tools. However, many existing schemes do not follow best practices, and designing and operating credit guarantees effectively in poor institutional environments may be difficult.

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**BOX 1.5 Using Credit Guarantees to Reduce the Risk of Long-Term Lending**

crowding out private investment by the public sector. Second, PPPs can reduce the cyclicality of public spending by contractually distributing fixed costs and operational expenses over a long-term horizon. Third, PPPs align institutional incentives in large investment projects more closely with those of the private sector, both improving transparency and reducing political distortions in procurement, credit allocation, and financing.

In recent years, governments have increasingly acted as intermediaries of long-term finance through their participation in public investment companies and sovereign wealth funds (SWFs). SWFs have their origins in the need to manage cyclical revenues in a way that reduces macroeconomic volatility and to invest national wealth in a diversified portfolio of investments with a long time horizon. A large and rapidly growing class of institutional investors, SWFs currently have an estimated $6.6 trillion under management—more than twice the amount of funds managed by all hedge funds combined. Because of their long-term horizon and the lack of redemption risk, SWFs are a natural intermediary of long-term finance. In addition, they may be preferable to direct public financing or to government banks...
as a vehicle for governments to provide long-term finance for two other reasons. First, SWFs are typically run as separate nongovernment entities whose managers are compensated and evaluated with reference to the market. Second, SWFs can leverage investment expertise in specific asset classes, which improves the allocation of long-term finance.

While their long investment horizon makes sovereign wealth funds natural providers of long-term finance, they are not immune to some of the same problems of political capture and incentive misalignment that plague government banks. That is particularly true where sovereign wealth funds have an explicit mandate to invest in the domestic economy to support strategic industries or broader development goals. Such mandates raise two concerns. First, they can undermine the important macroeconomic stabilization function of sovereign funds. Instead of diversifying cyclical earnings away from the fund’s home economy, domestic investments may aggravate economic cycles. Second, domestic investments of sovereign funds are vulnerable to political capture when they are not managed independently; political capture in turn can be damaging to corporate governance, lead to capital misallocation, and ultimately have negative effects on economic growth. Dyck and Morse (2011) showed that SWFs with a development mandate made significantly different asset allocation from those of an investor trying to maximize portfolio returns. Bernstein, Lerner, and Schoar (2013) showed that SWFs where politicians are involved in management are much more likely to make poorly performing investments in the domestic economy.

NOTES

1. The use of long-term debt by governments is not discussed in this report because its focus is on households and firms for whom limited access to long-term finance is likely to be more problematic. Also, data on government debt issuances in domestic markets are not readily available.

2. The analysis covers 711,814 firms operating in 75 countries (37 high-income, 38 developing) during the period 2004–11. For each firm, averages are computed over the period, then the median firm for the country and the median country for the income group are computed.

3. Global Findex did not gather these data for high-income countries.

4. This also refers to the importance of an independent, clean, and fast judiciary.

5. De la Torre, Martínez Pería, and Schmukler (2007) showed how banks in Argentina and Chile adapt their lending by collateralizing and securing their loans.

6. Using data on institutional investments in 23 emerging markets, Aggarwal and others (2011) found that institutional investments are positively associated with corporate governance at the firm level. Anginer and others (2015) showed that firms with stronger shareholder rights and strong corporate governance provisions have less to gain from the use of short-term debt. That is, good governance acts as a substitute to short-term debt in reducing agency problems within a firm.

7. Some cases of successful government-owned banks exist. Rudolph (2009) reviewed the experience of four state financial institutions that have performed relatively well in the past: Canada’s Business Development Bank, Chile’s Banco del Estado, South Africa’s Development Bank of Southern Africa, and Finland’s Finnvera plc.

8. This evidence is discussed extensively in World Bank 2013a.