

Making Finance Effective

"Money is the greatest factor in life and the most ill-used. People don't know how to tend it, how to manure it, how to water it, how to make it grow."

Margayya, the financial expert, from the eponymous book by Narayan, Michigan State University Press/Time Life, 1953

MUCH OF THE RENEWED FOCUS IN RECENT years on the financial systems of developing countries reflects the rapid and often spectacular deepening in the scale and complexity of the the financial systems of advanced economies. This deepening suggests that the nature of contemporary economic progress may be more finance-intensive than previously thought, and that policymakers in developing countries may need to pay more attention to ensuring that their countries' financial systems can and do function effectively.

For the good reasons reviewed below, policymakers around the world have now made financial strengthening a priority: everybody seems to want to build deeper, more sophisticated financial systems in the expectation that this will contribute significantly to economic performance. This perspective is not uncontroversial, but against the contrary view that finance merely follows and adapts to real economic progress, there is a solid body of empirical research strongly suggesting that improvements in financial arrangements precede and contribute to economic performance.

This then raises the question of how a country can develop a more effective financial system. Is bigger always better? Is there a clear-cut

Economies are becoming more finance intensive

preference for the shape of finance, in terms of the relative importance of different types of intermediary or market? And what of the infrastructural elements needed to support finance? These matters have become the subject of an active research debate, especially over the past decade when financial systems in transition economies had to be built essentially from scratch, requiring policymakers and scholars to go back to first principles. Contrasts between the shape and approach to structure and infrastructure in different advanced economies have become the focus of examination—paradoxically just at a time when these contrasts have begun to erode.

There is a clear causal link between finance and development

While there is still much more to be learned from comparative analysis of the causes and consequences of contrasting financial sector performance, recent research allows several important conclusions to be drawn now. *The widespread desire to see an effectively functioning financial system is warranted by its clear causal link to growth, macroeconomic stability, and poverty reduction.* Attempts to discriminate between different structural types of external finance through a preference for banking over market finance, or vice versa, are unwarranted, though, and could be counterproductive.

A well-functioning financial system requires a supporting infrastructure

Efficient functioning of all these markets in intertemporal commitments requires a supporting infrastructure for information disclosure, contract enforcement, and competitive behavior. This contractual and information infrastructure should, if anything, be biased in the direction of directly protecting the interests of the external funds *provider*: the long-term interests of the would-be *user* will be poorly served by an infrastructure that gives potential providers so little protection that they withhold their funds. In addition, the infrastructure should be fashioned in such a way as to limit the exercise of market power not only in banking, but also by insiders—whether in a firm or in the securities markets—against outside shareholders.

To what extent all of these financial services will—or need to be—provided at home by domestic financial firms and markets, instead of being imported or supplied by foreign-owned firms, is a key question to which we return in chapter 4.

Here it is worth pausing to clarify what we mean by financial development, which subsumes both institutions and functions. Starting with money itself, specialized institutions, including intermediaries, markets, and agents, tend to become increasingly pervasive in an economy's financial activities, displacing bilateral arrangements. However, it is worth bearing in mind that, especially in developing economies, much

of finance is provided within the family, through partnerships or unincorporated business. Still, while finance can and does exist without specialized financial firms, our discussion is confined to *organized* finance, that is, with funds processed, intermediated, or managed by specialized financial firms or traded in organized markets.¹

More important than the institutional form taken by these firms and markets are the underlying functions of finance which they perform. While the most evident financial activity relates to the transfer of funds in exchange for goods, services, or promises of future return, it is essential to dig deeper. In fact, the bundle of institutions that make up an economy's financial arrangements can be seen as providing the bulk of the economy's need for several functions deeper than that of simply trading and transfer (Levine 1997; cf. Merton and Bodie 2000):

- Mobilizing savings (for which the outlets would otherwise be much more limited).
- Allocating capital funds (notably to finance productive investment).
- Monitoring managers (so that the funds allocated will be spent as envisaged),
- Transforming risk (reducing it through aggregation and enabling it to be carried by those more willing to bear it).

The main functions of finance

Most textbooks, in addition to the focus on payments systems, dwell on the mobilization and allocation functions, but the monitoring and risk transformation functions are crucial as well. Though the financial sector has no monopoly on the economy's stock of intellectual capital, it is these deeper functions that justify characterizing the sector as functioning like the brain of the economy.

Monitoring means that intermediaries do not merely collect information on firms and allocate loans or investments to them, but also continue to keep track of the recipients' activity and to exert corporate control, whether by enforcing covenants on existing contracts or ultimately by withdrawing or not renewing their financing. These activities are valuable precisely because information is difficult to acquire and costly to verify. In this way, intermediaries serve as "delegated monitors" (Diamond 1984), without which it would be difficult to separate firm ownership and management.

Risk transfer and mitigation likewise can be underrated; the variety of the associated financial instruments and the fact that they occasionally backfire often results in this function receiving less weight than it deserves. Some risks can be alleviated simply by access to liquidity.

Thus, entrepreneurs with access to liquid savings—their own and others—may be more willing to undertake riskier but high-yielding projects that raise growth, or investors may be willing to finance a project (or country) if they know that they can get out of it by selling, without their action so driving down the price that the option ceases to have value. Specific risks that all face—from typhoons or *El Niño* events for farmers, to technological shifts for e-entrepreneurs—also can be eased by sharing the risks with investors. Specialized instruments are invented regularly to unbundle and repackage various risks.

How Finance Helps

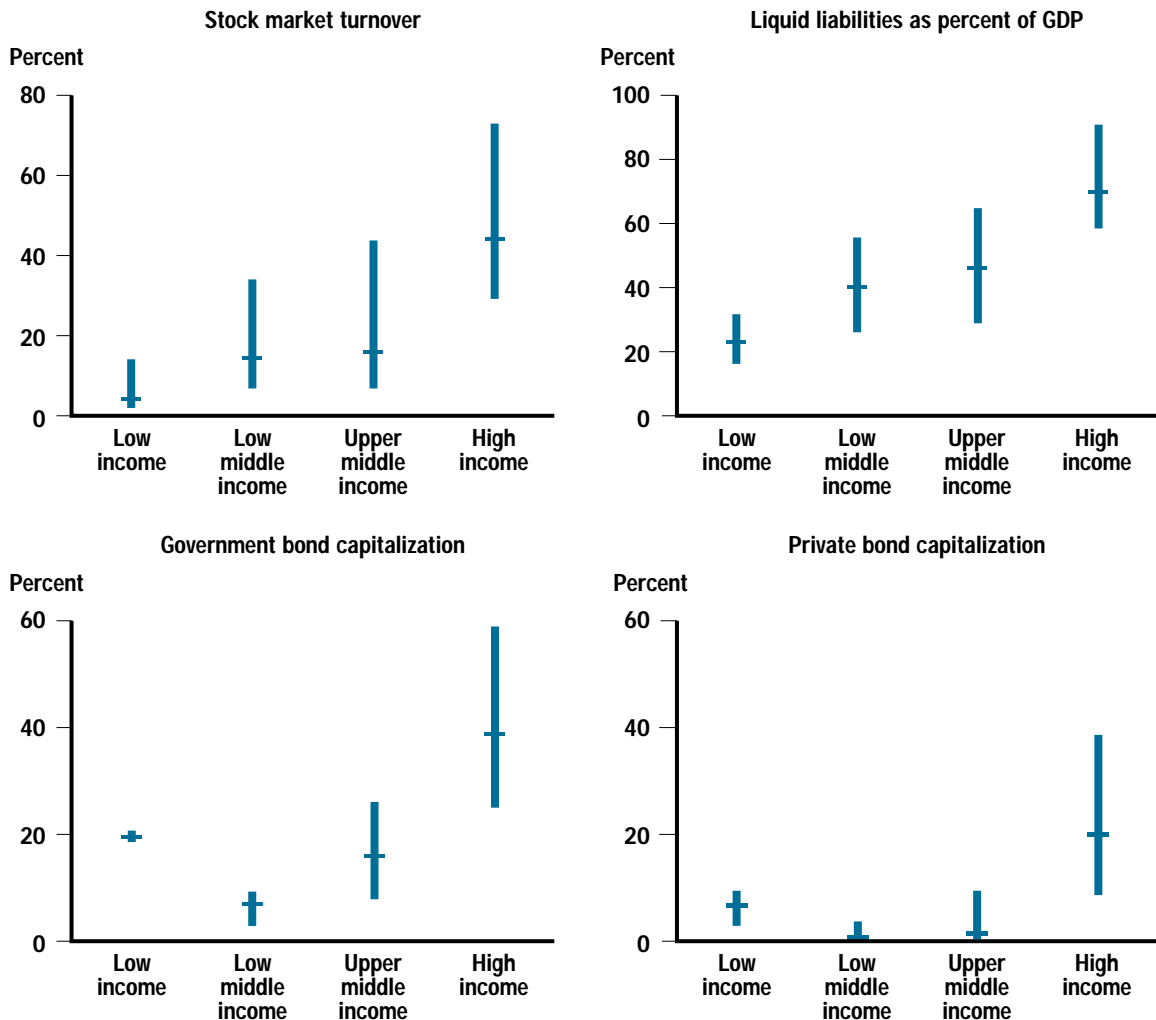
WE SHOULD THUS SEEK THE MAJOR CONTRIBUTIONS OF finance to economic performance in three dimensions. The first, and likely the most important, is whether there is an overall contribution to long-term average economic *growth*; second, whether it contributes additionally to *poverty* reduction; and third, whether finance succeeds in *stabilizing* economic activity and incomes. In all three dimensions, recent research findings suggest an unambiguously positive role for the formal institutions of finance.

Financial development causes growth

Almost regardless of how we measure financial development, we can see a cross-country association between it and the level of per capita income (figure 1.1). Association, however, does not prove causality and, as the charts show, there is a very wide variation between the level of financial development even between countries at comparable income levels, and this variation persists over time (figure 1.2). Nevertheless, over the past several years, the hypothesis that the relation is a causal one has consistently survived a testing series of econometric probes.

Formal empirical exploration of this issue dates back over 30 years, and there has been a steady accumulation of evidence.² Possibly the most striking basic indication that the relationship is one of causality is the fact—evident in figure 2 of the overview—that the level of financial development back in 1960 can help to predict subsequent economic growth even after account is taken of other known determinants of growth (including the catch-up effect of a low initial level of per capita income and the 1960 level of school enrollment). First displayed by King and Levine (1993a), for economic growth up to 1989, this predictive power has continued to be present as growth data for subsequent years is added.

Figure 1.1 Financial development and per capita income

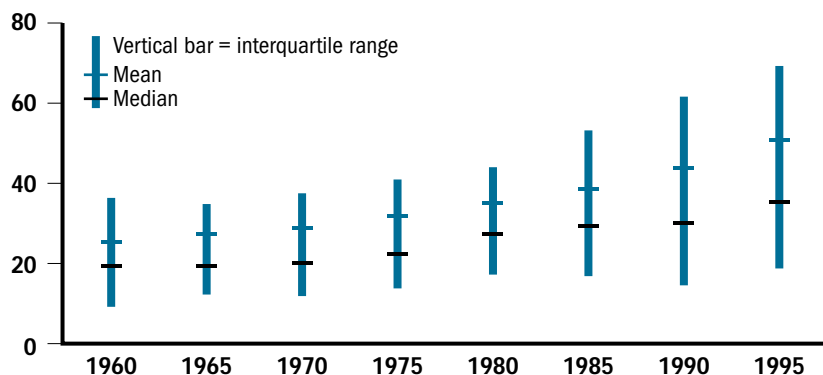


Note: This figure represents the average of available dates in the 1990s for each of 87 countries. The vertical bar shows the interquartile range; the financial depth of 50 percent of the countries at each stage of development lie within this range. The median is shown as a horizontal bar. Data for the bond market in developing countries is available only for China and India.

Source: BDL database.

Increasing income is generally associated greater financial depth. Stock market turnover, liquid liabilities of banks and near-banks and bond capitalization are generally associated with greater financial depth.

Perhaps the most persuasive of the more recent studies (Levine, Loayza, and Beck 2000) uses a richer data set for the period 1960–95 to make a more comprehensive assessment in particular of the key issue: could it be that the process of economic growth itself feeds back on financial

Figure 1.2 Financial development over time**Bank credit to private sector as percent of GDP**

The ratio of bank credit to the private sector is up relative to GDP, but the variance has widened.

Note: The vertical bar shows the interquartile range; the financial depth of 50 percent of the countries at each date lie within this range. The median and mean are shown as upper and lower horizontal bars.

Source: BDL database.

development, rather than the other way around? Some aspects of the financial sector clearly are determined prior to recent growth, and what Levine, Loayza, and Beck show, in essence, is that each country's level of financial development can be partly predicted by one such prior factor, namely the origin of its legal system (that is, which of the British, French, German, or Scandinavian traditions it is based on).³ As we will see, this is not the only role for legal factors in our discussion, but in the present context they provide the essential econometric *instrument*. Levine, Loayza, and Beck go on to show that the *predicted* level of financial development is also correlated with long-term growth (even after also controlling for other standard determinants of growth), thereby seeming to rule out the idea that the finance-development link is all or mostly reverse causality.

Levine, Loayza, and Beck's favored measure of financial development is the ratio of bank (and near-bank) credit to the private sector, expressed as a share of GDP. The emphasis on the private sector reflects the fact that credit to government does not much involve the functions of allocation, monitoring, and risk management. Thus it is not just a measure of financial depth, such as the ratio of money to GDP. Nor is it exactly a measure of the private sector's role in the allocation of credit; a better measure of that is the ratio of the central bank's to other banks' assets. It is worth noting that both of these alternative measures also correlate with GDP growth, and both survive the test for reverse causality. And

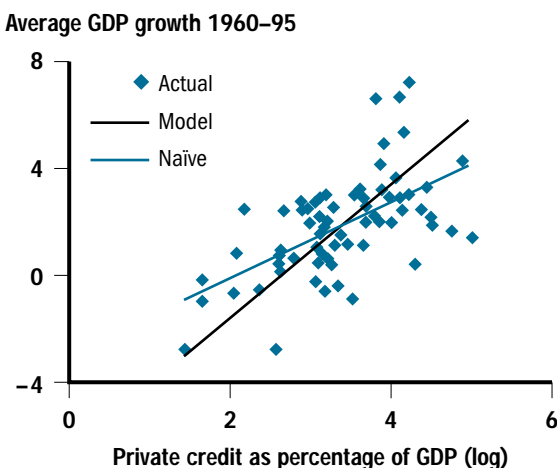
similar results are available for measures of stock market capitalization and liquidity, as discussed below.

Even higher than would be predicted by a naïve simple regression of growth rates on financial development, the size of the estimated effect is substantial (figure 1.3): a doubling of the ratio of private credit (say, from 19 percent of GDP to the sample average of 38) is associated with an average long-term growth rate almost 2 percentage points higher (box 1.1). To be sure, neither this nor other financial sector ratios are policy variables, and the healthy development of the sector depends on the quality of the infrastructure and incentive environment in which it functions.⁴

It is through its support of growth that financial development has its strongest effect on improving the living standards of the poor. Some argue, however, that the services of the formal financial system only benefit the rich, and even suggest that there may be a price to pay for finance-supported growth in the form of a worsening of the income-distribution in financially developed economies. Nevertheless, available empirical evidence is against any such tradeoff: on the contrary, measures of financial development are, if anything, positively (albeit weakly) correlated with the share of the bottom quintile of the income distribution. Note that poverty in a country is determined by the numbers of the poor and their income. Faster growth affects both. The recent literature on the interrelation between inequality and growth points to the importance of wealth inequality in dampening growth and to a feedback from growth in the direction of reducing inequality. Analysis by

Finance-led growth is pro-poor—

Figure 1.3 Naïve and modeled impact of financial development on growth



Source: Levine, Loayza, and Beck (2000).

Box 1.1 Using regression coefficients to infer policy effects

IT IS TEMPTING TO USE ESTIMATED REGRESSION coefficients to project what might happen in a country if one of the explanatory variables were to be changed by policy. To begin with, one needs to recognize the limitations of regression analysis; the hazards of noisy and incomplete data and the probability that alternative modeling specifications can alter the quantitative results. Even when we have satisfied ourselves that the selected regression is as good as we can hope for in the current state of knowledge, three further tests must be satisfied before we use the estimated relationship to predict the impact of policy.

First, the relationship must be free of endogeneity bias. Second, there must not be relevant omitted variables that are correlated with the variable being manipulated. Third, the variable really must be controllable.¹

Take the relationship discussed in the text: private credit ? growth. At least the first two problems are clearly relevant and have to be navigated.

The first issue of endogeneity (loosely referred to in the text as “reverse causality”) is what has been handled in the cited literature by means of instruments;

this can considerably alter the measured impact, often—though not always—reducing it.

The second issue is also very important. Indeed, it is clear that the private credit variable is only a proxy for a multidimensional but unmeasured impact of financial intermediation on productivity. It works in the regressions, because it tends to be correlated with the other dimensions, but if it becomes a focus of government policy, the traditional correlation with the unobserved, omitted variables will certainly break down, and the hoped-for impact on growth will not occur. (An analogous problem is well known in the theory of monetary stabilization, where it is known as “Goodhart’s Law.”) In a nutshell, simply boosting credit growth is no guarantee of healthy long-term output growth.

Controllability may be more of an issue when it comes to the institutional factors discussed later in the chapter and elsewhere. Do we really have reliable ways of *measurably* improving legality, say, or the quality of administration? Here the direction of appropriate policy change may be easier to identify than its likely quantitative impact.

1. Controllability does not imply an endogeneity bias unless the variable has been manipulated by policy in response to disturbances in the estimated relationship.

Li, Squire, and Zou (1998) of data on inequality in 49 countries suggests that financial development is a positive catalyst in both of these relationships. It is statistically associated across countries not only with higher growth whatever the level of wealth inequality, but also with lower income inequality (as measured either by the Gini coefficient, or by the share of the top quintile) whatever the rate of growth. Further research is needed to see if these results are valid over time, as well as across countries.

The results are not implausible, however. For example, even having access to secure forms of savings can protect poor farmers from the various idiosyncratic shocks that they face, reducing the likelihood that a bad year will put them into the poverty statistics, and

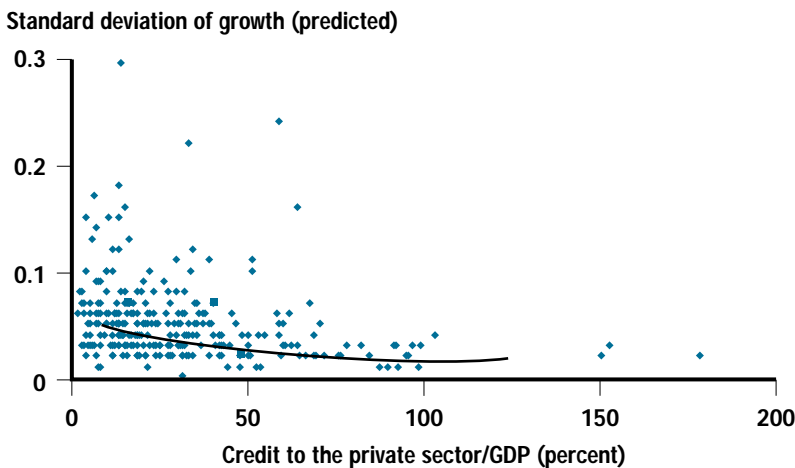
access to other financial services can allow them to adopt more advanced technologies.

What of the risk-reduction function? At the microeconomic level, a wider range of financial instruments, including insurance contracts, can pool risk, as well as shifting it to those more willing to bear it.⁵ And it seems from recent research that financial development also tends to reduce aggregate economic volatility. For example, Easterly, Islam, and Stiglitz (2001) find the level of financial development (here measured again by the private credit indicator discussed above) to be a strong and significant explanatory factor in a regression explaining the output growth volatility of some 60 countries. A doubling of private credit from 20 percent of GDP to 40 percent is predicted in this regression to reduce the standard deviation of growth from 4 to 3 percent per annum (figure 1.4). Interestingly this improvement is not sustained with further financial deepening: indeed, the authors' estimates suggest that very high values of the private credit measure of financial development could be associated with *higher* volatility of output growth, though the data in this range are sparse. Another warning sign from this study is that volatility in monetary aggregates is also associated with output volatility.

Finance is better at protecting against some sorts of shock than others. As shown by Beck, Lundberg, and Majnoni (2000), financial

—and generally a stabilizing force—

Figure 1.4 Financial depth and macroeconomic volatility



The deeper the financial system, the smaller is economic volatility (except perhaps where the share of credit in GDP is very high).

Note: The figure shows the data and fitted value in a regression of the standard deviation of annual GDP growth on financial depth (conditional on other control variables).

Source: Based on Easterly, Islam, and Stiglitz (2000).

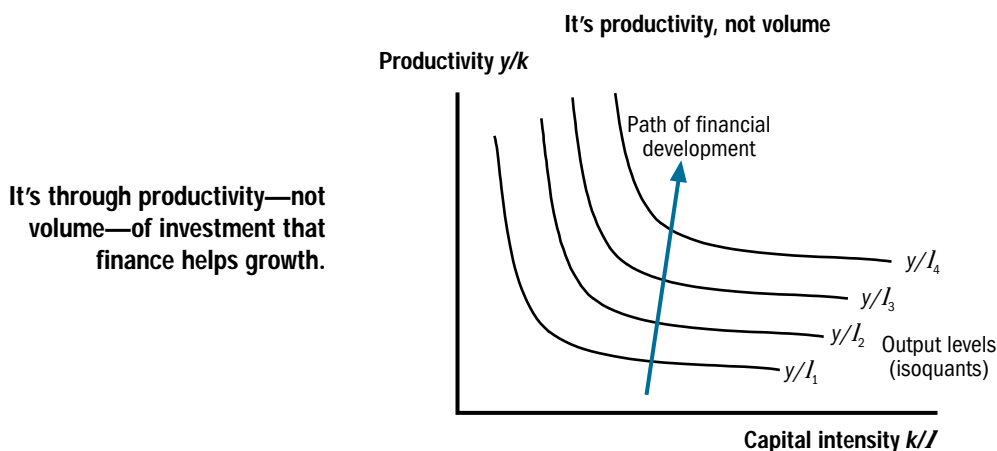
**—but can amplify
inflationary shocks in
low- and middle-income
countries**

development (measured with the private credit indicator) insulates output growth from terms of trade shocks, but it actually seems to magnify the impact of inflationary shocks on output volatility in low- and middle-income countries. Perhaps it is not surprising that inflationary shocks can matter more in a more deeply monetized economy, but this, too, is a warning sign that expansion of finance is not risk-free. Indeed, deeper finance without the institutional and incentive features recommended in this report can lead to a poor handling or even magnification of risk, rather than its mitigation.⁶

The aggregate empirical evidence thus points to financial development having an unambiguous long-term growth effect, and also to be stabilizing and pro-poor. The finance-growth link is especially well supported by a range of different methodologies, but what mechanisms are involved, and can they be strengthened by judicious policy design? Furthermore, are there short-term risks, or is financial development an insulator, as well as an engine of growth?

Further empirical exploration by Beck, Levine, and Loayza (2000) has helped to pinpoint the most likely channels through which finance contributes to long-term growth. They show that financial development is not reliably correlated with either national savings ratios or with capital deepening (figure 1.5: where the arrow is almost vertical rather than almost horizontal).

Figure 1.5 Relative contribution of financial development to productivity and capital intensity



Source: Based on the econometric findings of Levine, Loayza, and Beck (2000).

Therefore, the contribution of finance to long-term growth is to improve the economy's total factor productivity rather than the quantity of capital.

This meshes well with the finding of Bandiera and others (2000—based on a detailed examination of the multidimensional process of financial liberalization in eight countries over a quarter century) that liberalizing reforms aimed at financial development do not reliably increase aggregate saving. On the contrary, the indications are that liberalization overall, and in particular those elements that relax liquidity constraints, may be associated with a fall in saving. Even a lower overall rate of saving is quite compatible with more rapid growth if it comes with an improved efficiency in the allocation of investable funds.

Although the role of finance in contributing to growth comes through its contribution to productivity rather than the quantity of capital, more developed financial systems do make external finance available to more firms, and specifically tend to favor economic sectors where, for one reason or another, firms need to call on outside finance. Thus, when Demirgüç-Kunt and Maksimovic (1998) compared the actual growth rate of several thousand firms from 30 countries with each firm's estimated capacity to finance long-term growth from internal resources, they found that a greater proportion of the firms in financially developed economies were growing faster than this benchmark. This suggests that financial development is in this sense associated with wider access to external finance. Likewise, looking at the aggregate financing of firms in 36 manufacturing sectors in more than 40 countries, Rajan and Zingales (1998) found that it was the economic sectors that, based on U.S. experience, need to rely most on external finance that grow more rapidly in more financially developed economies.

If specialized financial firms are good at monitoring the users of funds, more reliance on external finance could represent an improvement. In themselves, however, these firm-level and sectoral findings do not necessarily point to a greater efficiency in the allocation of investable resources. After all, efficiency improvements may require diverting finance away from certain firms or sectors. A recent study by Wurgler (2000), also using sectoral data, goes some way to closing the circle by showing that sectoral investment is more responsive to sectoral output growth in financially developed economies. Put another way, in financially less-developed economies, an output slump in a certain sector is less likely to result in investment being cut back in that sector, and vice versa. Evidently this, too, is an imperfect measure of allocative efficiency, but it

More finance means external funding for more firms and in particular sectors—

**Finance works in
the short run too—**

**—but beware: bigger is
not necessarily better**

does cast additional light on the processes at work, which apparently include the mobilization of—though not necessarily an increase in—savings, reallocation of investable funds, and increased reliance on external providers of finance to firms, and as such to more external monitoring of firms' managers.

Finance also impacts growth positively over shorter periods. Levine, Loayza, and Beck slice their 35 years of data into 7 equal subperiods and find that the correlation of growth rates with the level of financial development is still as high as it is over the longer term. Indeed, if we shorten the period even further, we can find even stronger correlations between private credit expansion and economic growth—but these can be misleading. It is, after all, necessary to distinguish between (a) sustainable growth based on steady productivity gains helped by shrewd allocation of capital resources and monitoring of managers, and (b) transitory growth based on unsustainable rates of borrowing.

This alerts us to a need for caution in pushing for credit expansion as a way of achieving finance-driven growth. Bigger is not *necessarily* better. To be sure, it is a distinguishing mark of the high-income, advanced economies that their financial systems are large in terms of

- The amount of funds intermediated and processed.
- The number and range of firms they embody and the services that they provide.
- In the economic resources they employ.

The econometric results we have described suggest that the association is to some extent causal, but it is almost obvious that a headlong rush by developing economies to emulate the scale of advanced financial systems is unwise and potentially costly. For example, attempts to make a dash for financial depth (to improve economic growth through inverting the finance-growth equation) can and have misfired badly:

- Engineering too rapid a rapid growth in domestic credit leads to inflation and depreciation or to institutional insolvency (getting this right is a partly a matter of macroeconomic stabilization policy—some of the biggest failures here have been associated with inflow surges of foreign capital, as discussed in chapter 4).
- Creation of publicly owned banks to force the pace of intermediation may instead stifle the creation of financial capacity (see chapter 3).

- Protection of the financial services sector as an “infant industry” can lead to excess costs and poor services (box 1.2).

Instead, the policy lessons must be derived from closer observation of the processes by which the financial systems of advanced economies have evolved to provide solutions to the financial requirements of firms—and households—in increasingly complex economic environments, thereby providing the platform for further productivity advances. To a large extent, these processes have been market-driven, and many of them occurred in periods when there was little direct government activism in financial markets. Governments in developing countries that want to build on this success can best do so by responding to market needs—not indeed to the particular needs of individual market participants, but to the needs of market functioning overall. In other words, the aim should be not to try to engineer directly an expansion of the financial sector, but to adopt policies that enable financial system participants to deliver the services in which they specialize with the maximum effectiveness, and to ensure in particular that the deep functions most needed by each economy that can be provided by finance are adequately catered for.

Policymakers should focus on the effectiveness of financial systems

Box 1.2 Finance as an export sector

THERE IS A VALID ALTERNATIVE PERSPECTIVE HERE that has been seen as relevant, especially for some smaller economies. This is to see finance as a potentially important export sector. To some extent a successful export finance business can be expected as a spin-off from effective domestic finance. The United Kingdom’s huge net export earnings from financial services reflect the legacy of a quarter-millennium of technological leadership in finance, built on the Dutch experience in the late 17th century and placed initially at the service of government war finance. Technological and human capital sophistication has also helped Hong Kong and Singapore achieve comparable roles in their region. There is some natural tendency for international

finance to concentrate in a small number of centers, each reflecting a pool of liquidity and expertise, and several regional financial centers have benefited from the existence of repressed financial systems in their geographical neighborhood. (Furthermore, routine back-office financial services can be exported without requiring such a high systemic investment in human resources.) Unfortunately, few have been successful. Many countries attempting to develop finance as an export business have not developed the requisite legal, regulatory, and supervisory structures and have, instead, sought to employ aggressive tax or regulatory competition. What were envisaged as centers of financial expertise have sometimes become little more than centers for money laundering.

Since developing these services involves considerable externalities and network effects, a passive stance is not enough (cf. Stiglitz, 1994). Policymakers must work with the market to ensure optimal financial development, both helping to coordinate the development of interlinked market structures, and also creating the necessary infrastructure for finance.

We look in turn at structures and infrastructure.

Structure

Debt and equity—the basic structural elements

THIS QUESTION OF HOW TO CHOOSE THE OVERALL DESIGN of a financial system emerged suddenly and acutely with the collapse of the planned economy, and the urgent requirement to create a new structure for finance in more than a score of transition economies. Almost immediately, a latent debate between the merits of intermediated and nonintermediated “market” finance came to the fore. This debate has taught us much about the way in which financial systems work, in particular how apparently different institutional structures can perform in apparently quite different ways, but with similar efficiency, the same deep economic functions.

Though the premises of the debate—that bank-based financial systems and market-based systems can be unequivocally ranked in their ability to deliver financial services needed for growth and prosperity—seems, as we will see, to be a false one, it is certainly true that the institutional structures surrounding banks and securities markets have often and for long periods evolved quite differently in different countries.

How are the funding needs of a venture to be externally financed when they are too large to be provided by the promoter themselves? External providers of finance need to satisfy themselves in advance that the returns are commensurate with the risks involved and to continue keeping an eye on things thereafter.

One financing strategy is for providers and users of funds to rely on a bank: a more or less large specialist intermediary that takes the risk of financing the venture on its own books, pools the risk from many ventures, and achieves economies of scale by avoiding duplication in appraisal and monitoring. The bank in turn is kept on a tight leash through its reliance on short-term financing from a large number of depositors, which also has the advantage of giving the depositors liquidity. Bank financing clearly makes sense when information about creditworthiness

is easy to interpret but costly to acquire—as for example in a mature industry; the depositors have no reason to disagree with the bank management’s information-based judgments.

An alternative financing strategy is for financial claims on the venture to be sold directly to fund providers. If there is a lot of disagreement on the prospects of the venture, this might be a better way of enabling financiers to be matched to the ventures they believe in. Selling financial claims on the open market, where there are both optimists and pessimists among the suppliers of funds, might be a better bet for those seeking finance for innovation than trying to rely on the judgment of a monolithic intermediary (Allen and Gale 2000).

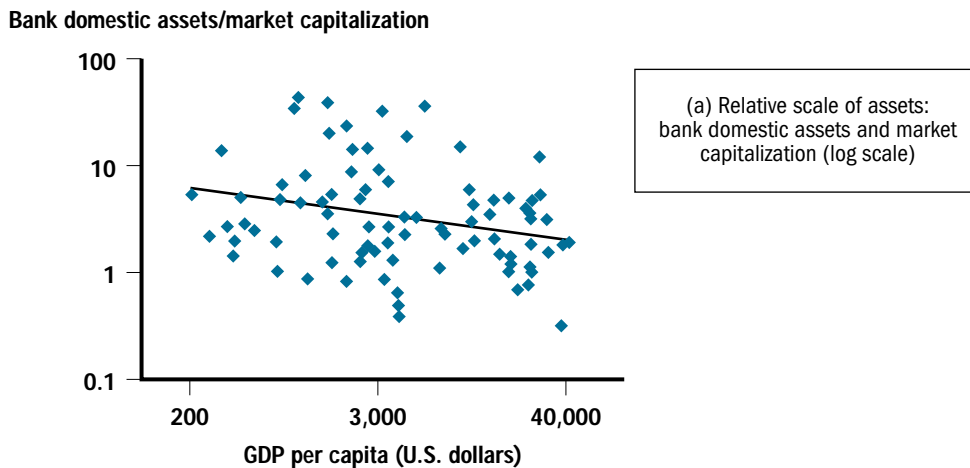
The liquidity of these claims is enhanced by having them listed on an organized securities exchange; without such liquidity, the pool of open market investors will be limited.

Formal financial systems in most countries are dominated by banks, but in some of the most advanced countries the ratio of stock market capitalization to banking assets is very high, and there is a general tendency for the market-to-bank ratio to increase with level of development both over time and cross-sectionally (figure 1.6, box 1.3). Does this imply that an increased role for market-based finance should be a goal of policy?

This question has been extensively analyzed in recent econometric research, with a striking conclusion: the trend for a general increase in

As countries get wealthier, the relative scale, activity, and efficiency of the stock market to the banking sector all increase.

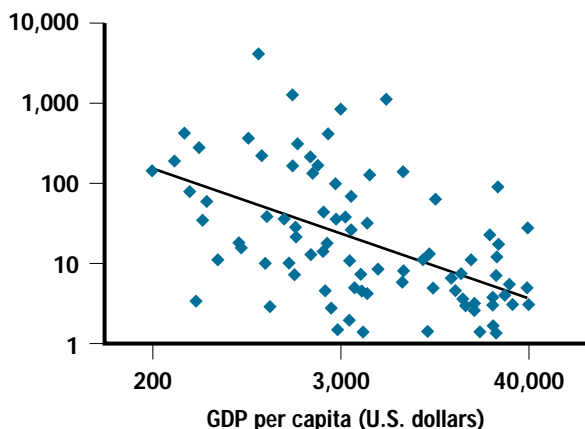
Figure 1.6 Three measures of the relative development of banks and organized securities markets



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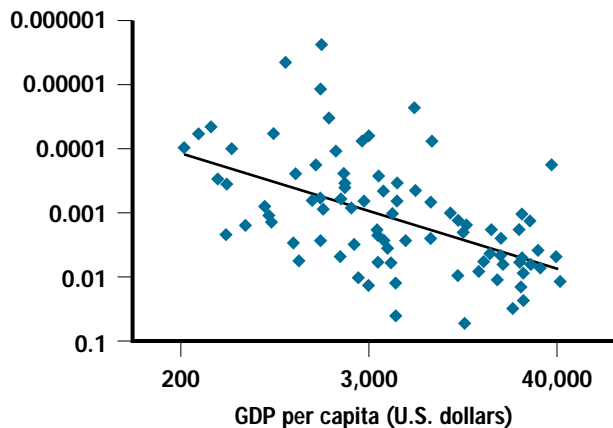
Figure 1.6 (continued)

Bank private assets/value traded (log)



(b) Relative activity: bank claims on private sector and volume traded (log scale)

Value traded \times net interest margin



(c) Relative efficiency: measured by the ratio of volume traded on the stock market to (the reciprocal of) bank net interest margin (log scale)

Source: BDL database.

Banking and market finance both support economic growth

the share of market finance with economic development *does not* appear to be causal. If one takes the regression models of growth, discussed above, and adapts them by adding various measures of the market-to-bank ratio, the results consistently fail to show any statistically significant impact of these measures of structure on growth. There appears to be no effect, whether on the sectoral composition of growth or on the proportion of firms growing more rapidly than could be financed from internal resources; even bank profitability does not appear to be affected. This is the case regardless of whether the ratio one employs relates to the

Box 1.3 Time, income, and inflation: stylized facts about financial depth

EVEN BEFORE EXAMINING INSTITUTIONAL determinants of financial development and the causal relationship between finance and growth, certain empirical regularities can be detected in the macroeconomic data, linking financial depth, inflation, and per capita GDP with a significant variation along the time dimension.

For monetary depth (M2/GDP ratio), regression analysis of a pooled cross-section and time-series with some 2,700 observations covering more than 120 countries for up to 35 years from the BDL database (Beck, Demirgüç-Kunt, and Levine 1999) allows us to quantify these macroeconomic relationships and suggests a number of stylized facts:

Monetary depth

- increases by about three percentage points for every \$1,000 increase in GDP per capita,
- and by about a quarter of a percentage point every year,

- but falls by about half a percentage point for every percentage point rise in the medium-term inflation rate.

The importance of inflation, especially high inflation, in hindering financial development is stressed by Boyd, Levine, and Smith (forthcoming). Their regressions, which include a wider list of controls and examine nonlinear effects of inflation, confirm the average size of the inflationary impact on financial depth noted above. They also show that high-inflation countries have much lower financial development, but that, beyond a certain point, additional increases in inflation have little further impact.

The trend increase in financial depth has not prevented a secular slowdown in the world rate of growth. This could appear paradoxical in light of the proposition that deeper financial systems help generate growth. One interpretation is that technological changes over time have increased the finance-intensity of growth, implying that deeper financial systems are now required to achieve the same rate of growth as before.

Note: These results are the estimated long-term (cointegrating) relationship from an error-correction mechanism imposing common coefficients across countries except for a country fixed effect. Estimation method: GLS with cross-section weights.

volume of assets (bank deposits, stock market capitalization) or efficiency (net interest margin, stock turnover).⁷

We need not conclude that the type of financing does not matter. One aspect of what seems to have happened is that firms in successful economies have found a mixture of equity market and bank development that suits their own particular financing needs and institutional structures; the higher the level of income, the more likely that mixture will be weighted toward equity. The production technology and product market conditions facing different firms certainly play a role in prompting different approaches to financing decisions. So this evidence by no means runs counter to the need for an appropriate degree of diversity in channels for financing in each country. Instead, the message must

be that both development of banking and of market finance help economic growth: each can complement the other.

To be sure, policy has also influenced the relative importance of banks and stock markets in some countries. Often policies favoring one segment have had the effect of stifling another, with the result that the financial system has not developed the optimal range of structures for its needs. For example, in many countries, policies of restricting information or subjecting dividends to multiple taxation stifles the development of equities and fosters relationship debt finance, particularly when interest paid is deductible. Similarly, the relative repression of the Indian and Korean banking systems compared with less interventionism in the nonbank sector clearly contributed to the development of the latter in the 1980s and 1990s. The restriction, from the mid-1930s, preventing U.S. commercial banks from taking significant ownership stakes in nonfinancial firms helped make at least larger firms more reliant on the stock market, as had restrictions from the country's inception on geographical diversification of banks. The striking thing is that these restrictions did not prevent the U.S. financial system from adequately supporting subsequent U.S. growth. A contrasting case is that of the U.K. banks: even though public policy did not impose any comparable restrictions on their activities, they too left room for a substantial contribution from the stock market to the development of the U.K. financial system and economy.

The reasons for contrasting behavior of different financial institutions in different countries will continue to be debated. What recent research findings have established is that they matter much less than was previously thought, and that it is the financial services themselves that matter more than the form of their delivery. Indeed, the variety of the needed services goes well beyond what can be measured in the aggregate data for the scale and activity of banks and markets.

One reason that the dichotomy between banks and markets may not help much to predict growth is that it does not closely correspond to the dichotomy between debt and equity.⁸ A range of different financial instruments is necessary to enable firms in different circumstances to obtain an adequate structure of their financing. Debt is the classic instrument that can be used to deter insiders in a successful firm from pretending that they are unable to remunerate external financiers.⁹ With simple debt contracts, the payment is not supposed to be conditional on the firm's performance, and default will trigger a transfer of control (whether of a collateral, or of the firm itself) to the external financiers. *Provided this transfer of control can indeed be relied upon to take place* (and

**Information asymmetry
limits access to equity in
developing countries—**

as discussed below, this is by no means guaranteed for developing countries), this gives lenders the confidence that, even if they cannot monitor the firm's performance very reliably, they will be able to move in, take control, and realize the firm's value in the event of a default.

An interesting historical reflection helps confirm that verifiability of outcomes is the central issue. For some of the earliest debt-type contracts, specifically the ship-voyage (bottomry) loans of antiquity, *did* actually make payment partly conditional on one of the readily verifiable aspects of success inasmuch as the debtor did not have to service the loan unless and until the financed ship returned, in which case, as with the junk bonds of more recent times, they paid off handsomely.

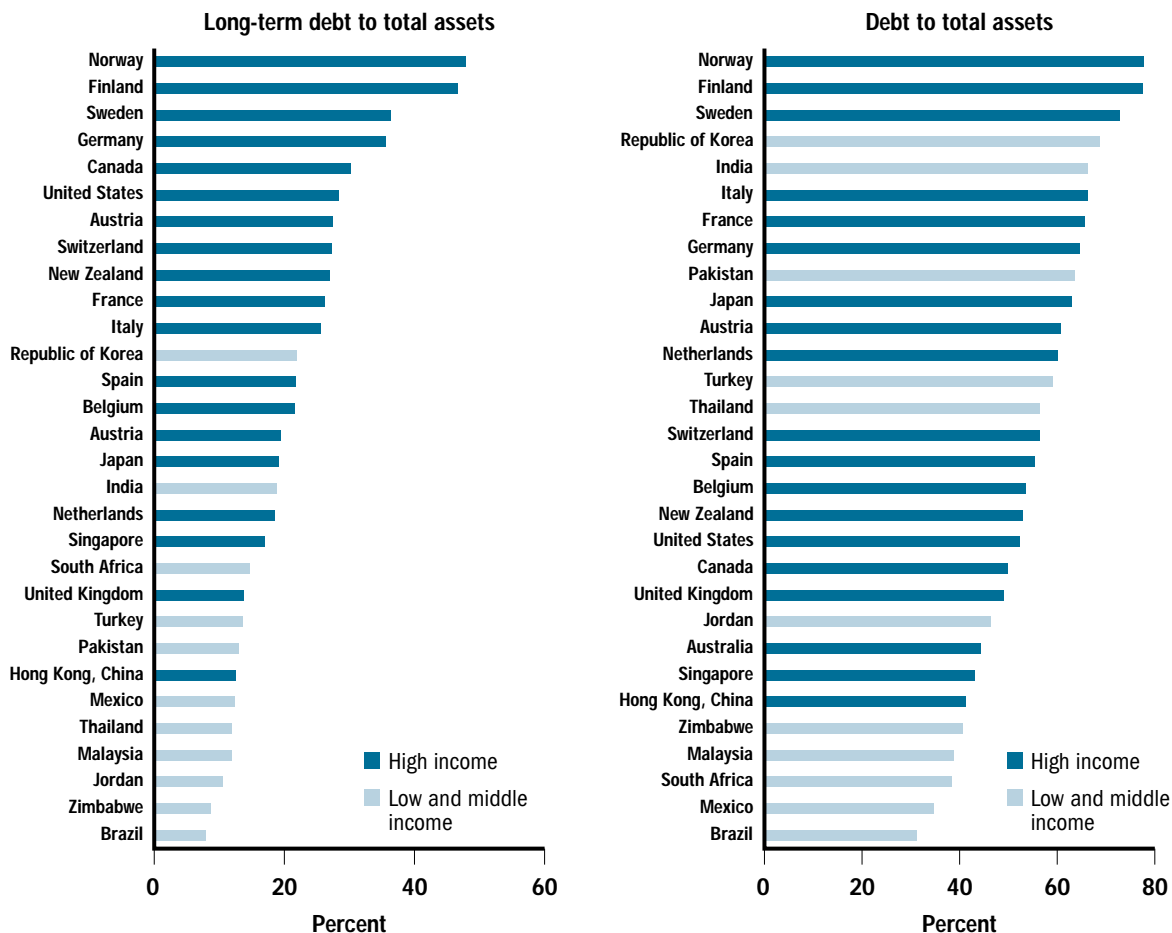
And it is important that there should be something left over to take control of: debt is much more available to firms with tangible assets (estimates by Demirgüç-Kunt and Maksimovic (1999) based on the financial accounts of a large sample of listed companies in developed and developing countries indicate that replacing \$100 of intangible assets with tangible will increase reliance on debt finance on average by between \$36 and \$51).

The complexity of much of modern economic and business activity has greatly increased the variety of ways in which insiders can try to conceal firm performance. Although progress in technology, accounting, and legal practice has also helped improve the tools of detection, on balance the asymmetry of information between user and provider of funds has not been reduced as much in developing countries as it has in advanced economies, and may have deteriorated. The problem of monitoring limits the potential for firms to have access to outside equity, and this problem is more acute in developing countries.

Indeed, access to long-term debt-financing is limited in developing countries, even for the leading firms. Likely contributory causes are not only information asymmetries and general opaqueness, but also poor collateral law and weak judicial efficiency, making it hard either to write strong contracts or to enforce them in a court of law. Examination of the financial statements even of listed companies clearly shows that the proportion of total assets financed by debt is smaller—and much smaller if we confine attention to long-term debt—in those developing countries for which data are available than in the major industrial countries (figure 1.7). The low average maturity of the debt issued by firms in developing countries is not wholly explained by higher inflation—though there's nothing like inflation for stifling a long-term debt market. That is not to say that these firms have substituted outside equity—while the data do not allow us to identify outside equity

—and along with legal problems, limits the availability of long-term debt

Figure 1.7 Average leverage of listed firms in industrial and developing economies



Note: Data is for the average of information collected 1981–90.

Source: Based on Demirgüç-Kunt and Maksimovic (1999).

separately, the presumption must be that these firms have been substantially financed by retained earnings and by equity funding from firm insiders, those who are not hampered by the problem of asymmetric information. This is one reason for the growing importance of private equity investment.

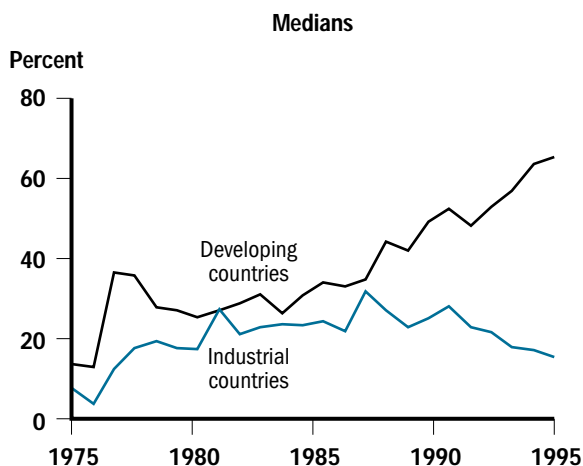
Much of the borrowings of firms in developing economies come from banks, and the cost of this finance accordingly also depends on the operational efficiency and competitiveness of the banking market. In this respect, too, the performance of developing economies falls

Borrowing from banks is costly in developing countries—

behind. One approximation to this performance is the intermediation spread. The indications are that liberalization of bank interest rates has widened this spread (figure 1.8); indeed, while the median of average quoted spreads in advanced economies shrank during the second half of the 1990s to just over 300 basis points, the corresponding figure for developing economies continued to widen beyond 800 basis points. Some of this increase will have reflected more refined loan pricing in the liberalized environment, better reflecting the higher default risk in the typical developing country bank portfolio.¹⁰ Some, however, will reflect an increased exercise of market power by banks and bankers in internally liberalized banking markets; especially where capital has been eroded by banking crises, banks will be keen to use their new freedoms to build up capital through exercise of market power. The potential need for policy measures to guard against concentration of market power following banking liberalization is evident, but the authorities may be slow to do so if banks' capital is low because of previous problems: this will be like a hidden quasi-tax on bank customers to restore adequate capitalization (see chapter 2).

Concentration of banking is also demonstrably bad for industrial growth, but, as shown by Cetorelli and Gambera (2001), the effects are

Figure 1.8 Intermediation spreads



Note: The graph shows trends in the median intermedation spread for banks in industrial and developing countries, 1975–99.

Source: Honohan (2001).

Competition and efficiency gains reduce spreads in the industrial countries; liberalization has allowed for a greater reflection of risks in developing country spreads.

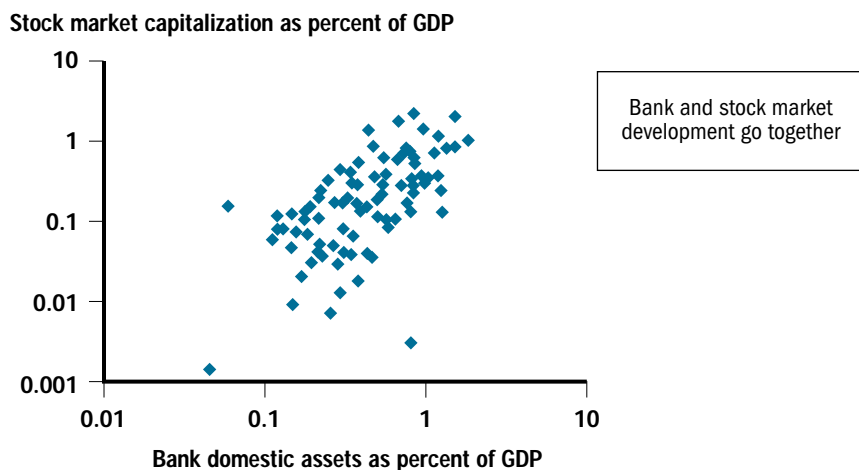
—but equity market development may provide a counteracting competitive force

complicated by the fact that noncompetitive banking systems are particularly adapted for profiting from lending relationships with young firms with heavy financing requirements. (In an uncompetitive market, the banks can expect their initial investment in establishing a lending relationship with such firms to be rewarded with a lengthy stream of profits.) Indeed, the damaging effect of concentration is found to be lower in sectors likely to have a predominance of such firms.

Development of the securities markets—equity as well as debt—may provide a countervailing force to excess profits in banking. Indeed, banking depth appears to be correlated across countries with stock market liquidity (figure 1.9). In attempting to understand stock market development, it is easy to be distracted by the large anonymous equity markets that have become so important in the advanced economies, to the extent that one neglects the fact that, in developing countries, even firms with stock market listings often have the bulk of their equity held by investors who are closely related. Indeed, in historical terms, the first extensive use of formal equity finance was not really to tap an anonymous market, but served as a way of transferring ownership between limited circles of business associates, and so it is for much of equity today, especially (of course), but not only, for unlisted firms.¹¹

Still, if the problems of asymmetric information can be overcome or alleviated, outside equity is clearly a financial instrument that can offer considerable advantages to both user and supplier of funds. Equity finance

Figure 1.9 Measures of stock market and banking development



Source: BDL database.

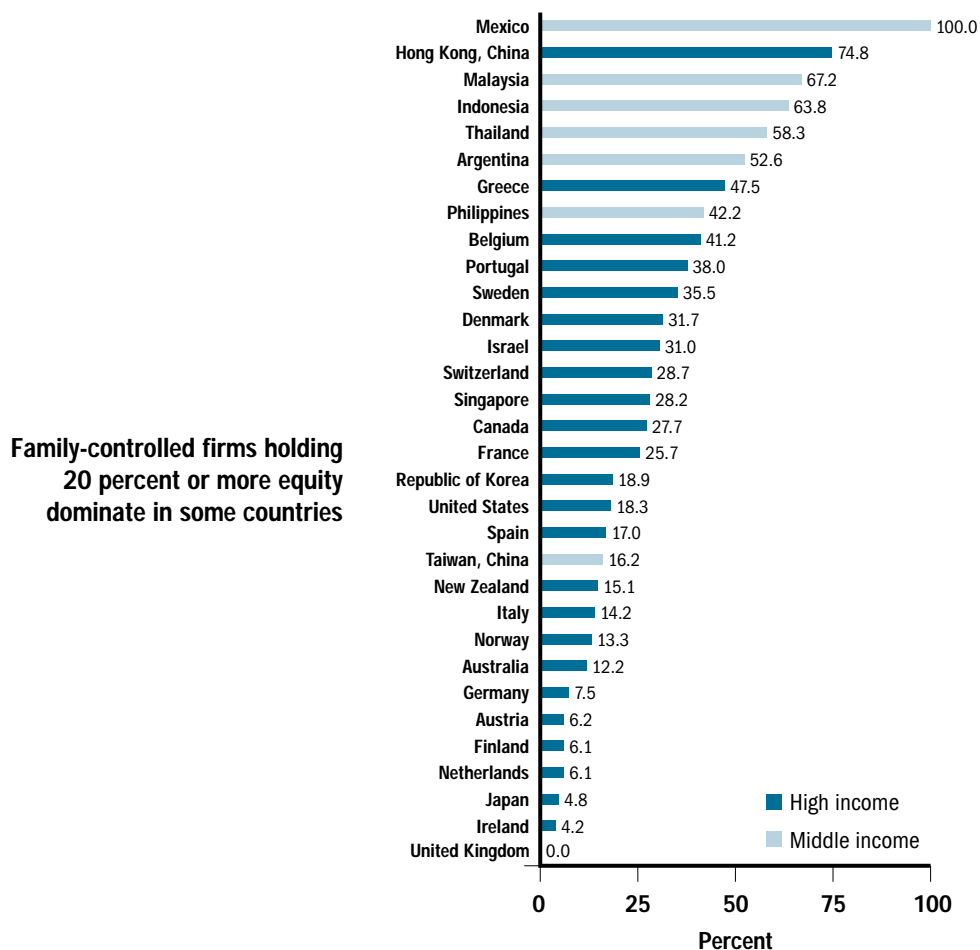
allows the insider promoters and managers of firms time to complete longer-term strategic projects and to recover from unexpected difficulties without having to incur the costs of reorganization. Although the equity holders may have ultimate ownership rights and stand to gain much if the firm becomes very successful, these advantages depend on the effective functioning of the board of directors giving all shareholders fair treatment.

When this cannot be assured, equity can be sold to outsiders only at a discount. This has been dramatically shown for East Asia in studies by Claessens and others (1999a, b, c), who have carefully documented the ultimate ownership structure of 3,000 listed firms in 9 countries, tracking group and family control, and thus the degree of de facto control by management or dominant shareholders, often through the pyramid structures that are often found—and not only in that region (figures 1.10, 1.11).¹² To some extent, such structures reflect the greater concentration of economic power in developing countries (a point that has consequences for the conduct of prudential regulation also, as discussed in chapter 2). Increasing ownership concentration hurts stock market performance of these shares, which trade at a discount to compensate outside financiers for the likelihood that their interests will be relatively neglected. Here, too, we see that the functioning of the market cannot always be relied upon to reach the optimum, and in this case the corporate governance of the firm and the allocation of resources are what suffer.

Some protection can be provided here by accurate and comprehensive financial reporting, and by laws that require directors to work in the best interests of all the shareholders. Of course, if laws and their enforcement depends in practice on endorsement by the same elite that controls most of the economy's major firms, they may not be in a hurry to provide that endorsement. Still, insiders do not always benefit in net terms from an environment in which they cannot credibly commit to fair treatment of outside shareholders.

These kinds of requirements seem more important than simply establishing a formal organization for facilitating the trading of shares. Nevertheless, once the essentials for the issuance of equities by firms have been established, it becomes essential to ensure that trading procedures and practice in the organized stock market are also such that adequate liquidity is available at fair prices. Rapidly evolving practice and technology from mature markets make it much easier than in the past to adopt and implement trading and price discovery mechanisms that are effective and, in short, ensure market integrity both for bond and equity trading (cf. IFC 1998).

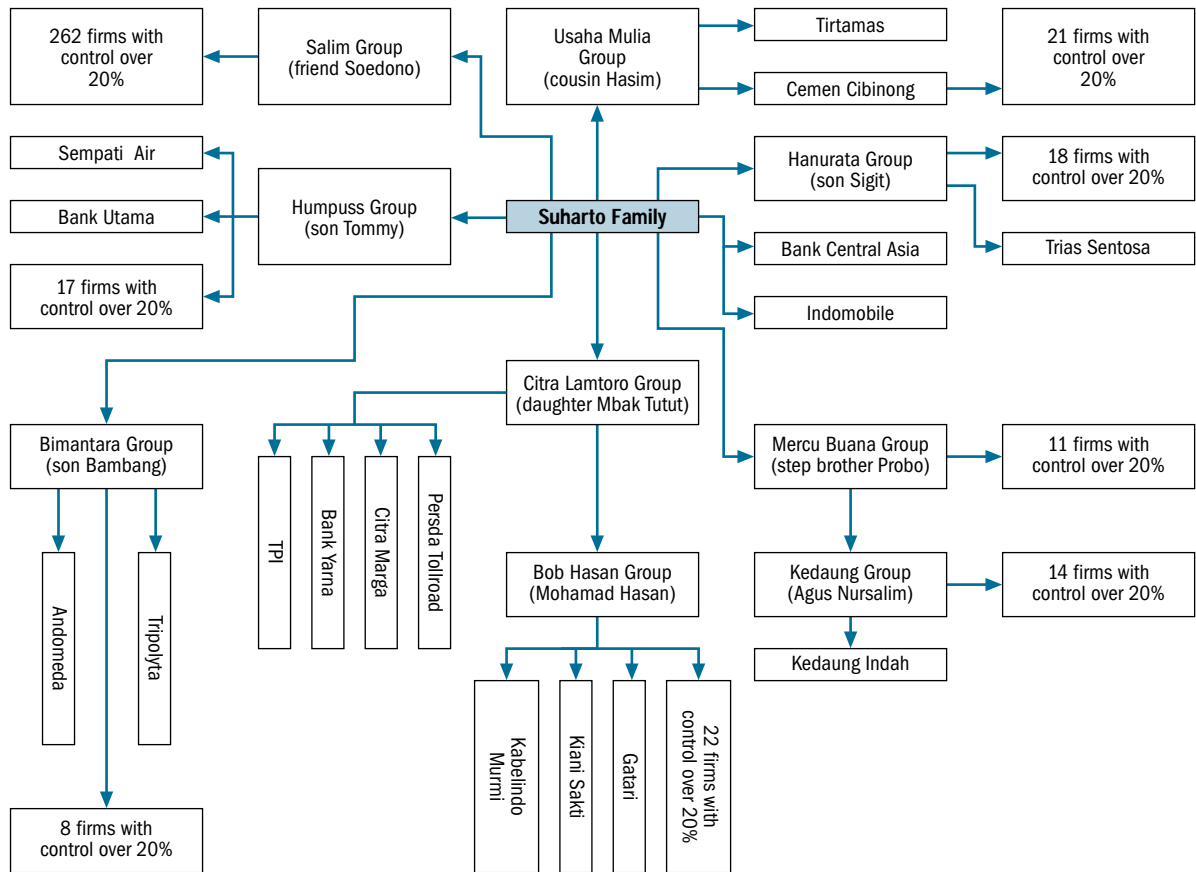
Figure 1.10 Market value of family-owned firms as a percentage of the total equity market value of the top 20 firms



Source: La Porta, López-de-Silanes, and Shleifer (1998); Claessens, Djankov, and Lang (2000).

Forced feeding of a local stock market, however, as has been attempted in many small countries, may be putting the cart before the horse. Many new stock exchanges have been established in recent years despite unpromising conditions. Many have extremely low liquidity and a very small number of stocks traded. Especially with increasing opportunities for international alliances and cross-border listing and trading, it is uncertain how many of these exchanges can and should survive. We will return to the role of small financial systems in chapter 4.

Figure 1.11 “And the owner is...the Suharto family group”



Source: Claessens et al. (1999a).

Financial Infrastructure¹³

IF WHAT IS NEEDED IS TO FACILITATE THE EFFECTIVE FUNCTIONING of both debt and equity markets—allowing them to respond to the demands placed on them by the needs of providers and users of funds—this still leaves the question of what policy measures are appropriate? The answer that most naturally emerges from the research results that we have been reviewing and from the disappointing experience from government ownership of financial intermediaries (discussed in chapter 3) is that these policies are likely to be more effective if directed to infrastructure rather than directly to the financial structures themselves.

It is better to focus policies on the development of a solid infrastructure, rather than specific structures

The lessons from examination of financial structure point to the desirability of infrastructural policy measures that could promote the production and communication of information; limit the exercise of market power, whether in banking¹⁴ or by insiders against shareholders; and ensure an efficient functioning of the organized securities markets.

But what policy measures should these be? For example, what rules and procedures would limit the tendency for participants to misrepresent relevant information, to evade commitments they have undertaken, and to exploit market power? (Here our first principle of policy formation, from the overview, comes to the fore: “Work with the market, but do not leave it to the market.”)

It is in the legal area that recent research on effective financial systems has made the most progress—and in areas going beyond the obvious and crucial need to ensure that the creditor’s rights can, in the event of a default, be expeditiously and inexpensively exercised. Naturally government has a comparative advantage in the design and implementation of law. One possible approach to policy design in the legal field is to seek to update and refine laws and legal practice in areas affecting finance: to bring the legal structure up to best practice as defined by what is in place in one of the more advanced economies.

**Different legal systems
provide different
protection**

Some few years ago a startling assertion, backed up by detailed quantitative research, cast doubt on this bland prescription. In a series of papers, La Porta, López-de-Silanes, Shleifer, and Vishny (1997, 1998) suggested that the choice of legal tradition is not innocuous. Specifically, they asserted that legal systems derived from English common law outperform those derived from the Napoleonic code, both in terms of favoring financial development and in supporting economic growth overall. (According to their research, performance of the other two legal families recognized by legal scholars, the German and the Scandinavian, lay between that of the others.)

These initial findings by La Porta, López-de-Silanes, Shleifer, and Vishny can be interpreted, for example, in terms of the relative protection that is formally granted by the different legal traditions to a firm’s managers, controlling shareholders and other insiders as against outsider financiers, including both creditors and minority shareholders. Indeed, the authors identified a set of key markers indicative of this relative protection in law. For example, if a firm declares bankruptcy, can a secured creditor seize collateral, or does an automatic stay on such seizure kick in (an automatic stay evidently protects the insiders from secured creditors)?

Is management entitled to stay in control of a firm that has filed for reorganization under protection of a court? Are there compulsory provisions for proxy voting by mail? Do all shareholders have equal voting rights and a preemptive right to participate in any new share issues (protecting the minority shareholder)? Can a small minority of shareholders insist on calling an extraordinary general shareholders' meeting? Can directors be sued for oppressive treatment of shareholders?¹⁵

While the various legal markers cannot readily be assigned a quantitative value in terms of the degree of protection that they do provide, the pattern is fairly clear: using data from 49 countries around the world, the relative protection is closely correlated across countries with the four-way classification of legal origin, and with characteristics of legal rules that are in turn associated with legal origin. Significantly, stronger shareholder rights (measured rather crudely by an average of the markers) are associated with a greater number of listed firms and with higher stock market capitalization; stronger creditor rights are associated with a higher level of bank credit and bond finance. This finding, that legal protections do help support financial market development, is confirmed and reinforced by the Levine, Loayza, and Beck paper (to which reference has already been made, and which again uses the legal origin variable as an instrument to help control for the possibility of reverse causation).

Thus legal origin is correlated with financial development, and finance helps economic growth, but it may be a mistake to make the leap to saying that legal origin itself was a major causal determinant of economic growth. More recent econometric work suggests that the causal paths are more complex. Two recent studies propose alternative mechanisms, either of which seems to describe the data more accurately. Both emphasize historical conditions in the countries adopting legal systems from the core European countries.

- The first (Acemoglu, Johnson, and Robinson 2000) distinguishes between colonies that were exploited by the colonial power and those that were settled by colonists: only in the latter (econometrically identified by the lower mortality rates experienced by colonists) could the benefits of well-designed legal and other institutions have effect.
- The second paper (Berkowitz, Pistor, and Richard 2000) emphasizes what they call legality, that is, the degree to which legal institutions are actually working effectively. In practice, legal origin

does also correlate with legality, and with the same ranking. But Berkowitz, Pistor, and Richard take a different tack, arguing that countries where alien legal systems were directly transplanted from the source country to unreceptive environments (or even to receptive environments if the transplant was indirect and hence somehow imperfect) failed to develop effective legality.

Each of these views leads to a different explanatory variable, and the econometric results indicate that each of these variables outperforms the legal origin as an explanation for economic growth. Perhaps the key message from these studies is not that successful development required benevolent colonial leadership, but rather than the nature of the historical interaction with European centers was often destructive of or inimical to the effectiveness of local institutions.

The protection of property rights favors financial market development and investment

The last word has not been written on this matter, but even if it is not itself a strong independent causal influence on economic growth, the debate and the analysis of the role of legal origin has deepened our understanding of legal structures in the functioning of financial systems. The research has shown that the differential protection of different stakeholders has had an influence on the relative development of debt and equity markets, on the degree to which firms are widely held, or more generally the degree to which they are financed externally, and thus on overall financial sector development.

Specifically, the proposition that legal origin influences financial development is not statistically overturned by the colonial and transplant theories discussed above. Indeed, Beck, Demirgüç-Kunt and Levine (2000) show that legal origin continues to be an important explanatory factor for various measures of *financial* development in cross-country regressions. (It is the persistence of this link that allows us to use legal origin as an instrument to help identify the causal impact of finance on growth as discussed above.) The colonial variable also appears to be significant correlated with financial development—the transplant variable less so.¹⁶

And the policy message from the econometric results systematically point in one direction: far from impeding growth, better protection of the property rights of outside financiers favors financial market development and investment.¹⁷

Lest it be thought that this observation is too obvious, let it be recalled that this perspective—attractive and conventional to providers of

finance—is not uncontested. Indeed, there is something to be said on theoretical grounds for the alternative view that providers of finance should not be protected too much. After all, growth depends on entrepreneurship, which is provided by the insider promoters of the firm; giving them insufficient legal protection might dampen their enthusiasm for new ventures. From another perspective, we can see that providing too much legal protection to claims over collateral could encourage lazy banks, which fail to exploit their skills in the social function of project appraisal and monitoring, relying instead on taking collateral and on its legal protection (this scenario is worked out theoretically by Manove and Pagano 2000).

And one must clearly avoid elevating contract fulfillment and enforcement beyond its true value. As Keynes (1923) memorably remarked, “the absolutists of contract...are the real parents of revolution.” These and similar arguments have a degree of validity, but the net judgment must be an empirical one, and here all the recent evidence points to the problems being of insufficient protection of claim holders rather than the contrary. The absence of a “credit culture,” that is, the incentive and practice of borrowers to repay, does elicit the predictable response from would-be lenders. Furthermore, the absence of restraints on the abuse of insider power to tunnel out the resources of a firm out of sight of the minority shareholders makes them reluctant to provide equity finance in future. Failure to establish these norms holds back the development of financial markets, thereby limiting entrepreneurial access to an adequate range of financial instruments at reasonable cost.

Despite the retreat of government from many spheres of economic activity, and although over-regulation and counterproductive rules for financial markets have often been a problem, it would be hard to deny that government needs to have a role in this field of ensuring adequate financial infrastructure.¹⁸ Where government has wholly absented itself from the ultimate responsibility for licensing and prudential supervision of banks, for regulation of the public issuance and trading of securities or for creating and supporting the legal system needed for conflict resolution in matters of contract, the results have been bad.

Hence, the first key principle which by now is almost self-evident: in designing and implementing policy for the financial sector, the government must work with the market to develop the effectiveness of market functioning, but it cannot leave these matters to individual market participants or to the market as a whole.

Although theory shows that too many protections to creditors may stifle entrepreneurship—

—the evidence suggests that the greater risk is of insufficient protection

The government should work with the markets to develop a financial infrastructure

There is clear scope for market participants to enhance regulatory structures—

Yet, to supplement—or make up for the absence of—government action, there is a clear and practical scope for market participants to amplify regulatory structures where this is needed. Practice in some of the more successful organized stock markets provide good examples of such private initiatives. Indeed, most markets impose some disclosure and corporate governance requirements over and above those provided for in general company law, the better to give confidence to market participants. They also create special rules for trading procedures in the market, including the prohibition of insider trading, front-running, and various forms of collusive practice among market specialists.

An instructive recent example, with evident potential application in developing countries, is the way in which the German stock market—the privately owned Deutsche Börse—reacted to a perception that disclosure requirements for listed companies were too weak to generate a high level of shareholder confidence. Accordingly, there were few new listings. The problem could be traced to the traditional approach of German accounting, which imposes a requirement of reporting prudence that, while protecting the interests of creditors (whose main requirement is to have early warning of solvency problems), has the effect of concealing the actual financial strength of a firm, exactly the information needed by a would-be shareholder. A general reform of accounting standards to approximate the International Accounting Standard (IAS) is envisaged for Germany, as for many other countries, and should help this problem. Meanwhile, the stock market, though obliged to admit any company that satisfies statutory listing requirements, decided to create a new high-profile segment of the market with greater disclosure requirements. Admission to this new segment, the Neuer Markt, requires quarterly reporting to IAS standards. Since its establishment in 1996, it has been associated with an explosion of new issues attributable to increased shareholder confidence.¹⁹

Like all self-regulatory organizations, the Deutsche Börse cannot dispense altogether with the courts: although a company listed in the new segment has voluntarily accepted the tougher rules and could be removed from the Neuer Markt list in case of violation, there could be future disagreements over compliance that might have to be resolved in the courts. If they are to be effective, attempts to augment the law with the private contracts of a self-regulatory organization need to be designed in such a way that recourse to the courts is unlikely, for example by making the rules themselves as transparent as possible. The term *self-regulatory organization*

(SRO) is, of course, problematic, because most such organizations in financial markets will need some degree of outside regulation if only to limit abuses of the market power that such organizations can wield.²⁰

In attending to the design of laws and market regulations, however, we must not lose sight of the evident importance, already alluded to, of legality, and in particular that what rules there are should be enforced. Several of the cross-country econometric studies to which reference has been made also show that survey-based assessments of the rule of law and quality of government also matter for financial development.

At the simplest level, taking a real estate collateral for a loan is of limited use if attaching or repossessing the collateral is known to be difficult in practice (even though, for example, the borrower's willingness and ability to provide such collateral may suggest that they are likely to be committed to the neighborhood, and that protecting their local reputation may be of some importance to them). Likewise if bankruptcy law and procedures are ineffective, unsecured lending by outsiders to a firm becomes highly risky. Indeed there is good evidence that firms borrow less where bankruptcy proceedings are less widely observed (Dahiya and Klapper 2000).

Correcting deficiencies at the level of the courts is a task that goes beyond the scope of this review. Pending wholesale legal reforms, however, progress can sometimes be made by market participants exercising such sanctions as are available to them. For example, in the case of abuses by corporate insiders, delisting by the exchange may be an effective sanction even if the efficient and fair courts are not available. Securing a secondary listing on a foreign market, or of a depositary receipt, can also export the problem, a point to which we return in chapter 4.

Another example of how market regulations—in this case deficient ones—can matter as much as substantive corporate law is the notorious case of the investment companies that acquired ownership over large swaths of the Czech corporate sector following the mass privatizations there by offering their shares for the mass privatization vouchers. Although there were rules governing the conduct and transparency of licensed investment companies, they did not protect the outside shareholders—those who had exchanged their vouchers for investment company shares—from seeing investment company licenses surrendered and the entity converted into a largely unregulated holding company (Coffee 1999). Many of the largest funds were so converted, facilitating the effective looting or “tunneling” of much of the fund's assets to insiders to the detriment of the outsiders who

—but they must be enforced

Experience illustrates the hazards of an inadequate infrastructure

**Contractual savings and
the stock market: a
symbiotic development**

had sold their vouchers for fund shares. Another type of problem in the Czech case related to the deficiency of rules for trading, as distinct from corporate governance and transparency. It was permissible to trade in listed shares without reporting the amounts and prices to the exchange: in practice, deals on the exchange became the exception and were often concluded at false prices; the true market-clearing prices became opaque.

Investment companies and mutual funds illustrate in a dramatic form the need for careful protection of outside shareholders. The design of regulation for this sector, which can greatly strengthen the demand side of the equity market, as well as widening the range of savings media available to persons of moderate wealth and providing competition for bank deposits, is something that needs attention in many countries.

Actually, the development and strengthening of the stock market and of managed funds often go hand in hand.²¹ Managed funds, particularly private pension funds and other contractual savings funds—with their appetite for longer-term investments, often (though not always) including market-traded equities—can be a significant driver of stock market development.²² It is as a block of significant investors—with the muscle to require rules and legislation to improve market integrity, efficiency of trading mechanisms, and corporate governance (including better disclosure to, and protection of, minority shareholders)—that pension funds and other institutional fund managers can make their largest contribution to improving the stock market. This will not happen until their equity holdings have reached a critical mass of, say, 20 percent of the market, a figure that may take some time to be achieved: in particular, the accumulation of pension funds is a gradual process. It will also not happen where the strategy of the funds is to take majority shares in affiliated nonfinancial firms, as is the case for the main pension funds in some countries.

And it is not just the stock market that benefits from the emergence of pension funds, life insurance companies, and other contractual savings institutions. In mature and emerging markets, they have been central in supporting numerous market-based financial innovations, such as asset-backed securities, the use of structured finance and derivative products, including index-tracking funds and synthetic products that protect investors from market declines. Catastrophic risk bonds placed by insurance companies are yet another example of the financial innovations emerging from this segment, and the process is likely to continue, with an apparent market gap in longevity-based derivatives. The associated learning and human capital

formation, as fund managers tool up to employ such techniques, helps to enhance the quality of risk management throughout the economy.

Building up these funds can also ensure enhanced and stable funding for key niche segments of the financial market, such as factoring, leasing, and venture capital companies. These in turn are a key to ensuring that smaller-scale firms can get access to financing at reasonable cost, a point to which we return below. They also generate a demand for long-term investments (required by life insurance providers and firms selling annuities if they are to match their obligations with assets of comparable maturity), thereby providing a market-based solution to a perceived gap that many governments have tried to fill over the years with costly and distorting administered solutions. Thus, contractual savings institutions expand the range and depth of financial services provided not only to their own policyholders and plan participants, but to a much wider range of financial sector actors.

While the emergence of private pension funds is neither necessary nor sufficient for a well-functioning stock market, it is thus well worth ensuring that the preconditions for contractual savings development are in place. This is true, not only for the longer-term benefits that will accrue to pensioners, policyholders, and other customers, but also for the spillover effects that can result for financial sector development if the pension fund industry is competitive and innovative.

Indeed, public policy design in relation to pension funds needs to go a lot further than is the case for most other parts of the financial sector. The reason is that the development of private pension funds is everywhere strongly influenced, if not wholly driven, by tax concessions designed to encourage saving for old age, or by government mandates that make such saving compulsory. The so-called second pillar of pension provision relates to privately managed funds established in response to official mandate (the first pillar is tax-financed; the third is voluntary saving, but may be tax advantaged). In making pension saving compulsory, the government is inevitably drawn in to defining what is to qualify as pension saving and approving the financial firms that will manage pension schemes. The same applies, though to a lesser extent, for tax-advantaged saving media. This implies that the government must also take some responsibility not only for prudential issues, but also to ensure that its interventions do not distort market incentives, resulting in, for example, a cartelized pension industry mis-selling at exorbitant prices to a largely underinformed customer base.²³

Special issues for pension fund policy

There are many unresolved issues in the policy design for pension funds

Many pension fund system policy design issues remain unresolved in the literature, and there is a wide dispersion of practice internationally on matters such as the following:

- If pension saving is to be mandatory, should the mandate apply to the individual or to the employer? (There are cost savings to having the employer arrange for the funds to be set aside, but there is also a loss of transparency and perhaps of the incentive to ensure that the funds are well invested.)
- The allowable fee structure to be charged by funds. (Should fees be paid up-front or made proportional to investment return? Should funds be constrained, in the interest of transparency and fairness, to charging all participants the same price, or does such price-fixing lead to worse distortions in terms, say, of marketing expenses?)
- Should pensioners be allowed to divide their savings into more than one fund? (The preferred mix of asset types may vary, especially with age, but where switching between accounts is allowed, costly and probably wasteful marketing expenses tend to mushroom.)
- Should fund managers be obliged to offer a minimum return guarantee? (Guarantees may encourage herding of investment strategies, though there is evidence to suggest that this happens even in the absence of guarantees.)
- What types of annuity contract or other drawdown arrangement should be allowed? (Compulsory annuitization eliminates longevity risk, but introduces counterparty risk; variable annuities allow the pensioner to participate in market returns—and risks—during the drawdown period.)

Resolving these matters shades into complementary public policy issues that go well beyond the scope of this report, such as the nature of government-provided pension schemes and the portability of accumulated benefits in employer-provided plans and other aspects of income redistribution policy.

If a consensus has emerged, it is around the principle that the rigid investment rules that often channeled much of pension savings to poorly remunerated government-sponsored assets should become a thing of the past. To be sure, conditions in many countries, especially where the pension industry is embryonic, where customer sophistication or access to information is limited, or regulatory capacity is weak, dictate that conduct

in the pension industry should still need to be constrained by explicit quantitative rules, especially against concentrations of risk, going beyond a general requirement of prudence. The trend, however, should be toward relaxation of arbitrary quantitative investment rules as soon as conditions permit, so that pension funds can play their full and potentially substantial part in the provision of essential financial services.²⁴

Access

MEASURES THAT SUCCEED IN DEEPENING FINANCIAL markets and limiting the distorting exercise of market power result in more firms and individuals securing access to credit at acceptable cost. But what of the poor and of the small or microenterprise borrower?

Access issues are important for at least two distinct reasons. First, they directly address the empowerment aspect of poverty. Limited access to finance is a contributor to persistent poverty in that it severely limits the potential for poor households to exercise their own entrepreneurial abilities to escape poverty. Second, there are externalities in finance for small and medium-size enterprises (SMEs). One way of thinking of this is to recognize that each would-be small entrepreneur begins with an idea: small firm creation is often the only way to embody these ideas, and they will not be brought to realization without the necessary access to finance. Many of the ideas will be bad ones, but some will prove to be of enormous social benefit as contributors to the growth process. Which is which will not easily be determinable unless they are exposed to the marketplace. Without detracting from the growth-contribution of larger firms, a financial system so structured as to give access only to those who are already established and prosperous fails to deliver in this dimension.

Much-discussed as the two key obstacles to access are (a) the fact that the poor and start-up companies alike have a lack of collateral and (b) fixed costs, including those of information acquisition, monitoring, collection, and enforcement that can be prohibitive for small financial contracts and transactions. With limited access to the conventional formal financial sector, small-scale, poor, or isolated firms or individuals have had recourse to a huge variety of informal or quasi-formal financial arrangements. They also employ a range of nonfinancial approaches to securing needed services that the formal financial system fails to offer them.

Greater access to finance can help households escape poverty and tap the talents of the less privileged

Extensive informal financial networks exist in most countries—

—but these are poor substitutes for more formal means of intermediation

Informal finance is very important in many regions and for certain groups in almost all regions of the developing world.²⁵ It comes in different forms, ranging from *susu* men—providing a haven for the savings of market women, secure as much from thriftless and importunate family members as from theft—to rotating savings and credit associations (*rosca*s) which, by pooling regular savings and lending the pooled sum out in turn to the members, can reduce the average time taken for a member to access a target investable sum. Everywhere there is the traditional moneylender, the pawnbroker, and trade-related and tied credit, but probably the largest part consists of nonintermediated bilateral financial arrangements between friends or relatives, whether of loan or equity type, or a mixture.²⁶

In the absence of collateral or of functioning or practical legal enforcement mechanisms, informal finance substitutes a range of alternative incentive and information devices, including social enforcement of penalties for willful default, social collateral, and pledging, where possession and use of the asset offered as collateral is transferred to the lender.²⁷

The indications are that the scale of informal finance is inversely related to formal financial depth, but, extensive and rich though it is, informal finance hardly provides a perfect substitute for well-functioning formal finance with its ability to mobilize funds on a large scale and pool risks over extensive areas. The comparative advantage perceived for informal finance in solving enforcement and information problems is relevant mainly to small-scale and isolated customers. For example, an extensive empirical literature on the effectiveness of informal financial systems in pooling risk in villages concludes that, though many such institutions exist, and often operate at a relatively substantial scale, the volatility of individual household consumption is still far from being fully insulated from idiosyncratic household risk.

Informal finance aside, households with inadequate access to formal finance fall back *ex ante* on self-insurance through such means as choice of low-risk (and potentially low average yield) production processes, and on choice of nonfinancial assets with good risk-reduction characteristics (such as the purchase of cattle), or on marriage and migration strategies (marrying into a family in a remote village can help spread consumption risk); and *ex post* on a variety of coping strategies, including mobilizing additional household labor resources.

If there is to be improved access to formal finance, this must be achieved by addressing the two fundamental problems of information

and the relatively high, fixed costs of small-scale lending. Recent research focusing on technological and policy advances points to how these barriers can be lowered. Much attention has focused in recent years on a range of innovative, specialized microfinance institutions, mostly subsidized and often targeted at lending to the poor, which have become established with remarkable success. The features that have been emphasized in studies of these microfinance institutions include (a) the rather low rates of loan delinquency—far lower than in the previous generation of subsidized lending programs that had operated in many developing countries, and (b) the reach of the institutions in terms of sheer numbers, as well as to previously grossly neglected groups, such as women. These elements of success have certainly been remarkable. This success has been attributed in part to reliance on innovation inspired by informal finance, for example:^{28,29}

- The use of group lending contracts exploiting the potentialities of social capital and peer pressure to reduce willful delinquency.
- Dynamic incentives using regular repayment schedules and follow-up loans or “progressive lending.”
- Lighter distributed management structures that reduce costs and enable lenders to keep loan rates down to reasonable levels.

These innovations, developed from the “bottom up” in poor countries such as Bangladesh, Bolivia, and Indonesia, now begin to be imported into advanced countries whose poor continue to be relatively badly served by the formal financial system.³⁰

Though small in terms of dollars lent, these programs are important in terms of the number of beneficiary households, and further rapid growth is envisaged. Hence, it will be of some importance to target the resources where they have the greatest social impact, and to avoid swamping fragile social structures by imposing too many demands on them. However, even these programs have not been very successful in directly reaching the poorest of the poor.

Their interaction with the remainder of the financial system is likely not decisive for the continued success and evolution of microfinance programs. One illustration of the lack of interaction is the fact that loan performance of BRI in Indonesia was almost unaffected by the 1997–98 crisis that almost swept away the main banking system. To be sure, as some unsubsidized banks learn the value of the techniques, they might become competitors able to cherry-pick some of the subsidized sector’s

Microfinance can reduce the problems of information and costs for small-scale lending—

—but they often cannot help the poorest of the poor

borrowers, but this need not be much of a threat to the continuing social effectiveness of the specialized microfinance entities directed to the poor. It may, however, be necessary for them to become part of the formal credit information system, discussed below, to protect themselves from exposure to borrowers who have, unknown to them, accessed other sources of finance.

While the revolution in microfinance has thus been associated with lending techniques that can and have resulted in profitable banking, it would be a mistake to think that this does away with any scope for subsidized lending programs targeted at the poor. Four facts highlight the distinctions that need to be made:

- Many of the largest and most prominent of the microfinance intermediaries require ongoing subsidies.
- Microenterprises are not necessarily operated by poor people.
- Most microfinance programs typically do not directly provide credit to the poorest of the poor.
- Operating expenses mean that real interest rates on microloans tend to be very high: affordable if applied to some forms of economic activity (for example, very short-term loans for merchandising), but implying a cost of capital far in excess of wholesale money market rates.

These considerations point to a double conclusion. First, unsubsidized microcredit can be an important element of the financial system, drawing not only on techniques exploiting the concept of social capital, but also on improvements in information technology for credit appraisal, as discussed below. Second, potential economic benefits can also be obtained from subsidized microfinance targeted at the poor. It may not be realistic to assume that the need for such subsidies will be eliminated over time.

Detailed research evaluating the social rate of return of subsidized microcredit programs has become an active area. Some types of lending seem more effective than others: lending to women in particular seems to convey higher social returns on average. It is of some importance to target available subsidies where they have the greatest social impact. As an aspect of applied public finance, a full discussion of subsidized microfinance lies outside the scope of this report, but the sorry history of early generation of dysfunctional subsidized credit programs has taught many lessons that remain valid and that must continue to be applied in subsidized microcredit programs of the new style targeted at the poor (Adams, Graham, and von

The lessons from earlier subsidized credit programs remain valid for microfinance

Pischke 1984). Among those lessons are the need to enforce hard budget constraints, to avoid loan interest charges so low that they allow round-tripping, to carefully choose rigorous adherence to the target group, and so on. Furthermore, the high visibility and popularity of these programs among donors itself presents risks: it is crucial to avoid swamping the often-fragile social structures that sustain these institutions by imposing too many demands upon them. (To take just one example: when funding from donors ramps up the supply of credit, how easy is it for each institution to verify that the loan it is now making is not just going to repay another falling due to a different microlender?)

As far as unsubsidized microcredit is concerned, new attention to improving the information infrastructure promises to yield benefits.

The collection, processing, and use of borrowing history and other information relevant to household and small business lending has been a rapidly growing activity in both the public and private sectors (see Miller (forthcoming) for a review of the recent worldwide expansion of credit registries). Computer technology has greatly reduced the unit costs here and improved the sophistication with which the data can be employed to give an assessment of creditworthiness. While the impact of having this information available alters incentives and market power in subtle—and not always favorable—ways, the consensus of recent research is that the growth of access to credit information improves loan availability and lowers intermediation costs. Comparing data from 43 countries, Jappelli and Pagano (1999) found the volume of bank credit to be significantly higher in countries with more information sharing, even after controlling for the effects of different degrees of legal protection for creditors. It is not hard to see why. For one thing, better information allows banks to offer better rates to more creditworthy customers, thereby allowing the market to escape at least partly, from the adverse selection trap that Stiglitz and Weiss (1981) showed can lead to credit rationing. Knowing that your credit performance will be accessed by future lenders also reduces moral hazard by stiffening the costs of delinquency. Furthermore, sharing information they have gathered can also mean that lenders lose some of the market power that goes with that information.

We cannot assume that these technologies can fully overcome the greater underlying information deficiencies encountered in many developing countries, but they can help.

There are drawbacks, of course, and they pose interesting policy challenges. To avail themselves of the benefits, borrowers must tolerate some

Improving the information infrastructure and technology can lower intermediation costs—

—outweighing potential drawbacks in the forms of lost privacy and credit discrimination

invasion of privacy. Since discrimination between the creditworthy and others is the purpose of credit appraisal, statistical credit-scoring models that make use of personal information other than credit history may have the socially undesirable effect of reinforcing pockets of disadvantage, whether geographical, ethnic, or other. Credit discrimination on specified grounds is outlawed in some countries, and even if enforcement is difficult, there is a need to guard against socially damaging effects of this type: this is clearly a potential downside of credit information systems. Also, the information-gathering industry has a natural tendency toward concentration or even monopoly (90 percent of credit information for the small business sector in the United States is provided by the market leader, Dun and Bradstreet).

The issue of privacy is of considerable practical importance. Barron and Staten (2000) show how much of the predictive value of credit information is lost when even modest privacy requirements are imposed. Specifically, the law in several countries precludes the sharing of positive information on credit history (that is, only defaults can be reported). Without this, though, it seems that a lender with a target default rate of no more than 3 percent would have to reject three in every five applicants, more than twice as many as if the full range of credit information were available (cf. table 1.1).³¹ Of course the issue of privacy protection is a much wider and rapidly evolving one, but this evidence on how

Table 1.1 Effects on credit availability of adopting a negative-only credit scoring model for various default rates

| Target default rate (percent) | Percent of consumers who obtain a loan | | Percent decrease in consumers who obtain a loan with negative-only model |
|-------------------------------|--|---------------------|--|
| | Full model | Negative-only model | |
| 3 | 74.8 | 39.8 | 46.8 |
| 4 | 83.2 | 73.7 | 11.4 |
| 5 | 88.9 | 84.6 | 4.8 |
| 6 | 93.1 | 90.8 | 2.5 |
| 7 | 95.5 | 95.0 | 0.5 |

Note: The full model predicts creditworthiness using both positive and negative information about borrowers credit history; cut-off credit quality is adjusted to reach target default rate. The negative-only model does the same, but ignores any positive information.

Source: Calculated by Barron and Staten (2000), based on a large sample of credit histories from the U.S. credit information firm Experian.

valuable—to most borrowers as well as to lenders—is the sharing of objective information on credit history suggests that countries with tight privacy laws should consider whether they can be relaxed to allow for such sharing to a lender from whom the borrower has sought credit.

The establishment of public, or government-controlled, credit registries in some countries has incidentally finessed the issue of monopoly. Long established in certain European countries, partly as a side effect of central bank requirements for preapproved private paper as collateral against money market support, a large number of such registries have recently been established, especially in Latin America. The recent surge is an understandable response to concerns about aggregate loan performance in the countries concerned, and about the quality of information on which bank lending decisions were being made. Countries that already had a private credit registry were much less likely to establish a public one. However, while the public registries represent a step forward, they are unlikely to remain the dominant force in credit information relevant to small-scale lending. Only information on the large exposures is likely to be of much direct value to the prudential regulators, whereas it is at the small end of the scale of loans that the information sharing aspect comes to the fore. Indeed, the establishment of public registries has not precluded the subsequent creation of private registries. Given the increasing volume of cross-border lending, it is likely that communicating networks of private registries will increasingly tend to acquire the comparative advantage here. The appropriate policy stance should be to facilitate this development, for example by ensuring that the threshold loan size for compulsory reporting to the public registry is not unduly low.

Conclusions

RECENT RESEARCH FINDINGS PROVIDE CLEAR GENERAL pointers for the design of government financial sector policy. They confirm that financial development does matter, it is pro-poor and it reduces aggregate volatility as well, contributing to growth. Even if the results do not express a preference as between bank-led or stock market-led structural approaches, they do provide plenty of indications of what needs to be protected through infrastructural measures. Both lenders and would-be borrowers benefit from improved protection of the rights of creditors, minority shareholders benefit from

protection from concealment of information and other abuses by firm insiders, and financial development is enhanced when exercise of market power by banks and others is restrained. Improved information infrastructure has been shown to help improve access for small borrowers, as have the innovative management and operational techniques of specialized microcredit institutions.

There are indications, too, of where government subsidy is and is not helpful. Although attempting to subsidize interest rates is likely to be counterproductive, there may be a case for carefully designed subsidization of private information infrastructures to overcome problems of fixed cost and to release the externalities that can be triggered by greater access on the part of small firms to formal finance. Public money may also be fruitful in strengthening judicial and accounting infrastructures, as well, of course, as in prudential supervision and regulation, even though some cost recovery may here be possible.

Thus the landscape of a smoothly performing and progressive financial system is sketched, but how to avoid the pitfalls of crisis, insolvency, and collapse? That is the topic to which we now turn in chapter 2.

Notes

1. Organized finance covers *formal* financial intermediaries and markets, as well as entities such as rotating savings and credit associations (*rosca*s) which, though specially organized for finance, are informal in the sense of not having a legal existence or falling within the scope of government regulation. Note that it has been important in many developing countries to distinguish between these and the emergence of unregulated financial intermediaries offering securities to, or taking deposits from, the general public (see chapter 2). Almost all the data employed in this study refer only to the formal financial sector.

2. Goldsmith (1969) may be said to be the pioneer, and among the first to develop this cross-country empirical initiative were Gelb (1989), Levine and King and Levine (1993a and b), and Gertler and Rose (1994). Levine (1997) provides an authoritative review of the theoretical and empirical literature.

3. Among the statistical hurdles passed by these legal origin variables is Hansen's test for instrument overidentification. In addition to using the legal origin

instrument, Levine, Loayza, and Beck (2000) also employ a dynamic panel instrumental variable technique with essentially the same conclusions. Contrasting time series methodologies are also employed with similar conclusions by Neusser and Kugler (1998) and by Rousseau and Wachtel (1998), though their data are limited to Organisation for Economic Co-operation and Development (OECD) countries.

4. Replacing the average ratio of private credit to GDP of Congo (Kinshasa) with that of Malaysia or Thailand predicts an increase in Congo's average growth rate of more than 6 percent per annum, not far off the actual difference of about 7 percent between the growth rates of Congo and either of the other two. Of course, such calculations need to be made with care, as indicated in box 1.1.

5. There is an interesting discussion of the demand for risk reduction in de Ferranti and others (2000).

6. The multiple problems of the highly monetized centrally planned economies following liberalization

may be cited as an example here; likewise the inappropriate use of derivatives in Mexico, 1994, described in chapter 4.

7. Levine and Zervos (1998a and b), Demirgüç-Kunt and Levine (1999), Beck, Demirgüç-Kunt, and Levine (1999), Demirgüç-Kunt and Huizinga (2000a), Demirgüç-Kunt and Maksimovic (2000).

8. For example, the mean debt-to-equity ratio for listed firms plotted for 30 countries in figure 1.7 is only loosely correlated ($R = -0.40$) with the markets vs. banks structure index devised by Demirgüç-Kunt and Levine (2000).

9. We use the term to include managers, directors, and dominant shareholders of a firm.

10. A further explanation could lie in a link between higher funding interest rates and the higher riskiness of lending (cf. Agénor, Aizenman, and Hoffmaister 1999).

11. Baskin and Miranti (1997) document the use of common stocks in the 19th and early 20th centuries.

12. Cf. La Porta, López-de-Silanes, and Shleifer (1999a) for the advanced countries. A study by Khanna and Palepu (1999) of the monitoring of Indian industrial groups also emphasizes the chilling effect on opaqueness on outsider investment. Note, however, that some countries heavily reliant on family ownership, according to figure 1.10, have experienced strong and resilient economic performance.

13. The term “financial infrastructure” is intended to capture the framework of rules and systems within which firms and households plan, negotiate, and perform financial transactions. As such, it would include legal and regulatory structures (including rule and contract enforcement mechanisms); supervisory resources and practices; information provision (for example, accounting and auditing rules and practices, credit bureaus, rating agencies, public registries); liquidity facilities; payments and securities settlement systems; and exchange systems (for example, trading and listing services, trading rules, communication and information platforms).

14. Openness as an approach limiting market power in banking is discussed in chapter 4.

15. Indeed, English common law sees directors as fiduciaries of the shareholders with a duty of loyalty to them (Johnson, McMillan, and Woodruff 1999).

16. Surprisingly, a variety of political structure variables fail to perform well in predicting financial development in this study; we return to political factors in chapter 3.

17. In extreme cases, even a liquid financial sector willing to lend may find no takers if property rights are insufficiently protected. Johnson, McMillan, and Woodruff (1999) provide some interesting survey-based evidence from Eastern Europe and the former Soviet Union (countries that, incidentally, are not included in the legal sample of La Porta and others) showing that, in 1997, it was differences in firms’ perceptions of the security of their property rights that determined their willingness to invest, and not any question of access to outside finance.

18. Though, for the case against government regulation of finance, see Easterbrook and Fischel (1991).

19. A good account of this process in Johnson (2000), which also shows that the listing boom is not an “Internet effect.”

20. For a discussion of the actual and potential role of SROs in finance, see Bossone and Promisel (2000).

21. The following paragraphs draw freely on Vittas (2000).

22. Indeed, statistical causality analysis favors the hypothesis that short-term fluctuations in stock market capitalization follow changes in the asset size of the contractual savings industry (Catalan, Impavido, and Musalem 2000).

23. Measures, parallel to those employed for banks and discussed in chapter 2, need to be designed to ensure that approved pension funds are prudently managed by experienced professionals, that they are secure against looting (for example through adequate auditing, and segregation of assets to be held by an external custodian), that they retain an adequate solvency reserve and that there is adequate transparency of their operations (cf. Rocha, Hinz, and Gutierrez 1999).

24. For further discussion of current issues in pension fund regulation, see James, Smalhout, and Vittas

(1999); James and Vittas (2000); Srinivas, Whitehouse, and Yermo (2000); Vittas (1998, 2000).

25. Besley (1995) provides a wide-ranging survey of the literature on informal finance.

26. Cf. the interesting insurance-cum-equity features of local lending uncovered by Udry (1994) in Northern Nigeria.

27. This method has been used, for example, to finance temporary emigration.

28. Success has also required attention to more mundane aspects neglected by an earlier generation of subsidized microfinance institutions, such as a realistic interest

rate structure, a well-trained and incentivized staff, and good management information systems.

29. For the performance of these institutions, see Morduch (1999) and Sebsted and Cohen (2000).

30. The recent success stories of microfinance-based on group lending has somewhat overshadowed the steady effectiveness of credit cooperatives and credit unions, which have long functioned as quasi-formal but decentralized institutions in many countries, employing some of the techniques discussed above, but usually relying for the bulk of their resources on member savings.

31. The specific comparison is with more restrictive law in Australia compared with what is allowed in the United States (itself closely defined).