

### 1.1 Motivation and Scope

In *Financial Structure and Development*, Raymond W. Goldsmith (1969) sought to accomplish three goals. His first goal was to document how financial structure—the mixture of financial instruments, markets, and intermediaries operating in an economy—changes as economies grow. Thus, he sought to trace the evolution of the structure of national financial systems as economies develop. Second, Goldsmith wanted to assess the impact of overall financial development—the overall quantity and quality of financial instruments, markets, and intermediaries—on economic growth. He sought to answer the question: Does finance exert a causal influence on economic growth? Finally, Goldsmith sought to evaluate whether financial structure influences the pace of economic growth. Does the mixture of markets and intermediaries functioning in an economy influence economic development? Indeed, Goldsmith (1969) summarized his motivation for studying the last two questions as follows: “One of the most important problems in the field of finance, if not the single most important one, almost everyone would agree, is the effect that financial structure and development have on economic growth” (390).

Goldsmith (1969) met with varying degrees of success in achieving each of these three goals. Goldsmith was largely successful in documenting the evolution of national financial systems, particularly the evolution of financial intermediaries. Specifically, he showed that banks tend to become larger relative to national output as countries develop. He also presented evidence suggesting that nonbank financial intermediaries and stock markets frequently—though certainly not always—grow relative to banks in size and importance as countries expand economically.

Goldsmith met with more limited success in assessing the links between the level of financial development and economic growth. He clearly documented a positive correlation between financial development and the level of economic activity in thirty-five countries, using data prior to 1964. He just as clearly indicated that he was unwilling to draw causal interpretations from his graphical presentations. Thus, Goldsmith was unwilling to assert that financial development exerts a causal influence on economic growth.

On the third question, the relationship between economic development and the mixture of financial markets and intermediaries operating in an economy, Goldsmith was unable to provide much cross-country evidence due to data limitations. Instead, Goldsmith—like many researchers before and after him—relied on careful comparisons of Germany and the United Kingdom. Detailed studies comparing financial structure in Germany and the United Kingdom, and later the United States and Japan, produced illuminating insights on the operation of *these* financial systems. Nevertheless, it is not clear that researchers can extend the conclusions garnered from these countries to very different countries. Indeed, Goldsmith expressed hope that others would follow his lead and produce broad cross-country evidence on the relationship between financial structure and economic growth.

Recent research has made substantial progress in expanding the analysis of Goldsmith's (1969) second goal: the connection between financial development and economic growth. In particular, researchers have provided additional findings on the finance-growth nexus and have offered a much bolder appraisal of the causal relationship: firm-level, industry-level, and cross-country studies all suggest that the level of financial development exerts a large, positive impact on economic growth.<sup>1</sup> Furthermore, building on La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998), a growing body of work suggests that cross-country differences in legal systems influence the level of financial development with important implications for economic growth.<sup>2</sup> This line of research is substantively improving our understanding of the relationship between financial development and economic growth.

Recent research, however, has not substantially updated and extended Goldsmith's documentation of the evolution of financial structures by using data from the last forty years, nor has recent research completed Goldsmith's third goal of assessing the relation-

ship between financial structure and economic growth in a broad cross-section of countries. It is true that researchers have developed rigorous theories of the evolution of the financial structures and how the mixture of markets and banks influences economic development. Allen and Gale (2000) provide a comprehensive study of the theory of comparative financial systems. It is also true that researchers have conducted detailed country studies of the connections between financial structure and growth, especially in Germany, Japan, the United Kingdom, and the United States. Again, Allen and Gale (2000) integrate these country studies into their analytic comparisons of different financial systems. The research presented in this book, however, is different in that it dissects the relationship between financial structure—the degree to which a country has a bank-based or market-based financial system—and long-run economic growth using a broad cross-section of countries.

This book sheds additional empirical evidence on each of Goldsmith's three questions. Part II updates Goldsmith's documentation of the evolution of financial structure during the process of economic growth. The work represents the fruits of a two-year data gathering process that produced a unique dataset on financial systems around the world. This database is available on the CD that accompanies this book. Part III uses this cross-country dataset to assess Goldsmith's next two questions: the relationship between economic growth and both the level of overall financial development and the structure of financial systems. Part IV includes a collection of detailed country studies of developing countries that examine the relationship between economic development and financial structure.

## 1.2 The Measurement and Evolution of Financial Systems

The absence of cross-country data on the structure of financial systems has hampered research on the determinants and implications of different financial structures. While Goldsmith (1969) documented how the structure of financial systems changes as countries develop, he examined only thirty-five countries and his data stopped in 1963. Difficulties in assembling comparable data on banks, insurance companies, private pension funds, mutual funds, and securities markets across a broad cross-section of countries have dissuaded researchers from extending Goldsmith's efforts and either confirming or refuting his findings.

Chapter 2 presents the fruits of a two-year data gathering effort. Specifically, in "The Financial Structure Database," Thorsten Beck, Aslı Demirgüç-Kunt, and Ross Levine discuss a comprehensive cross-country database that has information on the size, efficiency, and activity of banks, insurance companies, pension funds, mutual funds, finance companies, stock markets, and bond markets in up to 150 countries. Thus, the chapter computes measures of overall financial development as well as measures of the degree to which each country is more bank-based or market-based. The dataset also contains a wealth of information on each country's political, economic, and social environment. The authors make all of this information available on the World Wide Web.

In assembling, publishing, and making this database easily available, Beck, Demirgüç-Kunt, and Levine hope to augment the marginal product of future research on financial structure and economic development. The data are neither perfect nor complete, as the chapter makes clear. Nevertheless, chapter 2 potentially lowers the entry barriers to cross-country research on financial systems.

Chapter 3, "Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons," takes this new database and documents how financial structure differs across countries and changes as economies develop. Specifically, Demirgüç-Kunt and Levine find that banks, nonbanks, stock markets, and bond markets are larger, more active, and more efficient in richer countries. Thus, the data show—unsurprisingly—that financial systems, on average, are more developed in richer countries. Moreover, the data show that in higher-income countries, stock markets tend to become more active and efficient relative to banks. This finding does not suggest that there is a unique path along which financial systems evolve. The data do, however, illustrate a general tendency for national financial systems to become more market-oriented as they become richer.

Besides documenting the evolution of financial structure, chapter 3 assesses the relationship between financial systems and key legal, regulatory, and political characteristics. Specifically, the chapter finds that countries with a common law tradition (as distinct from a civil law tradition), strong protection of minority shareholder rights, good accounting systems, low levels of corruption, and no explicit deposit insurance tend to have more market-oriented financial systems. This is consistent with theories emphasizing that higher information costs and weaker legal codes regarding individual investor

rights will tend to favor banks over atomistic markets. Besides examining financial structure, Demirgüç-Kunt and Levine also examine the overall level of financial development. They find that underdeveloped financial systems have a greater tendency to have a French civil law tradition, poor protection of minority shareholder rights and creditor rights, poor contract enforcement in general, higher levels of corruption, poor accounting standards, commercial banking regulations that heavily restrict the activities of banks, and high inflation rates. Chapter 3 simply documents some broad proclivities in the data and does not evaluate specific theoretical predictions. The relationships, however, are consistent with many theories discussed in Allen and Gale (2000) and in René Stulz's review of the theoretical literature (chapter 4).

### 1.3 Financial Development, Structure, and Growth

Part III focuses on the relationship between financial structure and growth but also provides additional evidence on the connection between overall financial development and economic growth. In chapter 4, "Does Financial Structure Matter for Economic Growth? A Corporate Finance Perspective," René Stulz reviews the literature on financial structure and economic growth by emphasizing the connections between financial arrangements and corporate finance. He emphasizes that, by lowering information and transaction costs, overall financial development can facilitate the efficient flow of capital and thereby influence economic growth. Stulz also notes that legal, regulatory, and policy factors influence the effectiveness with which the overall financial system channels capital to productive ends.

This chapter also investigates the comparative merits of bank-based and market-based financial systems. A variety of theories specify the conditions under which bank-based systems will do a better job of funneling capital to its most productive ends than more market-based systems. In particular, banks may be particularly effective in underdeveloped countries with poorly functioning legal and accounting systems (Gerschenkron 1962). Powerful banks can more effectively induce firms to reveal information and pay debts than atomistic markets that rely on efficient legal and accounting systems. Furthermore, banks may be more effective in providing external resources to new firms that require staged financing because

banks can more credibly commit to making additional funding available as the project develops, while markets have a more difficult time making credible, long-term commitments.

Alternatively, some theories highlight the conditions under which market-based systems are effective at allocating society's savings. Powerful banks frequently stymie innovation and competition. Banks may extract information rents from firms and thereby reduce the incentives of firms to undertake profitable projects (Rajan 1992). By encouraging competition, market-based systems create greater incentives for R&D and growth. Furthermore, powerful bankers may collude with managers against other outside investors and thereby thwart competition, efficient resource allocation, and growth (Wenger and Kaserer 1998; Weinstein and Yafeh 1998; Morck and Nakamura 1999). Thus, some theories stress the advantages of market-based systems, especially in the promotion of innovative, more R&D-based industries (Allen 1993). In reviewing the literature, Stulz sets the analytical stage for the empirical work that follows.

Chapter 5, "Financial Structure and Economic Development: Firm, Industry, and Country Evidence" by Thorsten Beck, Aslı Demirgüç-Kunt, Ross Levine, and Vojislav Maksimovic, conducts a comprehensive assessment of the relationship between economic performance and financial structure. To measure financial structure, the authors use the data assembled by Beck, Demirgüç-Kunt, and Levine for this book. They then combine this data with firm-level, industry-level, and pure cross-country datasets. Specifically, the chapter relies on (1) pure cross-country comparisons, (2) cross-industry, cross-country methods, and (3) firm-level data across many countries, to examine the connections between financial structure and economic growth.

Using very different data and econometric methodologies, the authors of chapter 5 find astonishingly consistent results. First, no evidence exists that distinguishing countries by financial structure helps explain differences in economic performance. More precisely, countries do not grow faster, financially dependent industries do not expand at higher rates, new firms are not created more easily, firms' access to external finance is not easier, and firms do not grow faster in either market-based or bank-based financial systems. Second, chapter 5 finds that distinguishing countries by overall financial development does help explain cross-country differences in economic performance. Measures of bank development and market development are strongly linked to economic growth. More specifically,

the data indicate that economies grow faster, industries depending heavily on external finance expand at faster rates, new firms form more easily, firms' access to external financing is easier, and firms grow more rapidly in economies with higher levels of overall financial-sector development. Finally, chapter 5 emphasizes the role of the legal system in producing growth-enhancing financial systems. Specifically, the component of overall financial development explained by the legal rights of outside investors and the efficiency of the legal system in enforcing contracts is strongly and positively linked to firm, industry, and national economic success.

In chapter 6, "Financial Structure and Bank Profitability," Aslı Demirgüç-Kunt and Harry Huizinga focus on the performance of the banking sector itself across different financial structures. Their research shows that banks have higher profits and larger interest-rate margins in underdeveloped financial systems. After controlling for the overall level of financial development, the relative development of banks versus markets does not have an independent effect on bank profitability or interest margins. Thus, it is the level of bank and stock market development that translates into differences in banking sector efficiency, not financial structure per se.

In Chapter 7, "International Evidence on Aggregate Corporate Financing Decisions," Ian Domowitz, Jack Glen, and Ananth Madhavan assemble a new cross-country dataset on bond and stock issues and investigate how the role played by these markets varies with financial structure. This is a first-time effort to systematically document the magnitude of primary market financing, both across countries and over time. The authors examine the determinants of primary market activity, focusing on the role of various institutional and macroeconomic factors. They show that macroeconomic stability is highly correlated with the choice of external financing and that the institutional framework plays an equally crucial role in financing decisions. Key institutional factors include liquidity in the stock market, concentration in the banking system, and the relative size of the banking sector and the stock market. Finally, the authors observe that market-based systems are more dependent on foreign securities, which turns out to be mostly driven by a reliance on foreign bonds.

#### 1.4 Financial Structure and Performance: Country Studies

The country studies echo the cross-country, industry-level, and firm-level findings: Overall financial development is very important for

economic success, but financial structure as such is not a distinguishing characteristic of success. While studying financial structure, each of the country studies naturally focuses on the particular issues facing the country under consideration.

In chapter 8, "Financial Structure in Chile," Francisco Gallego and Norman Loayza investigate the development of Chile's financial system over the last two decades. They use firm-level data and panel-econometric techniques to assess a number of hypotheses. They show that Chilean firms have become less cash constrained in their investment decisions with the substantial improvement in Chile's financial system. Thus, overall financial development in Chile has eased cash-flow constraints and thereby facilitated a more efficient allocation of capital. Furthermore, they show that the rapid development of the banking system induced an increased reliance on debt. This occurred even while capital market development lowered the cost of firms raising capital by issuing equity. Thus, bank and capital market development improved firm access to capital, and on net, an increase in firm leverage ratios occurred. Finally, Gallego and Loayza emphasize the internationalization of Chile's financial system. Access to international capital markets positively influenced firm debt-equity ratios. Specifically, the ability of Chilean firms to issue American Depository Receipts sent a positive signal of future performance that eased borrowing constraints. Thus, Chile is a country that has developed better markets and strong banks and has gained greater access to international equity and debt markets. The improvement in overall financial development has enhanced capital allocation. While debt ratios have risen, no evidence exists that changes in financial structure per se have significantly influenced firm performance in Chile.

In chapter 9, "Firms' Financing Choices in Bank-Based and Market-Based Economies," Sergio Schmukler and Esteban Vesperoni investigate the impact of internationalization on firm financing decisions and whether this impact depends on financial structure. Specifically, the chapter examines whether international liberalization alters financing choices of firms, and whether the level of domestic financial development and structure influences the impact of international liberalization on firm financing decisions. The authors use firm-level data from Asia and Latin America. They show that international liberalization has less of an impact on firm financing choices in countries with well-developed financial systems. Schmukler and

Vesperoni also show that financial structure—the degree to which countries are bank-based or market-based—does not influence the impact of liberalization on firm financing choices. Again, the evidence suggests that it is overall financial development that influences decisions and not financial structure as such.

In chapter 10, "Corporate Groups, Financial Liberalization, and Growth: The Case of Indonesia," Andy Chui, Sheridan Titman, and K. C. John Wei examine the case of Indonesia. They study whether firms connected to corporate groups responded differently to financial liberalization than did independent firms. Corporate groups control a significant portion of their economies' assets in many developing countries and are controlled by politically powerful families. These groups may have greater power than independent firms in terms of (1) access to capital and (2) the ability to influence and circumvent government regulations. Under these conditions, these groups may impede financial market liberalization because liberalization may tend to reduce their power. In particular, powerful groups may favor a concentrated, bank-based system rather than atomistic, difficult-to-control markets. To explore these possibilities, Chui, Titman, and Wei empirically examine the effects of financial liberalization on corporate groups and independent firms in Indonesia. They do not detect a difference: Corporate groups do not respond differently than independent firms do. This result holds over a period during which stock market development increased dramatically in Indonesia.

## 1.5 Lessons

This book tackles three broad questions.

1. What happens to national financial systems as countries develop?
2. Does overall financial development influence economic growth and firm performance?
3. Does the structure of the financial system—bank-based or market-based—influence economic growth and firm performance?

Through a diverse set of analyses, the answers are surprisingly clear. First, we find that national financial systems tend to become more developed overall and more market-oriented as they become richer. Second, we find that overall financial development tends to accelerate economic growth, facilitate new firm formation, ease firm access to external financing, and boost firm growth. Moreover, the

evidence strongly suggests the following: Legal systems that effectively protect the rights of outside investors and that enforce contracts efficiently improve the operation of financial markets and intermediaries with positive ramifications on long-run growth. Third, financial structure is not an analytically very useful way to distinguish among national financial systems. Countries do not grow faster, new firms are not created more easily, firms' access to external finance is not easier, and firms do not grow faster in either market- or bank-based financial systems.

At the risk of oversimplifying, we can summarize the findings of this book as follows: Overall financial development matters for economic success, but financial structure per se does not seem to matter much. Thus, policymakers may achieve greater returns by focusing less on the extent to which their country is bank-based or market-based and more on legal, regulatory, and policy reforms that boost the functioning of markets *and* banks.

Before concluding this introduction, we stress an important qualification: Because no universally accepted definition of financial structure exists, our measures may be prone to error. The research presented here uses a variety of different measures that, combined with different analytical procedures, all point to the same conclusion. Nevertheless, one can reject all of the measures of financial structure and thereby reject this book's conclusions. We fully accept this possibility. We hope that our efforts improve the marginal product of those who will further investigate financial structure and economic development. Perhaps, Goldsmith (1969, x) put this best in discussing his own efforts: "I cannot expect to have escaped statistical errors and oversights. . . . All I can do is to take comfort in the proverb, nothing ventured, nothing gained, and to put my faith in those who will plow the field over again and may produce a richer harvest, in particular obtaining a higher yield per hour for their labor."

## Notes

1. Specifically, firm-level studies (Demirgüç-Kunt and Maksimovic 1998), industry-level studies (Rajan and Zingales 1998; Wurgler 2000), cross-country studies (King and Levine 1993a, b; Levine and Zervos 1998), and pooled cross-country, time-series studies (Beck, Levine, and Loayza 2000) find that financial development is positively related to growth, and this relationship is not due only to simultaneity bias.

2. See Demirgüç-Kunt and Maksimovic 1999; Levine 1998, 1999, forthcoming; and Levine, Loayza, and Beck 2000.

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## II

## Measurement and Determinants of Financial Structure