

Part I

Setting the Stage

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Excerpt
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CHAPTER

1

Functions of the Financial System

OVERVIEW

Having a well-functioning financial system in place that directs funds to their most productive uses is a crucial prerequisite for economic development. The financial system consists of the financial infrastructure and all financial intermediaries and financial markets, and their relationships with respect to the flow of funds to and from households, governments, business firms, and foreigners.

The main task of the financial system is to channel funds from those with a surplus to sectors that have a shortage of funds. In doing so, the financial sector performs two main functions: (1) reducing information and transaction costs and (2) facilitating the trading, diversification, and management of risk. This chapter discusses both of these functions at length.

The importance of financial markets and financial intermediaries differs across Member States of the European Union. An important question is how these differences affect macroeconomic outcomes. Atomistic markets face a free-rider problem: when an investor acquires information about an investment project and behaves accordingly, he reveals this information to all investors, thereby dissuading other investors from devoting resources to acquiring information. Financial intermediaries, particularly banks, may be better able to deal with this problem than financial markets.

This chapter discusses these and other pros and cons of market-based and bank-based systems. A specific element of this debate is the role of corporate governance, i.e. the set of mechanisms that arrange the relationship between stakeholders of a firm, notably equity holders, and the management of the firm. Investors (the outsiders) cannot perfectly monitor managers acting on their behalf, since managers (the insiders) have superior information about the performance of the company. Therefore mechanisms are needed to prevent company insiders from using the firm's profits for their own benefit rather than transferring them to outside investors. This chapter outlines the various mechanisms in place.

While there is considerable evidence that financial development up to some point is good for economic growth, there is no clear evidence that one type of financial system is better for growth than another. However, various recent studies suggest that differences in financial systems may influence the type of activity in which a country specialises, because certain systems may more easily facilitate particular types of economic activity than others. In addition, some evidence suggests that the economies of market-based systems are less affected by financial crises.

Before the financial crisis, the traditional banking model, in which issuing banks hold loans until they are repaid, was increasingly replaced by the ‘originate and distribute’ model, in which banks pool loans (like mortgages) and then tranche and sell them via securitisation. Therefore this chapter discusses the recent growth of non-bank financial intermediaries.

Finally, the chapter describes the ‘law and finance’ view, according to which legal system differences are key to explaining international variations in financial structure. According to this approach, distinguishing countries by the efficiency of their national legal systems in supporting financial transactions is more useful than categorising them based on whether they have bank-based or market-based financial systems.

LEARNING OBJECTIVES

After you have studied this chapter, you should be able to:

- explain the main functions of a financial system
- differentiate between the roles of financial markets and financial intermediaries
- explain why financial development may stimulate economic growth, and why this relationship may be non-linear
- explain why government regulation and supervision of the financial system is needed
- describe the advantages and disadvantages of bank-based and market-based financial systems
- explain the various corporate governance mechanisms
- explain the ‘law and finance’ view.

1.1 Functions of a Financial System

The Financial System

This section explains why financial development affects economic welfare. To understand the importance of financial development, the essentials of a country’s *financial system* will first be outlined. The financial system

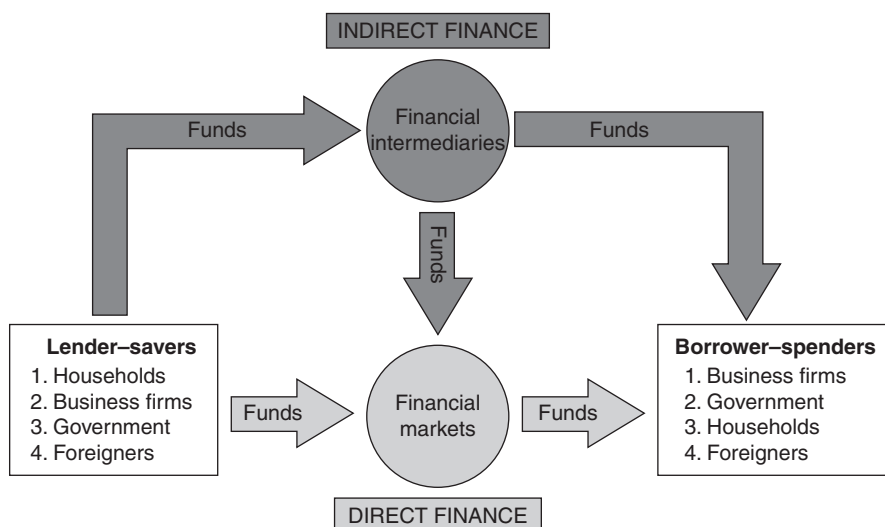


Figure 1.1 Functioning of the financial system
 Source: Mishkin (2006)

encompasses the financial infrastructure and all financial intermediaries and financial markets, and their relationships with respect to the flow of funds to and from households, governments, business firms, and foreigners. *Financial infrastructure* is the set of institutions that enables the effective operation of financial intermediaries and financial markets, including payment systems, credit information bureaus, and collateral registries.

The main task of the financial system is to channel funds from sectors that have a surplus to those with a shortage of funds. Figure 1.1 explains the working of the financial system. Sectors that have saved and are lending funds are on the left, and those that must borrow to finance their spending are on the right. The bottom of the figure illustrates the process of *direct finance*, when one sector borrows funds from another sector via a *financial market* – a market in which participants issue and trade securities. The top of the figure depicts an *indirect finance* transaction, in which a financial intermediary obtains funds from savers and uses these savings to issue loans to a sector in need of finance. *Financial intermediaries* are (coalitions of) agents that provide financial services, such as banks, insurance companies, finance companies, mutual funds, and pension funds (Levine, 1997). In most countries, indirect finance is the main route for moving funds from lenders to borrowers. These countries have a *bank-based system*, while those that rely more on financial markets have a *market-based system*.

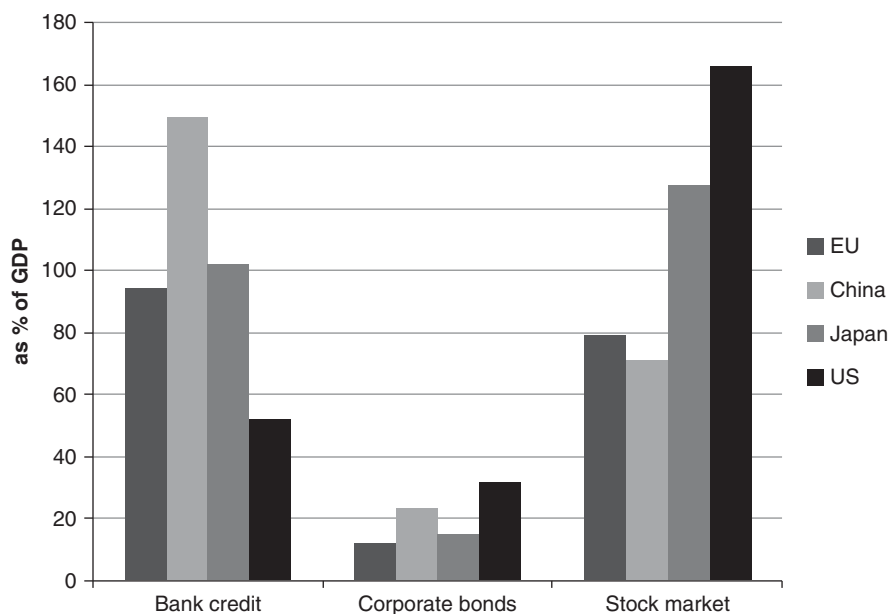


Figure 1.2 Bank credit and corporate bond and stock market capitalisation in the EU, China, Japan, and the US, 2017 (% of GDP)

Source: Authors' calculations based on data from World Bank, BIS, and WFE

Figure 1.2 shows the importance of bank credit, bond, and equity finance in the EU, China, Japan, and the US in 2017 as a percentage of GDP. It shows that banks are a more important source of finance for non-financial corporations in the EU than in the US, but China and Japan have higher levels of bank credit to non-financial firms than the EU. Stock and bond market capitalisation are highest in the US.

The financial system transforms household savings into funds that are available for investment by firms. However, the importance of financial markets and financial intermediaries varies across EU Member States, as will be explained in detail below. The types of assets held by households also differ among European countries. Yet EU countries' financial systems share one common feature – the importance of *internal finance*: most investments by firms in industrial countries are financed through retained earnings, regardless of the relative importance of financial markets and intermediaries (Allen and Gale, 2000).

The structure of the world's financial markets and institutions has experienced revolutionary changes over the last 30 years. Some financial markets have become obsolete, while new ones have emerged. Similarly, some financial institutions have gone bankrupt, while new entrants have emerged.

However, the functions of the financial system have been more stable than the markets and institutions used to accomplish these functions (Merton, 1995). This chapter discusses the functions of the financial system in detail. Later chapters will discuss the changes in Europe's financial markets and financial institutions over the last generation.

Major disruptions sometimes occur in the financial system that are characterised by sharp declines in asset prices and the failure of financial intermediaries. Capitalist economies have experienced such financial crises for hundreds of years. Often, these crises are followed by severe economic downturns. Chapter 2 will discuss financial crises, focusing on the banking and debt crises that have hit the euro area since 2008.

Having a well-functioning financial system in place that directs funds to their most productive uses is a crucial prerequisite for economic development. If sectors with surplus funds cannot channel their money to sectors with good investment opportunities, many productive investments will never take place. Indeed, cross-country, case-study, industry-, and firm-level analyses suggest that the functioning of financial systems is vitally linked to economic growth. Countries with larger banks and more active stock markets have higher growth rates, even after controlling for many other factors underlying economic growth (Levine, 2005; Popov, 2017). However, others have questioned the importance of finance for economic growth. For instance, Lucas (1988: 6) argues: 'I believe that the importance of financial matters is very badly over-stressed.' Furthermore, several recent studies conclude that the relationship between financial and economic development may be non-linear. For instance, Arcand *et al.* (2015) report that at intermediate levels of financial depth, there is a positive relationship between the size of the financial system and economic growth, but at high levels of financial depth, more finance is associated with less growth. In fact, the marginal effect of financial depth on output growth becomes negative when credit to the private sector reaches 80–100 per cent of GDP. This reflects the fact that higher levels of financing increase the likelihood of financial crises (see Chapter 2), which may depress economic growth. In addition, a large financial sector may lead to a misallocation of resources, as the financial sector may attract talent from more productive sectors of the economy, which may be inefficient from society's point of view. Finally, some types of finance, like mortgage credit, are considerably less conducive to sustainable economic development than other types, such as enterprise credit.

Main Functions

The two main *functions of the financial system* are (1) to reduce information and transaction costs, and (2) to facilitate the trading, diversification, and management of risk. This section discusses each of these functions in turn to explain why the financial sector may stimulate capital formation and/or technological innovation, two of the driving forces of economic growth.

Reducing Information Asymmetry and Transaction Costs

The financial system helps overcome the information asymmetry between borrowers and lenders that can occur *ex ante* and *ex post*, i.e. before and after a financial contract has been agreed upon. *Ex ante* information asymmetry arises because borrowers generally know more about their investment projects than lenders. The borrowers that are most eager to engage in a transaction are the most likely ones to produce an undesirable outcome for the lender (*adverse selection*). It is difficult and costly to evaluate potential borrowers. Individual savers may not have the time, capacity, or means to collect and process information on a wide array of potential borrowers. Thus, high information costs may prevent funds from flowing to their highest productive use. Financial intermediaries may reduce the costs of acquiring and processing information and thereby improve resource allocation. Without intermediaries, each investor would face the large fixed costs associated with evaluating investment projects. Financial markets may also reduce information costs. Economising on information acquisition costs facilitates the gathering of information about investment opportunities and thereby improves resource allocation. In addition to identifying the best investments, financial intermediaries may also boost the rate of technological innovation by identifying entrepreneurs with the best chances of successfully initiating new goods and production processes (Levine, 2005).

The information asymmetry problem occurs *ex post* when borrowers, but not investors, can observe actual behaviour. Once a loan has been granted, there is a risk that the borrower will engage in activities that are undesirable from the perspective of the lender (*moral hazard*). Financial markets and intermediaries also mitigate the information acquisition and enforcement costs of monitoring borrowers. For example, equity holders and banks will create financial arrangements that compel managers to manage the firm in their best interest (see Section 1.2 for more details).

Credit rating agencies (CRAs) play an important role in financial markets by producing information about credit risk and its distribution to market participants (see Box 1.1). CRAs assess the credit risk of borrowers (governments, financial, and non-financial firms) by providing credit ratings. A *credit rating* can be defined as an opinion regarding the creditworthiness of a financial instrument, or the issuer of a financial instrument, using an established and defined ranking system of rating categories. A rating only refers to the credit risk; other risks, like market risk (the risk due to unfavourable movements in market prices) and liquidity risk (the risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss), are not taken into account. Ratings play a crucial role in financial markets, as investors use them to evaluate the credit risk of financial instruments. Since assessing these instruments requires specific knowledge and is very time consuming, individual investors often rely on CRA ratings. The ratings thus have an important influence on the interest rate that borrowers have to pay. The downgrading of a rating generally leads quickly to a higher interest rate on loans. Portfolio manager performance is often benchmarked against standard indices that are usually constructed on the basis of credit ratings.

Box 1.1 Credit rating agencies

Since John Moody started in 1909 with a small rating book, the rating business has developed into a multi-billion-dollar industry. CRAs essentially provide two services. First, they offer an independent assessment of the ability of issuers to meet their debt obligations, thereby providing ‘information services’ that reduce information costs, increase the pool of potential borrowers, and promote liquid markets. Second, they offer ‘monitoring services’ through which they encourage issuers to take corrective actions to avert downgrades via ‘watch’ procedures.

There are around 150 CRAs, but the three largest competitors (Standard & Poor’s Ratings Services, Moody’s Investors Service, and Fitch Ratings) share roughly 95 per cent of the market. While most CRAs are regional or product-type specialists, the three biggest players are truly global and broad in their product coverage. What is more, the sovereign rating coverage of the big three dwarfs that of other CRAs.

Credit ratings are expressed on a scale of letters and figures (see Figure 1.3). Standard & Poor’s rating scale is, for example, as follows: AAA (highest rating), AA, A, BBB, BB, B, CCC, CC, C, D (lowest rating). Modifiers are attached to further distinguish ratings within classifications. Whereas Fitch and Standard & Poor’s use pluses and minuses, Moody’s uses numbers. CRAs typically signal their intention to consider rating changes in advance, using ‘outlooks’ and rating reviews (so-called watchlists). Whereas outlooks represent agencies’ opinions on the development of a credit rating over the medium term, watchlists focus on a much shorter time horizon – three months, on average. The watch and outlook procedures

Box 1.1 (cont.)

Interpretation	Fitch and S&P	Moody's
Highest quality	AAA	Aaa
High quality	AA+	Aa1
	AA	Aa2
	AA–	Aa3
Strong payment capacity	A+	A1
	A	A2
	A–	A3
Adequate payment capacity	BBB+	Baa1
	BBB	Baa2
	BBB–	Baa3
Likely to fulfil obligations ongoing uncertainty	BB+	Ba1
	BB	Ba2
	BB–	Ba3
High-risk obligations	B+	B1
	B	B2
	B–	B3
Vulnerable to default	CCC+	Caa1
	CCC	Caa2
	CCC–	Caa3
Near or in bankruptcy or default	CC	Ca
	C	C
	D	D

Figure 1.3 Credit ratings
Source: IMF (2010)

are considered to be generally strong predictors of rating changes relative to other publicly available data.

CRAs are mainly paid by the issuers of these instruments to publish a rating. This may give agencies an incentive to overstate the creditworthiness of a particular product in order to build a good relationship with the issuer, thereby creating a conflict of interest. However, CRAs must safeguard their credibility with investors, as otherwise their ratings would be of no value in the market. Yet it is doubtful whether the potential loss of reputation sufficiently restrains CRAs and can indeed function as an effective form of sanction. CRAs may be manipulated by issuers, which shop for a higher rating.

CRAs have come under attack due to their role in the recent financial crisis. It is widely believed that CRAs' poor credit assessments of complex structured credit products contributed to both the build-up and the unfolding of the crisis. Many analysts have concluded that CRAs assigned high ratings to complex structured subprime debt based on inadequate historical data and, in some cases, flawed models. The agencies have also come under fire for their sovereign rating activities, which involve assessments of a government's ability and willingness to repay its public debt (both the principal and interest) on time. CRAs were condemned for exacerbating the European debt crisis (see Chapter 2) when they