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Financial Structure, Corporate Finance and Economic Growth*

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ABSTRACT

This paper examines how a country's financial structure affects economic growth through its impact on how corporations raise and manage funds. We define a country's financial structure to consist of the institutions, financial technology and rules of the game that define how financial activity is organized at a point in time. We emphasize that the aspects of financial structure that encourage entrepreneurship are not the same as those that ensure the efficiency of established firms. Financial structures that permit the development of specialized capital by financial intermediaries are crucial to economic growth.

I. INTRODUCTION

This paper examines how the organization of financial activities within a country affects economic growth through its impact on how corporations raise and manage funds. In principle, how well a financial system performs any of its functions can affect economic growth.1 For instance, the organization of a country's payment system affects growth by making it easier for economic agents to trade. Often, policy-makers and academics take it as given that savings will be invested efficiently, so that firms do not matter. This view rests on traditional neo-classical principles. In a simple world of perfect capital markets and risk-neutral agents, the interest rate determines which investment opportunities are valuable, and all investment opportunities that are valuable are exploited.2 This is not the world we live in. Even though a country has savings, its growth can be stunted because its financial system fails to direct these savings where they can be invested most efficiently. In this paper, we therefore examine how the organization of financial activities affects the efficiency with which corporations invest savings and take advantage of valuable investment opportunities.

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1 See Levine (1997) for a review of how finance affects growth.
2 We define here perfect capital markets to be markets with no transaction costs, no contracting costs, no taxes, no information asymmetries and no restrictions to trades in financial assets.
The fact that savings can be invested inefficiently because of how financial activities are organized has been at the core of the intense debate on the comparative benefits and costs of the 'Anglo-Saxon' model and the 'bank-centred' model. When the US economy's performance seemed poor in contrast to the performance of the Japanese economy in the 1980s, the 'bank-centred' model was viewed as a key determinant of why the performance of the two economies differed. A typical view of that period is represented by Thurow's argument that 'the United States has organized a system that is the exact opposite of that of Germany and Japan. Those countries have organized a system (business groups) to maximize the benefits and costs of the shareholders, while the United States has organized a system (fund dominance) to minimize the influence of individual shareholders' (Thurow 1992). According to this view, Japanese firms could invest in long-term projects because of their long-term shareholders, while American firms could not afford to do so. The poor performance of the Japanese economy in the 1990s has led many to reassess the evidence on the benefits of the Japanese system. In particular, evidence has been produced showing that bank dependence can lead to a higher cost of funds for firms because banks extract rents from their corporate customers (see Weinstein and Yafeh 1998).

What we have learned from the debate contrasting the 'Anglo-Saxon' and the 'bank-centred' models is that how financial activities are organized affects the type of project firms undertake. The argument that Thurow (1992) makes is that US managers evaluate projects differently from Japanese managers because of different corporate governance arrangements. When deciding on whether to take a project or not, a manager has to evaluate its net present value, which amounts to discounting the expected cash flows of the project at the cost of capital of the project. If two firms located in different countries make different decisions on the same project, it has to be because the cost of capital differs or because the incentives and monitoring of management differ. The differences in incentives and monitoring of management might lead management in one country to take on bad projects or not to take on good projects, because it is either not sufficiently rewarded for making the right decisions or not sufficiently punished for making the wrong ones.

Differences in the cost of capital across economies mean that the same project will have a different value in different economies. If economies are not integrated internationally, the cost of capital can differ simply because each economy is an island and the cost of capital has to balance investment and savings within that economy. However, if economies are integrated internationally, capital flows will equalize the expected rate of return on securities with identical risk across countries. In perfectly integrated financial markets, the present value of the same cash flows to capital providers will be the same across countries. Nevertheless, identical projects can produce different cash flows to capital providers because of differences in how financial activities are organized. To make the point in the most extreme way, consider two identical plants in the US. One plant belongs to a Japanese company and the other one belongs to a US company. The plants are managed in exactly the same way and produce the same cash flows. Despite this,

the value of the plants to the shareholders could be very different because this value depends on how the cash flows of the plants are used. If one company pays out the cash flows as dividends whereas the other uses them to finance bad projects, the plants will have different values. The company that wastes the cash flows may not be able to raise enough funds to finance the project because it may not be able to commit enough cash flows to the capital providers.

In this paper, we examine how the organization of financial activities affects growth through its effect on the costs firms can raise and on how firms are managed. We call this the first financing problem and the second one the governance problem. As our above example shows, the two problems are closely related. If management maximizes the value of the firm for capital providers, it can raise more funds for a project than management that pursues its own goals. The way the firm finances its activities affects how the governance problem is resolved. For instance, debtors can intervene in the firm only if the firm is in default, while shareholders can affect the actions of management when the firm is not in default. The organization of financial activities affects how the financing and governance problems are resolved.

The paper is organized as follows. In section II, we first define what we mean by organization of financial activities and contrast this concept with the development of the financial sector. We then define a perfect markets benchmark and discuss how the cost of capital differs from its perfect markets benchmark and why this wedge offers a useful measure of how the organization of financial activities affects economic growth. In section III, we examine economic growth, financial structure affects the cost of capital for an entrepreneur who wants to start a new firm. In section IV, we examine how the organization of financial activities affects the cost of capital for an existing firm. In section V, we discuss how existing empirical work is supportive of our analysis. Concluding remarks are provided in section VI.

II. PERFECT MARKETS AND FINANCIAL STRUCTURE

In this section, we first define what we call financial structure. We then proceed to define a perfect markets benchmark for how the financial system performs its functions. In later sections, we then show how characteristics of financial structure make countries deviate from this benchmark, but we first discuss in the last part of this section how to interpret deviations from this benchmark.

A. Defining financial structure

Merton (1995) argues that a financial system provides: (a) a payment system; (b) a mechanism for pooling funds; (c) a way to transfer resources across space and time; (d) a way to manage uncertainty and control risk; (e) price information to allow the economy to implement a decentralized allocation of investment; (f) a way to deal with the asymmetric information problems that arise when one party
to a financial transaction has information that the other party does not have. These functions can be performed in different ways in different economies. Focusing narrowly as we do here on how corporations raise and manage funds, large corporations primarily raise funds through banks in bank-centred economies and through public markets in Anglo-Saxon economies.

We define a country's financial structure to consist of the institutions, financial technology and rules of the game that define how financial activity is organized at a point in time. The same function of a financial system can be performed by different institutions or according to different rules. There is no direct relation between a country's economic development and its financial structure. For instance, Japan and the US had quite different financial structures at the same level of economic development. Hence, no case can be made that the financial structure is completely endogenously determined.

It is important to distinguish financial structure from financial development. Research has focused on the relation between financial development and economic growth. Indicators of financial development that have been used in the literature consist of measures like the turnover of the stock market, stock market trading relative to GDP, stock market capitalization relative to GDP, the proportion of funds raised externally by firms and so on. All these measures of financial development can be dramatically different for the same financial structure. For instance, in 1980, the UK, Portugal and Sweden had essentially the same ratio of private credit and stock market capitalization to GDP, but they surely had very different financial structures (see Rajan and Zingales 1998, p. 570). Hence, there is no one-to-one relation between financial development and financial structure. For instance, reliance on external funding might be the same in an economy where the stock market plays an important role and in an economy where banks play an important role. Financial structure can hinder or promote financial development, however. Policies can have a direct impact on financial structure, but they can only have an indirect impact on financial development. Policy-makers cannot legislate changes in the degree of financial development, but they can legislate changes in the financial structure. This makes it especially important to understand how financial structure affects economic growth.

B. A perfect markets benchmark

Many results in financial economics require the assumption that markets are perfect. If markets are perfect, contracting is costless, and the Coase theorem applies (see Fama 1978). This means that whenever there is a reallocation of resources that creates value, it can be implemented at no cost. In a world of perfect markets, contracting can be complete. In other words, the actions of an economic agent or the payoffs of individual securities can be specified for each state of the world at no cost. The actions of the agent are observable, and contracts specifying actions in each state of the world can be enforced costlessly.

3 See Levine (1997) for a review.

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With perfect markets, a firm specifies in each state of the world what the providers of capital will receive. The value of a firm for the providers of capital is the present value of the cash flows the firm will pay out to them. If capital markets are perfect and there are no restrictions to capital flows, it does not matter where investors in a project are located. All investors value a project in the same way. There are no differences in the cost of capital across countries. A project is funded if it is expected to earn at least its cost of capital. This means that the present value of the cash flows of the project is positive. All projects that are valuable get funded irrespective of where they are located.

C. Deviations from the perfect markets benchmark

In perfect financial markets, the firm can finance any project that management finds valuable. Two key market imperfections destroy this property of perfect financial markets. First, investors do not see all actions management takes. Second, management has information that investors do not have. Arrow (1979) named the first problem the hidden action problem, and the second the hidden information problem. These hidden action and hidden information problems create an agency problem between management and investors. If management knows that a project will be most likely to be a bad project, it may want to raise funds for it anyway because generally it benefits from managing a larger firm by having more perks and a higher salary. If the project fails, management does not get all the blame because it could be bad luck. If the project succeeds, management gets the benefit of firm growth. Hidden information and hidden actions give management discretion that it can use to pursue its own objectives. With hidden information and hidden actions, investors no longer automatically believe what management says about the cash flows they will receive from a project. This is for several reasons. First, investors know that management has incentives to overstate the cash flows and they generally cannot verify management’s statements. Second, through hidden actions, management can affect cash flows later on. In particular, management can work less hard, which reduces cash flows, or can alter cash flows in other ways to pursue its own goals. Third, investors generally cannot specify the use of the cash flows from a project. Because of this, management may choose to invest too much in the firm because it gets more benefits from investing than paying out the surplus cash flows to shareholders. In the extreme case, these problems imply that no funds can be raised. For instance, if management can take the funds raised and use them for consumption without penalty, the firm cannot raise funds even though it might have good projects.

In the presence of the hidden information and hidden action problems, management cannot go to the markets, announce that it has projects with a given cash flow distribution and expect investors to finance it. Consider a firm that requires funds to finance existing activities and grow. The extent to which it can raise these funds depends on the cash flows that the providers of these funds believe will accrue to them. Consequently, the firm could have a project that
would be financed in perfect capital markets but would not be in imperfect capital markets because the providers of funds do not believe that they will receive sufficient cash flows from the project. In such a situation, the neo-classical capital budgeting approach is no longer useful. This is because the project would be worthwhile at the neo-classical cost of capital, but the firm cannot raise funds at that cost of capital. To secure external funding, the existing owners may have to agree to costly restrictions on the actions they can take so that the capital providers are more secure in their beliefs that they will not be taken advantage of by the owners. The cost of external funding for the firm must take into account the deadweight costs associated with these restrictions. As a result, the cost of external funding for the firm exceeds the cost of capital for investors because of the hidden information and the hidden action problem.

The best way to consider the difference between the cost of capital for investors and the cost of external funding for the firm is to focus on an entrepreneur who is seeking funding for a project. The value of the project for investors is the present value of the cash flows they would expect to receive if they owned the right to all the cash flows from the project using the appropriate discount rate given the risk of these cash flows. For the entrepreneur, the cost of external funding is the discount rate that equates the present value of the cash flows given up to secure external funding to the funds raised. These two costs of capital are identical in perfect capital markets. Market imperfections create a wedge between these two costs of capital. As the wedge increases for the entrepreneur, there is a point where the project is no longer worthwhile and investment does not take place.

Consider a project that would be worthwhile in perfect financial markets. In our framework, the entrepreneur cannot undertake this project if his cost of external finance is such that the funds that could be raised are not sufficient for the investment required. In such a situation, investors will not provide the funds, so that the entrepreneur is rationed (see Stiglitz and Weiss 1981). Such a situation will arise if the cash flows generated by the project in perfect markets cannot be contracted to be paid to the investors. In the extreme case, legal enforcement could be so poor that the entrepreneur could steal all the cash flows with impunity, so that the investors would get nothing and the cost of capital to the entrepreneur would be infinite. However, it could simply be that because of hidden information and hidden action problems, the cash flows are lower than in perfect capital markets because the entrepreneur cannot credibly commit to work as hard when his effort is not observable as when it is.

Let us now consider the situation of an established firm trying to raise funds. In this case too, there is a distinction between the discount rate of investors and the firm’s cost of external finance. The discount rate of investors is chosen in the same way as in the case of the entrepreneur. The funds raised by the firm are equal to the present value of the cash flows the investors expect to receive. However, the firm’s total value does not necessarily increase by the funds raised. The value of the firm is given by the discounted value of the cash flows the providers of capital expect to receive. This value is less than the value of the firm in the absence of the hidden information and hidden action problems if these problems lead management to make investment decisions that would not be optimal if financial markets were perfect. For instance, management could use the funds to invest in projects that have a negative net present value using the neo-classical cost of capital but have private benefits for management.

The possibility of overinvestment as well as the possibility of underinvestment create the wedge between the cost of external finance of the firm and the discount rate of the capital providers. If the firm overinvests, it means that it takes on projects it should not. These projects reduce the firm’s cash flows relative to what they would be with perfect capital markets because these projects do not earn the discount rate required by investors. If the firm underinvests, it means that it does not exploit opportunities that it should take advantage of. Again, this reduces firm value relative to what it would be in perfect markets where the firm would take these projects. To examine how financial structure affects the possibility of overinvestment and the possibility of underinvestment, we organize our discussion around the life cycle of a firm. We start in the next section by examining the problem of the entrepreneur seeking funding of a new project. We then investigate how financial structure affects the activities of established firms in section IV.

III. FINANCING THE ENTREPRENEUR

In the first part of this section, we argue that the optimal financing of an entrepreneur’s project involves staged financing. In the second part of the section, we discuss how financial intermediaries can provide this staged financing.

A. The importance of staged financing

We consider an entrepreneur who has an idea for a project. This project has a positive net present value in the absence of hidden information and hidden action problems. The entrepreneur cannot finance the project on his own. He therefore has to find investors who will provide the necessary funds. To do so, he has to be able to convince investors that they can expect a return on their investment equal to their required discount rate. Investors will only finance the project if they expect to earn the opportunity cost of their funds.

Suppose first that there is no information asymmetry between the entrepreneur and the investors concerning the cash flows of the project. In this case, the project could be funded if investors believe that they will receive those cash flows from the project promised to them. This means that investors have to be confident that there are no other claims on these cash flows, which requires that property rights be well defined and enforceable.

4 See Fazzari et al. (1988) for a discussion of this wedge and its implications for investment equations.
Countries differ in the extent to which investors can be assured of receiving the cash flows promised to them. In countries with the worst legal enforcement, domestic investors have little chance of receiving what is promised to them if the entrepreneur does not want to pay. In other countries, domestic investors have greater expectations of receiving the promised cash flows than foreign investors.

In general, however, the entrepreneur's problem is that he has more information about the project than investors. There is no reason for investors to believe that the entrepreneur is telling the truth when he describes the project. This is because the entrepreneur can benefit from undertaking the project even if the project has little chance of succeeding. If he does not raise funds to undertake the project, the entrepreneur's equity is worthless. As long as the entrepreneur has an equity claim in the project, he benefits if the project does well, but if the project does poorly, the investors lose more than the entrepreneur. The information asymmetry between investors and the entrepreneur often makes it impossible for the entrepreneur to fund the project by issuing shares to new investors in public markets. Since the entrepreneur would want to sell shares even if there was no project, investors cannot take at face value the statements of the entrepreneur. Therefore, the entrepreneur cannot raise the funds for the project by simply describing the project and asking the investors to believe that the project is profitable. Even if the project has a high value and would be funded in perfect financial markets, it will not be funded when the hidden information problem is sufficiently important.

To overcome the hidden information problem, the entrepreneur may only be able to initiate the project on a scale where investors can learn about the project and stop funding it if they discover that it will not be profitable. Generally, therefore, the method of financing involves financing in stages and the decision of whether to continue project financing depends on how the project is evolving (see Admati and Pfleiderer 1994). Since the investors in the early stages of the project acquire valuable information, the project may fail if the initial investors withdraw because new investors do not have this information. Consequently, for stage financing to work, the entrepreneur has to be able to rely on the investors to provide additional financing if appropriate conditions are met. Capital markets are generally ill-suited to stage financing for at least two reasons. First, stage financing requires an investor to provide new funds under some conditions. This means that a security that provides stage financing does not have the property of limited liability. However, securities without limited liability have essentially disappeared from the capital markets. If a security requires its owner to make payments in the future, its value depends on whether the payments will be made if the conditions of the security are met. To ensure this requires limitations on trading. Otherwise, the securities have most value for those individuals with the least amount of wealth who cannot make the subsequent payments. Second, even if it were possible to have traded securities without limited liability, it is generally not possible to specify all the conditions under which the additional financing would be provided. Success in a project has many dimensions. However, with publicly traded securities, it will generally not be possible to set up a mechanism where the owners of the securities act collectively to figure out whether funds should be provided (see Roe 1987).

B. The role of financial intermediaries in financing the entrepreneur

The solution to financing the entrepreneur's project generally involves staged financing obtained from financial intermediaries such as banks, bank substitutes and possibly venture capitalists. Banks effectively provide staged financing. They do so in the form of loans that they renew and expand as the entrepreneur makes his case for financing more compelling. Generally, with banks the funds are provided in the form of debt. One reason for this is that debt economizes on monitoring costs. If the entrepreneur repays the debt, there is no reason for the bank to expend resources on figuring out the true value of the entrepreneur's assets (see Townsend 1979). With such a financing mechanism, the bank provides funds in the form of debt and the entrepreneur, his friends and possibly venture capitalists own the equity. Competition among potential providers of funds has the effect of reducing the interest rate charged to the entrepreneur. This would seem to be good for economic growth, but things are not this simple. If financing has to be staged, as one learns about the project new financing decisions are taken. At each stage of the project, the financial intermediary has to assess whether the project should be pursued under what conditions. At that point, the financial intermediary can contribute value to the project by having specialized skills that it can apply to evaluate the project and increase its probability of success.

The extent to which a financial intermediary expends resources on a project depends on the extent to which the intermediary can benefit from expending these resources. The financial intermediary cannot make profits when the project fails and must therefore make profits when projects succeed. This means that if a project succeeds the financial intermediary has to be able to extract rents (see Sharpe 1990; Rajan 1992). Lack of competition among financial intermediaries increases the ability of a financial intermediary to extract rents from successful projects, thereby justifying the expenditure of resources on projects to increase their probability of success. Some ability to extract rents is therefore necessary for relationship lending.

With too much competition among financial intermediaries, there is little incentive for financial intermediaries to invest resources in projects when they can only be compensated for doing so through a relationship with the firm. In

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5 Gompers (1995) provides empirical evidence on stage financing.
6 Historically, there have been securities without limited liability. In particular, bank equity in the US often did not have limited liability before the 1930s. Consequently, if a bank's capital fell, the shareholders could be called upon to invest more funds. See Winton (1993) for a theory of limited liability and a discussion of how it evolved over time.
7 Boot and Thakor (2000) discuss how the supply of relationship lending by banks depends on competition within the banking sector as well as from the capital markets.
such a situation, the financial intermediaries do not develop expertise, so that they cannot assess projects and hence do not finance them. Further, projects that get started but do not benefit from relationship financing are less likely to succeed. Without relationship financing, therefore, fewer projects get started. The projects that get started are those where the financial intermediary can finance investments that are not project-specific and can be used as collateral. In other words, if relationship financing is not available, the entrepreneur can borrow to buy a building but not to finance improvements in machinery that are project-specific. At the same time, however, with too little competition, financial intermediaries can expropriate the entrepreneur if the project is successful by increasing the cost of finance when the project turns out to be successful. As the ability to extract rents increases, however, the payoff to the entrepreneur from his idea falls.

The relationship between the entrepreneur and the financial intermediary is complicated by the fact that the financial intermediary has private information about the project's entrepreneur. The existence of this private information means that if the financial intermediary withholds funds from the entrepreneur, other financial intermediaries will infer from this decision that there is adverse information about the project. Consequently, it may be difficult for the entrepreneur to seek other sources of funds. The financial intermediary increases the cost of its financing irrespective of the degree of competition among financial intermediaries.

Another area where the financial intermediary may impose costs on the entrepreneur is to have with the continuation and expansion decisions. With debt claims, financial intermediaries have incentives to push the entrepreneur to avoid risks since the value of debt claims falls as risk increases. Consequently, the financial intermediary evaluates the continuation decision differently from the entrepreneur. If continuation involves an increase in risk, the financial intermediary may choose to discontinue the project if the proceeds from liquidation are high enough. The possibility that the financial intermediary may prevent continuation of the project when it would be optimal for the entrepreneur to continue means that the entrepreneur's payoff is decreased and his incentives to work hard fall.

The extent to which the financial intermediary makes suboptimal continuation decisions is affected by whether the financial intermediary holds equity. If the financial intermediary holds a share of firm value by having both debt and equity in the same proportions, its incentives are to maximize firm value. The problem of suboptimal continuation can also be resolved by having different financial intermediaries for debt and equity. By providing the entrepreneur with more equity, it becomes less likely that he will not be able to pay interest to the bank and the influence of the bank becomes less important.

The provision of private equity plays a crucial role in financing entrepreneurs for another reason. The use of debt requires the availability of collateral. Debt that does not have a specific collateral, such as a building, is collateralized by the whole firm. Some activities of a firm do not yield collateral that can be used to raise debt. For instance, with research and development (R&D) investments, the bank that seizes the firm faces the problem that it has no assets that it can sell or even evaluate. Equity enables firms to raise funds by pledging a share of future cash flows.

The problem of suboptimal continuation is exacerbated by funding risks. Staged financing requires that the commitment to continue financing will be honoured. Venture capital is not the only type of intermediary that cannot be disciplined through lawsuits. If the entrepreneur expects to receive additional funds, instability in the banking sector therefore reduces the expected payoff from entrepreneurship. As the entrepreneur invests in the project, he has to believe that funds will be available when he reaches a point where he can demonstrate the value of the project. However, if capital constraints on banks prevent them from lending, the project will have to be discontinued even though it is a valuable project. If this possibility is high enough, the entrepreneur will not undertake the project in the first place.

Access to public markets for the entrepreneur is expensive unless the value of the project can be established by public investors with sufficient precision so that the project can be funded. Public investors do not have access to the same information as financial intermediaries because the firm cannot communicate some types of information publicly without reducing its value. This might suggest that public capital markets are therefore not important. Yet they play a role in four ways. First, public capital markets allow the entrepreneur to escape the bank. They make it possible for the entrepreneur to have an alternative source of financing if the bank tries to expropriate too much of the profit from the project. Consequently, even though entrepreneurs are financed initially through bank finance, the availability of public markets can play a crucial role in promoting entrepreneurship by limiting the ability of financial intermediaries to extract rents. Second, public markets make it possible for the entrepreneur to realize profits from a successful project. Without public markets, the entrepreneur's stake is illiquid. If the entrepreneur sells his stake, he will face a limited market and hence get a low price. With public markets, the payoff from the project for the entrepreneur increases. Third, public markets aggregate information and therefore provide valuable information about the value of firms and projects that can be used for making investment decisions. Fourth, the

8 Myers (2000) discusses the role of public markets as a way for the entrepreneur to prevent his efforts from being destroyed through rent-seeking. Black and Gilson (1998) argue that a dynamic venture capital sector exists only in stock-market based economies, as opposed to economies dominated by banks, and argue that this is because venture capital requires the exit option that arises through access to capital markets.
9 Subrahmanyam and Titman (1999) develop a model where a firm seeks funding from the capital markets when investors who spend resources to acquire information about the firm get different and complementary information. In this case, public funding is valuable because the public markets aggregate this diverse information efficiently. In contrast, firms seek private funding when investors who independently acquire information get the same information, since in that case it is inefficient for more investors to spend resources to acquire the same information.
existence of public equity markets makes possible the emergence of financial intermediaries who provide funds in exchange for equity and can therefore share the entrepreneur's risks. A country can have public markets, yet these markets might not be easily available to new firms. From our discussion, having public markets available to new firms plays a key role in encouraging entrepreneurial activity. Public equity markets may be difficult to access for firms because of, among other reasons, high costs of going public, restrictions on listings and poor liquidity.

In open economies, it is important to note that staged financing is informationally intensive. It cannot take place at too much of a distance. It is not clear, however, that the public capital markets have to be local. Firms that access capital markets generally have an established reputation. This reputation can be what makes it possible for them to access the capital markets. Diamond (1991) shows that this reputation leads firms to avoid opportunistic actions reducing the value of the securities they have issued that they would not avoid otherwise. They can be better off choosing a better organized foreign market than listing on a domestic market.

IV. MONITORING ESTABLISHED FIRMS

We saw in the previous section that as firms grow and become better established, they rely more on public markets. Their equity becomes publicly traded and they can issue public debt. Rather than being controlled by the entrepreneur, the firm is in the hands of managers. Berle and Means (1932) emphasized the governance problem resulting from having dispersed shareholders. In a firm with a large body of atomistic shareholders, costs of collective action among shareholders are too high for them to coordinate effectively. As a result, management can pursue its own objectives with more freedom than if the firm is controlled by large shareholders.

Managerial discretion means both that an incompetent manager can keep his job and that a competent manager can use the firm's resources to pursue his own goals. If the firm has valuable investment opportunities, there is little reason in general for management to work against the interests of shareholders. In this case, if management fails to take proper advantage of these investment opportunities, it is because it is misinformed or incompetent. However, firms do not always have valuable investment opportunities. If a firm does not have good investment opportunities, well informed and competent management could prefer to invest the firm's cash flows in poor projects rather than return them to the shareholders. This implies that large firms held by atomistic

10 See Lerner (1995) for evidence of the proximity of venture capitalists to the firm they help to finance within the US.
11 Jensen (1986) argues that free cash flow, i.e. cash flow that is not required to finance valuable projects, creates agency costs.

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shareholders are likely to overinvest and consume excessive perquisites rather than repurchase shares or increase dividends when faced with poor investment opportunities. The other side of the coin is, however, that precisely because management is reluctant to return cash flow to shareholders, the firm is limited in its ability to raise funds. This is because capital providers, knowing that management pursues its own goals, cannot be assured that the funds they provide will be put to good use. Management that wants to invest whether it has good projects or not cannot raise funds by claiming that it has good projects. As a result, management might not be able to invest when it has valuable projects because of an inability to raise funds.

The extent to which management in large firms has incentives to maximize firm value is crucial for economic growth. As management becomes more likely to pursue its own objectives, it becomes less able to raise funds and the funds it raises have a higher cost. The mechanisms used to monitor management and provide it with incentives to maximize shareholders’ wealth differ across economies. The main devices used to discipline management and provide it with incentives are the composition of equity ownership, the market for corporate control, the role of the board of directors of the firm, its capital structure and the compensation of managers. The usefulness of these devices depends crucially on the role the capital markets play in an economy. Without capital markets, there is no market for corporate control, in that unsolicited bids for a firm are not possible and managers cannot be compensated directly as a function of their impact on shareholder wealth. Hence, having an unrestricted market for corporate control has no value in an economy where most firms have no traded equity. In the rest of this section, we focus successively on the role of ownership, of the market for corporate control and of debt in monitoring management.

A. Ownership, managerial discretion and managerial incentives

Although diffuse ownership is common for large companies in the US, it is not so in the rest of the world (see LaPorta et al. 1999). Based on the difficulty of collective action for dispersed shareholders, one might be tempted to believe that concentrated ownership is necessarily better and that having firms with large shareholders leads to greater economic growth. The difficulty is that concentrated ownership does not necessarily lead to better investment decisions. It may simply lead to a situation where decisions are made to the benefit of the large shareholder and of management. For instance, the large shareholder can ensure that the firm buys from other companies the shareholder owns at favourable prices. Control of a corporation can be achieved with substantially less than majority ownership. Consequently, large shareholders can extract benefits from the corporation that reduce the value of the firm at the expense of the other shareholders. Barclay and Holderness (1989) show that these benefits can be considerable even in the US. Zingales (1994) provides evidence that these benefits

12 See Stulz (1990) for an analysis of this problem.
are extremely large in Italy. As smaller shareholders become disenfranchised, the cost of capital for the corporation increases because shareholders who buy shares expect to receive a smaller fraction of the firm’s cash flows.

To the extent that small shareholders cannot be expropriated, however, there is a benefit to the firm from having large shareholders. These shareholders have stronger incentives to monitor the firm because they capture more of the benefit from gathering information that can be used profitably by the firm. A small shareholder cannot gain substantially from finding out that the firm could invest more efficiently and does not have the influence over the firm that would allow him to change the firm’s investment policy. Large shareholders can further play a useful role in making a takeover possible. Grossman and Hart (1980) document the problem that shareholders have little incentive to tender their shares if a bid is made for them because they can capture the benefits from a takeover by holding on to their shares. Since no atomistic shareholder views himself as pivotal to the outcome of the takeover attempt, each atomistic shareholder refrains from tendering. A large shareholder knows that a takeover is much less likely to succeed if he does not tender. Consequently, as demonstrated by Shleifer and Vishny (1986), takeovers that might not be possible in the absence of large shareholders might be possible in their presence. In the presence of private benefits of control for large shareholders, however, the large shareholder may prevent a takeover from taking place to preserve the benefits from control.

It follows from this analysis that no case can be made that either diffuse ownership or control by large shareholders is necessarily better for economic growth. Whether having a large shareholder control a firm increases firm value depends critically on the extent to which the large shareholder can expropriate other capital providers, including minority shareholders, to increase his private benefits from control. If the large shareholder can increase his private benefits from control by expropriating other capital providers, he can increase his wealth only by increasing the value of the firm. However, otherwise, he may choose to focus on generating private benefits even when he could increase substantially the value of the firm through his actions. This is because he gets all the private benefits but only a share of the value-increasing actions he takes. To the extent that non-controlling shareholders are well protected, having a large shareholder in the firm increases, he cares more about the value of his stake than he does about the value of private benefits of control. Unfortunately, as La Porta et al. (1999) show, large shareholders are less important in countries where the rights of non-controlling shareholders are well protected. One interpretation of this result is that it makes sense to acquire large stakes only to the extent that they provide large private benefits.

The liquidity of the stock market plays a key role in allowing investors to build large stakes and enabling them to sell large stakes. In an illiquid stock market, investors cannot build large stakes without paying a substantial premium to induce investors to sell their shares. As a result, they might have to give up to selling shareholders much of the benefit that they expect to get from their stake.

Similarly, investors with a large stake may find themselves in a situation where they cannot sell it without discounting the shares substantially to attract buyers. An illiquid stock market can therefore prevent both large blocks from being created and large blocks from being dissolved (see Maug 1998). Bhide (1993) and others have therefore argued that making the stock market less liquid could make large shareholders more active, because in a more liquid market, if they feel that the firm is poorly managed, they might just sell their shares. Making the stock market less liquid seems to require ownership to be concentrated already, since otherwise it may be too expensive for investors to build large blocks. Further, if existing large block holders cannot sell, they might promote more conservative investment policies.

In the US, it is extremely rare to observe a hostile takeover of a firm where management owns more than 10% of the value of the firm. It is generally the case throughout the world that to exert effective control of a firm a shareholder does not require a majority stake. Depending on the country, however, it is easier to exert control with a small stake using pyramids and/or shares with differential voting rights. For instance, in some countries exchanges allow firms to list many types of shares, but in others they do not. Shares with differential voting rights enable a large shareholder to exert control when he owns only a small claim to cash flows. In this case, the shareholder has less of an incentive to use his votes to maximize firm value. For instance, the shareholder can make himself better off by diverting cash flow from the firm towards private benefits, since he receives all of the private benefits but only a fraction of the cash flow. Pyramids have the same impact. If it was costless to establish firms, a five-cent investment would make it possible to have working control of General Motors. One could use this five-cent investment to float a firm with capital of nine cents, which could then borrow some. This firm could then have assets of say 15 cents that it could use to buy 51% of the shares of a company with equity worth 30 cents. This company itself could borrow and then buy a 51% stake in a company which then could be worth 80 cents. This could go on until the final company owns half the shares of GM.

The problem with establishing a pyramid or creating shares with differential voting rights is that such devices to capture private benefits of control generally require control to start with. Otherwise, the cost of these devices may be too high, irrespective of the magnitude of the private benefits from control. To see this, consider the situation of an individual who has no shares in a corporation and wants to acquire control through a pyramid. Those who sell the shares to the individual know that eventually he can obtain large private benefits from control. They will therefore attempt to set a price for the shares they sell that enables them to capture some of the benefits that the pyramid builder will eventually get from control. There is no reason, however, for only one individual to try to start a pyramid if building pyramids is profitable. Consequently, all the rents from having a pyramid will be expropriated and no pyramid will exist. In contrast, if a shareholder has control, he can decrease his capital invested in the firm by

13 See Wolfenzon (1999) for an analysis of pyramids.
creating a pyramid. Since he has control of the firm, his private benefits will stay constant. However, by selling shares, he increases his resources. The same arguments work for the case where a shareholder wants the firm to have differential voting rights.

Having votes proportional to ownership of cash flows is a powerful device to ensure that the controlling shareholder maximizes firm value. This solution does not prevent pyramids, however. With a pyramid, a large shareholder could exert control over a majority of the shares even though his own financial stake might be small. It is interesting to note, however, that differential voting rights and pyramids could lead to greater firm value if the private benefits from control for the large shareholder are fixed in proportion to firm value. In this case, the benefit from controlling more voting rights comes only from the ability of the shareholder to increase firm value. It would then be better for management to be monitored by a shareholder that has control than not to be monitored. For instance, incompetent management could stay in place if shareholders are atonicistic but not if there is a large shareholder in charge. The problem is that it may not be possible to ensure that a large shareholder does not extract private benefits from control that decrease firm value relative to what it would be in the absence of the large shareholder.

Not much attention has been paid in the corporate finance literature to the issue of why managers and large shareholders acquire their stakes in the firm. This issue is reasonably well understood for an entrepreneur who seeks to raise public funds (see, for instance, Leland and Pyle 1977). For such an entrepreneur, selling all the equity he owns to the public would lead potential investors to be sceptical both about the value of the shares and about the incentives of the entrepreneur to maximize the value of the firm. Consequently, the entrepreneur keeps a fraction of the shares to ensure that he can sell the rest at an acceptable price. This motivation for the entrepreneur to hold a large block of shares leads to the existence of large shareholders. For instance, the heirs of the entrepreneurs may have large blocks. As shown by La Porta et al. (1999), families are often large block holders. Because of the private benefits from control, a block is worth more held together than dispersed, so that owners of blocks will attempt to sell them whole.

What is not well understood is why, in a large public firm, management or other investors acquire large blocks. One can think of a number of reasons for an investor or management to build a large stake, but we do not have evidence on which reasons are empirically important. First, management or a large shareholder may acquire shares to get private benefits from control. Second, management or a large shareholder may have private information that indicates that the shares are undervalued. One would not expect undervaluation to explain long-term holdings of shares, however. Third, management can acquire shares to commit to a policy of maximizing firm value and hence increase the value of the firm. Doing so can prevent a takeover by increasing firm value. Fourth, management may build a stake to preserve private benefits from control. Fifth, a large shareholder may acquire a stake because doing so enables him to alter the actions of management in a way that increases value. In all these cases, the acquisition of shares has benefits that would lead existing shareholders to sell their shares only if the price reflects some or all of the benefits that accrue to the new owners. In many cases, however, large blocks are built through direct acquisition of shares from the firm. For instance, the firm may issue stock that it gives to managers or sells to investors. Interestingly, the empirical evidence for both Japan and the US is that firms that sell a large block of equity to an investor (or organized group of investors) increase in value.14

Some of the motivations to build a large stake increase firm value and decrease the cost of external finance. Other motivations may have the opposite effect. If management has a small stake or no stake at all, it may have little incentive to worry about the wealth of shareholders. Hence, an increase in management's stake would be a positive development in aligning management's incentives more with those of the shareholders. It might also prevent takeovers with too low a premium from succeeding.15 However, as management's stake increases, management can effectively prevent the firm from being taken over and can pursue its own objectives without having to worry about discipline from the market for corporate control. Based on these considerations, one would expect firm value to be a concave function of managerial ownership. Morck et al. (1988) provide evidence supportive of this prediction for the US.

It is often argued that the concentration of ownership in the Japanese or German systems is valuable. Based on our discussion, it is not clear that this is correct. In Japan, companies often have corporate shareholders (banks and non-banks) which hold together a controlling stake. These holdings are generally reciprocal, so that company A holds shares of company B, and reciprocally. Such a structure can lead to monitoring of management (see Berglof and Perotti 1994). It can force management to pay attention to the other firms in the group. It is also possible, however, that such a structure makes it impossible for a firm to be taken over. Morck and Nakamura (1999) argue that the motivation for corporate cross-holdings was to prevent firms from being taken over. In other words, the same structure can lead to firm value maximization because managers across firms monitor each other, or it can lead to a loss of value because managers collude to protect their firms from the pressures of the market for corporate control.

B. The market for corporate control and managerial incentives

If the market for corporate control forces management to take actions that reduce firm value in the long run, then having large shareholders that prevent the firm from being taken over against the wishes of management can increase firm value in the long run. This raises the question of how an active market for corporate control affects economic growth. On the one hand, such a market leads to the removal of inefficient management. On the other hand, though, it can lead management to reject investments that would be profitable. This is because

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15 See Stulz (1998) for a model of this effect.
outside investors and potential bidders may not have information that allows them to assess the profitability of such investments. As a result, the value of the firm may fall when such investments are undertaken even though they are profitable when evaluated with the information that management has. A concern has been, therefore, that investments for which information asymmetries are more important may be postponed or avoided altogether by management when it believes that potential bidders are monitoring its actions actively. Viewed from this perspective, Stein (1989) argues that insulating management from takeover pressure can be valuable.

Much attention has been paid to R&D investments from this perspective. R&D investments are hard to evaluate because the firm cannot communicate much about such investments. One would therefore think that takeover pressure would lead firms to decrease R&D investment. Though this argument seems intuitively convincing, it lacks empirical support. For instance, Moolenbroek et al. (1990) examine R&D expenditures by firms that adopt anti-takeover amendments and find no evidence that the adoption of such amendments leads to an increase in R&D expenditures. Recent research also shows that Japanese firms are as quick to cut R&D investment in downturns as American firms (see Hall and Weinstein 1996). This suggests that the Japanese economy may not be that different from the US economy with respect to R&D investment.

There is some evidence indicating that management’s possible preoccupation with short-term investors may affect the cost of capital within the American economy. If management puts a lot of weight on short-term investors, it is less likely to issue equity when the firm is underpriced. The reason for this is that issuing equity under such circumstances is costly for shareholders who plan to sell their shares in the short run. These investors lose because of the dilution of their stake is equity is issued. Since these investors will be gone when the market learns that management issued equity to take on valuable projects, they will not benefit from the firm’s actions.

The deadweight loss of projects not financed is therefore the cost of short-termism. The evidence that the stock price falls in the US when a firm announces an equity issue is consistent with the existence of such a cost. If management always issues equity to finance new positive net present value projects and maximizes firm value based on its information, an equity issue does not convey information that the firm is undervalued. Interestingly, the stock price does not fall in Japan when an equity issue is announced. In Japan during the 1980s, the stock price actually increased when a firm announced that it would issue equity. One could therefore argue that firms in a bank-centred economy issue equity when they would not do so in the US and hence invest in projects that American firms might not invest in. Based on the existing evidence, this is a plausible explanation. If, as a result, firms invest in valuable projects, then a bank-centred economy could lead to more efficient investment.

If the evidence on security issues in Japan can be interpreted as evidence of a focus of managers on the long-term, the question that arises is whether this is due to a lack of hostile takeovers. Another way to put the question is whether Japanese firms would behave in the same way if they could be taken over. This seems unlikely. In an economy where hostile takeovers cannot take place but alternative governance mechanisms are non-existent, long-termism would seem to be the price to pay for having management monitored. In this case, there would be no alternative to having management removed through a takeover if it is inefficient and firm value is too low relative to what it could be with better decisions from management. Unfortunately, besides having the effect of forcing management to put more weight on the short term, the corporate control market has the defect of being a very costly device that leaves much inefficiency unchecked. To gain control of a corporation is expensive, so that bidders attempt to do so to change management only when the gains are extremely large. In the US, irrespective of how one measures hostile takeovers, they are extremely rare with respect to R&D investment. This raises the issue of alternative monitoring devices for management that help to improve managerial performance when management does not perform poorly enough to justify a takeover.

An important consideration that affects the efficiency of the takeover market in ensuring better performance from management is that management can influence the probability that the firm will be taken over. Management can put in place anti-takeover measures. However, management can also hoard resources so that a takeover bid is made it can use these resources to defeat it. Hence, a bidder could identify an inefficiently managed firm and yet be unable to take that firm over because management has the resources to fight off the bid. In this case, the bid may force management to sell poor investments, digest excess cash and even issue debt to commit to maximizing firm value in the future. Hence, the bid will make the firm more efficient. Unfortunately, the fact that management might repel the bid may decrease the probability that the bid will take place. This may lead to a situation where there are too few takeover bids.

Takeovers are rare and expensive. This does not mean that they have little impact on firms in general, however. Suppose that bidders cannot fully tell whether firm value is low because of poor decisions or bad luck. There is therefore a risk of a takeover if value falls. In such a situation, it becomes valuable for management to find ways to make commitments to maximize firm value. Management can make such commitments in a number of different ways. It can recruit a board that is more independent and more active. It can change its compensation so that it is tied more closely to changes in the value of the firm. It can repurchase shares to signal that firm value is higher than reflected in the share price.
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Management can be removed because shareholders decide that doing so will increase firm value. This can take place when the firm is healthy because management misses opportunities to create wealth for shareholders. Such a situation is rare, since it is difficult for outsiders to know about investments management could have made but did not because of lack of ability or foresight. In contrast, it is much more likely that management will be removed because the firm is doing poorly. In that case, the governance role of shareholders is often secondary. At the firm does poorly, the creditors play a large role because they can put the firm into bankruptcy. This means that when shareholders do not perform their role, possibly because they face excessive costs of collective action, creditors may end up monitoring management.

C. Debt and managerial incentives

Debt exerts discipline on management by preventing management from overinvesting in monitoring management. As a result, managers generally prefer low leverage. Berger et al. (1997) provide evidence to this effect. There is evidence, however, that management departs from policies of low leverage when doing so allows it to prevent the firm from being taken over. By issuing debt, management can commit to a policy of asset sales to get the firm more focused or can finance a share repurchase. In either case, firm value may increase sufficiently to make a hostile bid no longer possible.17 Conservative capital structures give more discretion to management, since it can choose riskier projects without having to worry about losing its position or its power through default. Managerial discretion can be valuable, however, when the firm has good investment opportunities. A firm that is too highly levered may not be able to invest in new projects because shareholders do not want to raise new funds (see Myers 1977). Raising new funds for such a firm can decrease shareholder wealth because the new funds increase the value of the debt.

Leverage differs across countries, but some of the differences seem overstated. Though the bank-centred systems are often viewed as having greater leverage than the Anglo-Saxon economies, most measures of leverage indicate that Japanese firms do not have systematically higher leverage than comparable American firms.18 What is true, however, is that the Japanese firms before the mid-1980s had mostly bank debt and only a trivial amount of public debt. The composition of a firm’s debt is as important as the amount of a firm’s debt, but much more effort has been focused in the finance literature on explaining the amount of debt a firm has rather than the composition of its debt.

The extreme view on leverage is that bankruptcy has a very low cost. In this case, high leverage works as an incentive and monitoring device. Management that makes mistakes ends up not being able to repay the debt. Consequently, the firm defaults and the creditors get to decide what steps should be taken.19 It could be that management is removed, but alternatively, management could be kept and the firm could be provided with more resources. As bankruptcy and default become costly, these benefits of debt still exist, but the optimal debt ratio falls. The key in these arguments for the benefit of leverage is, however, that creditors can intervene efficiently and make choices that maximize firm value. This requires the layers of a firm’s debt that trigger default if things go poorly to be provided in funds where the costs of collective action for creditors are low.

The costs of collective action for creditors are high when debt is public. In this case, any changes in the debt covenants require an agreement of the debtholders. In contrast, with non-public debt, ownership is generally concentrated. This means that non-public debtholders can negotiate directly with management. Debtholders can influence management only if the firm faces difficulties in making debt payments. Otherwise, debtholders have no legal rights and management can safely ignore them. As a result of this feature of debt, the type of debt the firm issues plays a crucial role in the extent to which creditors can monitor management. At one extreme, the firm could have long-term zero coupon debt. Such debt would lead to no monitoring of management through debt. This is because there are no debt payments until the debt matures. Suppose alternatively that the firm has substantial short-term debt that can be rolled over. In this case, each possible rollover becomes an opportunity for the debtholders to monitor management.

The extent to which a rollover creates an opportunity for the debtholders to monitor management depends crucially on financial structure. To see this, consider one extreme case where non-public debtholders face intense competition from the capital markets. In this case, as long as the firm is not in default, if the non-public debtholders do not roll the debt over, the managers can issue public debt provided that its value is not too low. This means that non-public debtholders have little ability to monitor management at loan renewals. At the other extreme, if there are no alternative sources of funds, debtholders exert considerable control over the firm. The costs of bankruptcy and default also play an extremely important role in the ability of debtholders to monitor the firm. If the costs of default and bankruptcy are very large, debtholders have no bargaining power and cannot monitor. This is because they cannot withdraw funds.

Banks are important, but they care about being repaid more than they care about firm value unless they hold equity. In other words, intermediated finance can ensure that management cannot reduce firm value too much, but cannot ensure that management increases firm value as much as is possible.20 Countries differ in the extent to which banks can hold equity. Having banks hold equity has advantages as well as disadvantages. On the one hand, a bank that holds equity

17 See Saltiel and Titman (1999) for evidence that firms that increase their leverage to fight off a takeover perform well subsequently.
18 See Rajan and Zingales (1995) for a study of leverage across countries.
19 Harris and Raviv (1990) provide an analysis where default makes it possible to gather information and select optimal investment policies.
20 See Macey and Miller (1997) for an analysis of this point in the context of Japan.
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cares more about firm value than one that does not. On the other hand, having banks hold equity makes banks more vulnerable.

There is a paradox about asking banks to monitor management that needs to be explained. If management of a non-financial company has to be monitored, why is it that the management of a bank will do so and who monitors the bank's management? The answer here is straightforward for two reasons. First, banks diversify across loans. Diamond (1984) showed that it is therefore possible for bank investors to assess management's performance more easily than to assess the performance of management in an undiversified firm. Banks have considerable short-term financing. Consequently, if the management of banks makes poor decisions, in principle punishment is swift, since the providers of short-term funds - the depositors - withdraw their funds. Viewed from this perspective, bank bailouts have a pervasive cost: they make bank management less efficient and consequently decrease the efficiency of the economy as a whole. At the same time, however, if banks are short of capital, projects have to be interrupted.

There is evidence that distress and default have different implications in the Japanese system and in the US system. Japanese banks seem to intervene more quickly than US banks and firms within a keiretsu seem to obtain more funds to remedy the distress (see Kaplan and Minton 1994; Kang and Shivasani 1997). There is evidence that US banks are reluctant to renegotiate the terms of loans, so that the flexibility of bank loans relative to public debt is not taken advantage of (see Asquith et al. 1994). In principle, bank debt should be easier to renegotiate, so that financial distress for firms with substantial bank debt could be remedied more effectively through renegotiation. However, banks that are constrained by capital requirements may have little room to negotiate. It could even be the case that banks allow firms to continue activities that have negative value by funding these activities to prevent default. All this means that relying on banks to monitor management requires critically that banks be able to perform that role and have the incentives to do so.

V. THE IMPACT OF FINANCIAL STRUCTURE ON GROWTH

In this section, we discuss some empirical evidence that is supportive of the arguments advanced in this paper. A growing recent literature shows that aspects of financial structure as we define it matter for the development of finance and for economic growth. As countries grow, one expects their financial structure to change. This can make it difficult to make the case that financial structure has an independent influence on financial development and economic growth. The work of La Porta et al. (1997, 1999) has been highly successful in making such a case. They have demonstrated the importance of the origin of a country's legal system in its financial and economic development. In their work, they showed that common law countries differ strikingly in their financial development from civil law countries. Since a country's legal system was determined in some cases centuries ago, often through colonization, it would seem that no case can be

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made that financial and economic development affect the origin of the legal system of a country. La Porta et al. (1999) show that ownership is more concentrated when the legal system does not protect small shareholders well and that common law countries protect small shareholders better. La Porta et al. (1997) add to these findings by showing that the equity markets and external finance are more important in common law countries. Among other results, they point out that countries with civil law have fewer IPOs. Modigliani and Perotti (1998) make the argument that poorer legal protection increases the importance of debt financing relative to equity financing and find some supportive data. Demirguc-Kunt and Maksimovic (1998) provide evidence that relates the use of external financing to characteristics of a country's financial markets. They find that greater respect for the law leads to greater use of external finance for firms. They also show that the existence of a well functioning stock market leads to greater external financing of firms. Rajan and Zingales (1998) provide a complementary perspective by showing that industries that rely more on external finance in the US grow more in countries with better financial development. King and Levine (1993) and Levine and Zervos (1993) argue that greater financial development increases economic growth. Levine and Zervos show that growth is related to stock market activity, among other variables. Levine (1998) shows that there is a relation between measures of the development of the financial intermediation sector and measures of creditors' rights and contract enforcement. He then proceeds to test for an impact of these determinants of financial intermediation development on economic growth and finds a significant effect.

In addition to the recent cross-country evidence, there is a lot of evidence at the country level. In particular, there is much evidence at this point permitting a comparison of Japanese firms and US firms. There is less evidence on German firms, but there is some. The traditional view of this comparison, mentioned in the introduction, is that Japanese firms have a sizeable fraction of their shares held by stable corporate shareholders, high leverage, bank finance and no hostile takeovers. In contrast, US firms have atomistic shareholders, lower leverage, less bank finance and hostile takeovers. This sharp contrast was correct at one point. However, it is less so now. Japanese firms still have substantial holdings by corporate shareholders. Despite all the difficulties the Japanese economy has had since 1990, these holdings have decreased only slowly in the aggregate. Japan still does not have hostile takeovers. However, the role of banks and bank finance has decreased steadily for the past 15 years. There are three reasons for this decrease. First, banks are most influential when firms are credit-constrained. As Japanese firms generated large cash flows, they became independent of banks because their financing was less important. Second, deregulation made it possible for Japanese firms to obtain funds from sources other than Japanese banks. Third, since the early 1990s, Japanese banks have suffered from a lack of capital, which has decreased their ability to lend new funds.

The decrease in the importance of banks in Japan shows that the bank-centred system of Japan at its peak may simply not have been stable for two reasons. First,
managers want to be independent of banks if they can, so that they try to escape their influence. Banks can prevent managers from acquiring independence from them when firms have trouble paying off their bank loans, but not otherwise (see Hoshi et al. 1991). Second, as a country’s transactions with foreigners become liberalized, firms can turn to foreign sources of funds (see Kang et al. 1995). This limits bank influence. The evolution of the Japanese bank-centred, system therefore suggests that contrasting the Japanese system to the US system, while useful conceptually, should not be interpreted as indicating that one could actually choose to recreate the Japanese system if one wanted to.

There is considerable evidence that the Japanese system had benefits for firms that led to a lowering of the cost of capital. First, Hoshi et al. (1991) show that the investment of Japanese firms belonging to keiretsus was less sensitive to liquidity. The sensitivity of investment to liquidity has often been described as a direct implication of the cost of capital wedge we discussed earlier in this paper. For instance, Fazzari et al. (1988) argue that the dependence of investment on liquidity increases as firms face greater difficulties and costs in obtaining external funds and provide supportive evidence for the US. The evidence of Hoshi et al. seems to imply that the determinants of investment differ between the US and Japan. From our analysis, one would expect this to be the case if funds are more easily provided in periods of distress and if the use of funds is more efficiently monitored. Some authors (for instance, Kaplan and Minton 1994; Kang and Shivdasani 1997) demonstrate that banks are active when a firm faces difficulties. They provide funds, change management and provide expertise. This interpretation of the evidence is not without controversy, however. Morck and Nakamura (1999) argue that what is going on is simply that keiretsus prop up their sick members.

A second area in which evidence has been developed shows that information asymmetries are less important in Japan. We explained above that information asymmetries increase the cost of capital. The evidence on information asymmetries is somewhat indirect, however. From the US evidence, we know that information asymmetries lead to negative stock-price reactions to issues of information-sensitive securities. These negative stock-price reactions are not observed in Japan. Further, Dwyer and Warther (1998) show recently that Japanese firms do not set their dividend policies in the same way as US firms. It seems that US firms are much more concerned about the information conveyed by changes in dividends than Japanese firms.

The evidence we have just surveyed tells us nothing about whether firms invest too much. The largest investments firms typically make are acquisitions of other firms. There is considerable evidence for the US that since the early 1980s the market reacts unfavourably when a firm announces that it is making a bid for another firm. A possible interpretation of this evidence is that these bids are not in the interest of shareholders. Another possible interpretation, however, is that bids reveal that the firms do not have valuable investment opportunities. It is interesting to note that the evidence for Japan is different. On average, Japanese bidders experience positive abnormal returns when they announce acquisitions. Further, these positive abnormal returns seem to be closely associated to the influence of main banks, suggesting therefore that bank relationships lead firms to make better investment decisions. Much recent research has focused on investment within diversified firms. Evidence that diversified firms sell at a discount in the US relative to matched portfolios of specialized firms is viewed as evidence that diversified firms invest inefficiently. Interestingly, Lins and Servaes (1999) indicate that there is no diversification discount in Germany and that the diversification discount in Japan is about half what it is in the US. One might conclude from this that investment is less inefficient in Japan and Germany. However, a well known argument for diversification at the firm level is that it creates an internal capital market that enables firms to invest efficiently when information asymmetries would make it difficult to raise funds externally. It could therefore be the case that diversification has more value in Japan and Germany because external capital markets are not as well developed. In a recent paper, Fauve et al. (1998) show that the diversification discount is closely related to financial structure across a large number of countries. More specifically, the value of diversification seems to be negatively related to the level of capital market development and to the degree of shareholder protection.

VI. CONCLUSION

Financial structure makes it possible for firms to limit the adverse impact of the hidden information and the hidden action problems on their cost of external financing. With a poor financial structure, external financing is too expensive, so that it is difficult for entrepreneurs to create firms and for these firms to invest efficiently. The analysis has been mostly static, in that we have discussed attributes of financial structures that are valuable. A key part of this analysis has been that financial structures have to make it possible for financial intermediaries and investors to develop specialized knowledge that enhances their usefulness to firms and their ability to monitor firms. As a result, financial structures thrive on stability. Uncertain regulatory environments and crisis-prone economies decrease the benefits from developing specific knowledge. This is especially the case for banking crises which ruin existing relationships if mishandled and hence not only hurt growth when they happen but also hurt future growth.

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