

The Corporate Governance System in Banking: What Do We Know?*

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How does the corporate governance mechanism operate in banks? In what ways is it similar to the mechanism that operates in nonfinancial firms and in what ways is it different? What are the reasons for any differences? Is the corporate governance problem more or less severe in banks than in nonbanks, and why? How does the way the agency problem is mitigated between shareholders and managers in banks impact on the moral hazard problem between bank shareholders and deposit insurance schemes? Are there systematic differences in the way in which banks are governed between the major industrialized countries?

These issues have become of much greater interest to policy-makers and researchers in all the industrialized countries over the last decade. Yet until very recently research on these issues has been relatively sparse. There are a number of reasons for the increasing academic and policy-maker interest in the corporate governance mechanism that operates in banks.

First is the continuing importance of the banking sector in all developed countries. Despite its alleged decline in recent years in a number of industrialized countries, banking remains an extremely important industry both for the transmission of monetary policy and for the channelling of savings to firms and households. In all industrialized countries, banks remain the single most important provider of credit, being responsible for between 40% (in the US) and 85% (in Italy) of the total credit made available to businesses and consumers (Table 1). They are also the most important financial intermediary in

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* The views expressed herein are my own and not necessarily those of the Federal Reserve Bank of Dallas or the Federal Reserve System.

TABLE 1

THE RELATIVE IMPORTANCE OF BANKS IN THE INDUSTRIALIZED COUNTRIES
(Loans from banks as a percentage of total loans and total credit, 1993)

	Bank loans as a percentage of total loans	Bank loans as a percentage of total credit
US	50	40
UK	92	75
Germany	89	84
Japan	54	49
Italy	89	85
France	85	72

Source: Bank for International Settlements (1995). UK includes building societies as banks. France includes specialized credit institutions as banks.

the industrialized countries, providing between 50% (in the US) and 92% (in the UK) of total loans made available to borrowers. Thus, policy-makers interested in the efficient intermediation of the nation's savings clearly have an interest in the way in which the banks govern themselves. The warning Schumpeter gave in 1939 (p. 116) is still relevant today:

"[...] traditions and standards may be absent to such a degree that practically anyone can drift into the banking business, find customers, and deal with them according to his own ideas [...]. This in itself [...] is sufficient to turn the history of capitalist evolution into a history of catastrophes".

Second, the dramatic changes that are occurring in the financial systems of many developed countries have increased the interest of policy-makers in constructing legal and regulatory environments that encourage efficient governance of banks. Many industrialized countries, such as Japan and Germany, have recently initiated significant changes in their financial markets. Others, such as France and Italy, are considering vast privatisation efforts and concomitant changes in their financial system. Finally, the ex-communist countries are putting in place entirely new systems of property rights, business law, and financial markets. In deciding on how to craft the new outlines of their financial markets, policy-makers must decide the optimal way to organize the banking system, whose success is vital to the economic health of their country – including deciding on a legal

and regulatory environment that will allow banks to be governed in the most efficient way possible. In doing so, policy-makers clearly would benefit from an understanding of the factors that impact on how banks are governed.

This interest by policy-makers has been intensified by the well publicized problems banks have experienced in many countries throughout the industrialized world in recent years. Banking systems in the US, Japan, Sweden, Norway and Finland have all experienced substantial financial distress in the last decade. Indeed, although the US has often been singled out with regards to its bank problems, the relative scale of the financial distress in banking has been far larger in the Nordic countries and Japan (see Bank for International Settlements 1993). In all these countries, questions have arisen as to the cause of such banking problems. The effects of deposit insurance on bank shareholders' incentives to take on added risk have often been mentioned. Recently, however, such problems have been linked, in the US at least, to an alleged corporate control problem in banking. Similarly, Murto (1994) presents evidence that Finnish banks got into trouble in the late 1980s by expanding market share too fast, which might reflect managers' preferences for size at the expense of profits. The degree to which bank insolvencies in the 1980s were the result of a corporate control problem has generated interest in research into the efficiency of the governance system in banks.

Third, researchers are increasingly interested in how corporate governance mechanisms in general vary in different legal and regulatory environments. One line of research has been to examine how governance mechanisms in nonfinancial firms differ between countries with different legal and regulatory environments (see, for example, Prowse 1995a). Another natural experiment is to contrast the governance mechanism of firms in the same country that operate under different legal and regulatory environments. Banks operate under substantially different legal and regulatory environments than nonfinancial corporations and so focus on the differences in governance mechanisms between banks and nonfinancial firms is a natural experiment to consider.

For example, regulatory restrictions on the market for corporate control for banks and the oligopolistic advantages that commercial banks have traditionally had in issuing insured debt may mean that important external market mechanisms for disciplining managers – the takeover and product market – have been significantly weaker for

banks. The regulatory environment of the banking industry may substitute to some degree for the weaker market mechanisms of corporate control. However, intervention by the regulatory authorities is widely regarded as a more costly substitute for market control mechanisms, both because of bureaucratic and political problems that interfere with the efficient functioning of regulatory agencies and because maximizing shareholder value (the objective of market mechanisms) is not the same as minimizing the probability of failure (the regulator's objective). The special legal and regulatory environment of banks is not a phenomenon confined to the US. Indeed, in most industrialized countries banks have been treated differently than their nonfinancial counterparts, both with regards to the (implicit or explicit) insurance of their liabilities and the power regulators have over changes of corporate control in banks. Thus it is quite possible that in many countries the nature and effectiveness of the corporate control mechanism in banks differs markedly from that in nonfinancial firms.

The research on the corporate control mechanism in *nonfinancial firms* is vast. However, there has been comparatively little research on the corporate control mechanism operating in banks. Recently however there has been an increase in research on this topic. The purpose of this paper is to review the current literature, draw implications for what we know about the corporate control mechanism in banks and to pose a number of questions for future research on the topic.

I first present an overview of the various corporate control mechanisms that go to make up a firm's governance system. I then consider how the legal and regulatory environment of banks in most countries may impede the working of a number of these mechanisms, and cause the way managers are disciplined in banks to be different from other firms. I then review the research literature on this issue, starting with Diamond's (1984) model of delegated monitoring, through the early empirical literature on expense-preference behavior of managers in banking, to the most recent literature examining how moral hazard and corporate control issues interact in banking, and what the most important corporate control mechanisms in banking are. While the vast majority of this literature focuses on US banking, I will attempt to bring in evidence on banking from other countries, and draw inferences in a generic fashion for banking in all countries. Finally, I look at some issues future research needs to address and draw some policy implications from the research as it stands to date.

An overview of corporate control mechanisms

Ever since Berle and Means (1932) and Coase (1937), economists have realized that all firms – banks and nonbanks – are not the simple production functions represented in most microeconomic textbooks, but may be vulnerable to problems involving corporate control and external finance. These problems stem from the fact that the generic firm's shareholders, managers and creditors each have different preferences over how the firm's resources should be employed, and that providers of external finance have imperfect methods of assessing what managers are doing with their money. Because information asymmetries between shareholders, managers and creditors make it impossible for providers of external finance to write contracts with the firm that guarantee the agent (management) will always act in the best interests of the principal, managers may have some leeway to engage the firm in activities that are in their own best interests rather than those of the firm's investors. The situation is even more complicated by the fact that there are almost always multiple principals in a large firm, such as shareholders and debtholders, who themselves have different preferences that can create conflicts.

There do, however, exist a number of corporate control mechanisms that comprise the generic firm's corporate governance system, that can prevent the firm from deviating too far from value maximizing policies in favor of one stakeholder and at the expense of others. Stiglitz (1985) emphasizes that the most important of these mechanisms involves *the concentration with which the financial claims of the firm are held*. If the equity of the firm is concentrated in the hands of a few investors, each investor will have sufficient private incentives to invest in information acquisition and monitoring of management. Further, their large shareholdings also give them the ability to exert control over management either through their voting power or through representation on the board of directors, or both. Similarly, if the debt of the firm is concentrated in the hands of a few lenders, these investors will also have incentives to engage in monitoring.¹

Absent concentrated claimholding, there are a number of *indirect* mechanisms with which investors can control management. Dispersed lenders rely primarily on *contract terms* – the maturity of

¹ Of course, as discussed later, deposit insurance may dull these incentives for lenders to banks (depositors).

the loan and covenants – to control borrowers' behavior. Dispersed shareholders rely primarily on *the board of directors* to protect them against incompetent or shirking management. Boards of directors are supposed to hire, fire and set the compensation of top management, supervise their actions, provide advice and veto poor decisions. Although these control mechanisms for lenders and shareholders can clearly operate even under conditions of dispersed ownership of debt and equity, they are likely to be more effective the more concentrated the firm's claims are in the hands of a few investors.

Well-functioning, competitive markets for managerial labor, for equity capital and for final product can also be important mechanisms for encouraging managerial discipline. *The managerial labor market* can help discipline managers through the presence of competition among managers within and outside the firm. The extent to which management compensation is linked to the profitability of the firm is also important in aligning the interests of managers and shareholders. *The capital markets* can also place constraints on managerial behavior. Management must worry about the terms on which capital will be supplied to the firm. Even shirking managers should desire cheaper financing of their amenities. *The credible threat of a takeover*, in which management is usually replaced, can also discipline managers to act in shareholders' interests. Finally, competition in *the market for final product* can have a disciplining effect on management by providing the threat of bankruptcy for firms that are not run efficiently by managers.

So far the discussion has not differentiated between firms based on their line of business or legal and regulatory environment. But it should be clear that different legal and regulatory environments for particular firms may effect the power and efficiency both of individual corporate control mechanisms and of the corporate governance system for the firm overall. In particular, the different legal and regulatory environment under which banks operate in many countries may mean that its corporate governance system is different from that in nonbanks.

In the US, for example, a major difference in the legal and regulatory environment for banks is federal and state regulation of the bank takeover market. In the banking sector, there traditionally have been significant restrictions on the takeover market. For example, the Bank Holding Company Act (as amended in 1970) and the National Banking Act generally require that the acquiror of a com-

mercial bank also be a commercial bank or bank holding company – mergers between nonbank corporations and commercial banks are prohibited – and there are more general restrictions on the ownership of banks by nonfinancial corporations.

In addition, regulation may make permitted hostile takeovers *within* commercial banking more expensive and time-consuming than in nonbank sectors. Interstate banking regulations may for example prohibit many possible bank mergers. In addition, bank takeovers typically face extensive delays, owing to the requirement that they be scrutinized by bank regulators and the Justice Department (see Baradwaj, Fraser and Furtado 1990). In all, the takeover process can last four months or longer. In many cases, these restrictions may make the threat of a hostile takeover – where speed is usually of the essence – in commercial banking insufficient to discipline managers.

Such restrictions may also influence the ownership structure of commercial banks. Currently, nonfinancial corporations and firms in important financial sectors such as the insurance industry are prohibited from owning commercial banks in the US. To a large extent, the law restricts ownership of commercial banks to individuals and other commercial banks. To the degree that this restriction reduces the likelihood that banks will have equity holders with large stakes at risk, it also may reduce the effectiveness of one mechanism of corporate control: the monitoring and oversight performed by shareholders motivated by their large holdings.

Another important factor is deposit insurance. As is the case with any limited liability firm with debt outstanding, bank stockholders have incentives to take on inefficient risk. However, the problem is more acute in commercial banks where stockholders in addition have traditionally been subject to the distorting incentives arising from the existence of fixed price deposit insurance premia. These premia result in a subsidy to bank shareholders that increases in value with the riskiness of the bank. Thus bank shareholders have even stronger incentives to take on inefficiently risky investments that benefit themselves at the expense of the deposit insurance fund and the taxpayers that back the fund.² In addition, bank lenders (depositors) are relieved of the need to monitor bank actions, thereby

² Risk-based deposit insurance premiums were introduced in the US by a provision of the Federal Deposit Insurance Corporation Improvement Act in 1993. It is too early to say whether this has mitigated the moral hazard incentives in banking.

removing any private market incentives for investors to control bank risk.

Competition in the product market can play a role in reducing the extent to which managers shirk from value maximization goals. Commercial banks in the US have traditionally had strong oligopolistic advantages on the liabilities side of their business – the issuance of insured debt. This oligopolistic position may have given banks the scope to be more inefficient in some aspects of their business, for example, in the degree to which managers follow value maximizing policies, yet still be competitive with other financial institutions that have not had the benefit of issuing liabilities backed by a federal guarantee. However, the advantages from issuing insured debt for banks likely have declined over recent years with the emergence of numerous good substitutes, such as money market mutual funds.

Most of these aspects of banks' legal and regulatory environment in the US apply also to other countries. Prudential regulation is broadly similar across the major industrialized countries, involving supervision of balance sheet ratios and risk diversification. Protecting small depositors is almost universally accepted as a public policy goal in the developed world. Although formal deposit insurance schemes vary widely in their scope and size across countries, common among most industrialized countries is the universal unwillingness of governments to allow large banks to fail. The banking acquisition market in most countries is regulated. In Germany, Italy, Japan, the UK and the US bank mergers and interbank participations require prior notification and approval by the authorities (see OECD 1992). There are some differences in the regulation of bank ownership, with the UK, US and Italy generally having more restrictions on the acquiring of significant equity stakes in banks by nonbank financial institutions or nonfinancial companies. Overall, however, banks differ from other firms in most countries with regard to their prudential regulation, deposit insurance, and regulation of the merger market. Thus we might expect any differences between the way banks and nonbanks govern themselves to be an international phenomenon.

Corporate governance in banking – A survey of the literature

Diamond (1984) was the first to address the issue of the corporate governance of banks (what he termed the problem of delegated monitoring) in the theory of financial intermediation. In previous theories, an intermediary (such as a bank) was delegated the task of costly monitoring of loan contracts written with firms who borrowed from it. Financial intermediaries had a cost advantage in collecting information about the borrowing firm because the alternative (direct lending to firms by individual savers) involved either the duplication of monitoring effort if each lender monitored directly or a free rider problem where no lender monitored because each had such a small stake in the outcome. Diamond was the first to note that delegating this monitoring task to an intermediary generated incentive problems for the intermediary itself – the “who monitors the monitor?” problem. He examined conditions under which the intermediation function was on net efficient – i.e. where delegated monitoring costs were less than the gross cost savings of pooling the intermediation function.

In Diamond's model there are two ways of controlling incentive problems: monitoring and contracting. An important general feature of most principal-agent problems is that if there is little underlying uncertainty, then an agent's performance can be closely linked to his behavior. Thus bank depositors can use debt contracts to induce banks, which are diversified and thus exposed to little uncertainty, to monitor efficiently those firms to which they lend money. Under these conditions, financial intermediation is efficient because the costs generated by the delegated monitoring problem are small relative to the costs saved by avoiding the duplication or free rider problem.

However, this does not necessarily mean that the delegated monitoring problem does not involve large costs in and of itself. Even if it does not, there is in any case the question of how applicable Diamond's model is to the institutional and regulatory environment of banks in many countries today. Diamond's model requires that bank managers can be given the correct incentives to monitor efficiently by having debt contracts with depositors. That is certainly the case with most banks in most countries today – the lion's share of their finance comes from deposits. However, there are a number of additional real world complications that cloud the applicability of

Diamond's result. The first is deposit insurance which Diamond does not consider in his model. Deposit insurance, which explicitly or implicitly exists in most major industrialized countries, removes depositors' incentives to penalize banks through higher deposit rates if the bank does not monitor its loans efficiently. It also gives shareholders incentives to take on excessive risk. The second is that in many countries (such as Japan and Germany) banks hold equity in the firms they monitor as well as debt. Whether these differences are material in changing Diamond's result is hard to say. In the end, the Diamond model can tell us little about the severity of the corporate control problems in banks in practice - empirical evidence is required on the issue, which we are only just starting to accumulate.

There is in fact only a relatively small amount of empirical literature, particularly of recent vintage, that attempts to document the existence of corporate control problems between bank shareholders and managers. Much of the earlier literature uses data from the 1970s and earlier and thus has an uncertain relevance to the banking industry as it now is configured. However, a recent surge in research on this issue has added to our understanding of how the corporate governance mechanism in banks operates and whether there is a corporate control problem in banking today.

The early literature: expense-preference behavior

The early literature on this topic can be dated from Edwards' (1977) analysis of expense-preference behavior in banking. Edwards' study on the relationship between product market structure and expenditures on items for which managers are deemed to have a preference spawned a number of similar studies such as Hannan and Mavinga (1980), Smirlock and Marshall (1983) and Akella and Greenbaum (1988) which focused on the relationship between product market structure, the degree to which managers could act in their own interests as opposed to those of their shareholders (managerial slack), and the firm's behavior.

This early literature had a number of common characteristics. First, it explicitly offered Williamson's (1963) expense-preference theory as the alternative hypothesis to the neoclassical theory which

represented the firm as a simple production function. In the Williamson framework, the firm's managers maximize utility rather than profit and managers have a positive preference for expenditures on items such as staff size, office furnishings and the luxuriousness of the firm's premises. When circumstances allow, managers increase expenditure on such items beyond the levels justified by profit maximization. The circumstances which make such behavior possible are the separation of ownership from control and imperfections in the goods and capital markets. Under these conditions, the costs to shareholders of perceiving and taking actions against non-profit maximizing behavior by managers may significantly limit the likelihood of their doing so in all but the most egregious cases.

Second, the general method of the studies was to specify a simple model of the bank's input decisions, then to regress bank expenditure on such inputs against a variety of control variables in addition to a measure of product market structure (typically a concentration ratio) and a measure of managerial slack (typically a measure of ownership concentration, or a dummy variable based on such a measure). The hypothesis was that managerial expenditures on inputs for which they were assumed to have a preference (such as staff and office expenses) were positively related to the degree of monopoly in the product market for the bank's output and the degree of managerial slack in the bank itself. Thus (with the exception of Akella and Greenbaum 1988) the studies focused on managers' *input* decisions, specifically staff and office expenses. There was in particular no consideration of *output* effects, i.e., the impact of expense-preference behavior on the size of the firm, or the riskiness of the firm's cash flows. In addition, the studies often made rather simple, *ad hoc* classifications of banks into owner or manager controlled categories on the basis of a single measure such as the degree of ownership concentration.

Finally, (with the exception of Akella and Greenbaum 1988) banks' input decisions were based on a model of a *nonfinancial* firm, which employed standard assumptions concerning neoclassical demand, production and market relations, a Cobb-Douglas production function, a constant elasticity market demand schedule and an exogenously determined market share for the firm. Such studies were therefore in fact *joint* tests of the expense-preference hypothesis and the validity of the underlying model in capturing the essence of

the banking firm, and were thus vulnerable to errors in modelling true banking behavior.

Edwards (1977) was the first in this literature. As mentioned above, Edwards used a simple model of the firm to estimate a reduced-form demand for labor. He then applied this model to a sample of banks in the mid-1960s, classifying banks as either monopolistic or competitive according to whether their product market concentration ratios were above a particular threshold level. After controlling for a variety of factors, Edwards found that monopolistic banks had higher labor expenses and larger staffs than competitive banks. While his focus was on the impact of monopoly power (rather than ownership structure) on the degree of expense preference, Edwards nevertheless argued that his results indicated a degree of managerial freedom from the profit maximizing tenet set down by shareholders.

Hannan and Mavinga (1980) extended study of this issue by looking at how input expenditures differed between banks that were classified as owner controlled *versus* manager controlled. In this study an owner controlled bank was arbitrarily defined as one in which the largest shareholder held a greater than 25% stake in the bank. Manager-controlled banks were classified as those where the largest shareholder had a 10% or less stake in the bank. Hannan and Mavinga found that – consistent with the implications of expense preference behavior – manager-controlled banks operating in noncompetitive markets spent more on items likely to be preferred by managers, such as total wages and salaries, furniture and equipment expenses, and expenses associated with the bank's premises, than did owner-controlled banks in the same situation.

Smirlock and Marshall (1983) related the degree of expense-preference behavior by managers to a bank's size and complexity. They argued that as bank size increased the optimal level of shareholder ownership concentration of the bank fell as the bank's demands for capital surpassed the wealth of any few individuals. In addition, they argued that size and complexity were positively correlated – as bank size increased it became more difficult for outside shareholders to monitor managers to ensure profit maximization. Thus, larger banks necessarily incurred larger agency costs than smaller banks, and some of these costs are reflected in greater expense-preference behavior by managers. In a sample of 97 banks in 1978, they found that expense-preference behavior did increase with

bank size, and that inclusion of the size variable for banks in fact removed any influence on such behavior of product market structure.

Akella and Greenbaum (1988) further extended the Edwards' study in a number of ways. First, they used a simple stochastic model of a financial firm (as opposed to a model of the nonfinancial firm which Edwards applied to banks) to model the loan supply by financial intermediaries. Second, they focused on the effect of expense-preference behavior on the *output* of the financial intermediary rather than its choice of *inputs*. In particular they focused on the level of deposits taken and loans made by the individual financial intermediary, arguing that managers preferred to work for larger firms as this tended to increase their salaries and the staffs under their supervision. Third, they examined differences in output choices between two kinds of savings and loan institutions from 1978 to 1982: *mutual* and *stock* savings and loans. Mutual savings and loans are by law owned by depositors, but they have no ownership rights or responsibilities. No residual claim attaches to ownership and no purchase price is required for the stake. The depositor has neither prospects for profit or loss (if protected by deposit insurance) and cannot dissolve the firm. The legal owner's incentive to monitor management is consequently minimal. Stock savings and loans are typical joint stock corporations where individual equity owners have residual claims and voting rights, and therefore some incentive and power to monitor managers. Akella and Greenbaum found that mutual S&Ls tended to expand deposits and loans beyond profit maximizing levels as predicted by their model.

Glassman and Rhoades (1980) was the only study in the early literature not based on the Edwards' methodology. They examined over 1400 US banks in 1975 and 1976 to see if profit rates and costs and growth were related to the ownership structure of the bank – specifically whether the bank was owner- or manager-controlled. Ownership control was defined as where the greater-than-5% owners of the bank owned a combined equity stake of greater than 60%. Otherwise the bank was deemed to be controlled by managers. Their results indicated that owner-controlled banks tended to have higher profit rates than manager-controlled banks. However, the effect of manager control on other hypothesized goals of managers (growth and cost permissiveness) was not as clear. In addition, they found that the effects of owner control were not evident until a relatively high level of ownership concentration existed, a level that only small banks

experienced. Large banks in general exhibited behavior consistent with being under control of managers.

The main contribution of this early research was to demonstrate that measures of managerial slack in banks were generally positively correlated with managerial behavior that was inconsistent with profit maximization. However, such studies did not focus in detail on how or why the corporate governance system allowed such managerial slack to exist. Nor did they focus on types of managerial behavior other than increased expenditures on perquisites, that might be of more interest to regulators and policy-makers, such as the effect of managerial slack on bank risk taking. Such research would however soon be spurred by the developments in the 1980s.

The recent literature: corporate control and moral hazard effects on bank risk taking and alternative mechanisms of corporate control

The more recent literature has two distinct strands. The first builds on the earlier literature by looking to see if banks with measurable differences in managerial slack exhibit differences in behavior. Saunders, Strock and Travlos (1990), Allen and Cebenoyan (1991) and Gorton and Rosen (1995) are important works in this area. The analysis in these studies, as one might expect, is somewhat more sophisticated and more of interest to policy-makers and regulators than the earlier literature, in that the focus is on the effect of managerial slack on bank risk taking. Second, these studies address the issue of how the corporate control and moral hazard problems interact in banking and what incentives are the most important in determining banks' behavior. Finally, there is an effort to examine the issue of whether corporate control or moral hazard problems were the most important in contributing to the problems banks faced in the 1980s.

Much of this first strand of literature measures managerial slack by the size of managerial ownership of equity in the bank (inside ownership). Of course, the relationship between managerial slack and insider ownership is complicated since, over some range of equity holdings, increasing managers' equity stakes may increase their incen-

tives to act like shareholders, and over other ranges it may simply increase their ability to resist outside shareholder monitoring. Several studies of nonfinancial firms find a nonlinear relationship between insider ownership and firm value, reflecting this trade off. Morck, Shleifer and Vishny (1988) find that as insider ownership increases up to 5%, managers' incentives become increasingly aligned with shareholders'. Between levels of 5% and 25% however, increasing insider ownership simply increases management's degree of entrenchment. From 25% up, increasing insider ownership acts to align management incentives with shareholders once again. A number of studies find a similar relationship between managerial slack and insider ownership in banking, including Gorton and Rosen (1995) and Anderson and Fraser (1995).

The second strand of recent literature looks more closely at the different elements of the corporate governance mechanism in banks, attempting to find evidence on which elements are the most important and which are the least important in disciplining managers. One part of this literature compares bank behavior in the different legal and regulatory environments found in different US states. It takes advantage of the fact that banking in the US traditionally has been "balkanized" by state regulations which create variations across states in the degree to which the market for corporate control is allowed to operate. Historically, most states did not allow mergers or any sort of branching activity across states in an attempt to preclude banks from other states competing in the home state market. Starting in the 1970s, however, a number of states relaxed such restrictions, thereby creating the potential for a "natural experiment" between banks in states in which the corporate control market was precluded by regulation and banks in states in which the corporate control market was substantially more active.

Much of the empirical work in this area revolves around testing variations of the "substitution hypothesis": that is, do different elements of the bank's corporate governance system act as substitutes for one another? In particular, where the market for corporate control is precluded by regulation, do other corporate control mechanisms (such as the level of direct owner monitoring or the pay-performance relationship for managers) play a more important role in the governance mechanism? If so, the effects of such regulation may not be all that severe on the overall corporate governance problem faced by banks. If not, banks in states that do preclude takeover

market activity may face a substantially more severe corporate governance problem than banks in other states. James (1984), Brickley and James (1987), Schranz (1993) and Hubbard and Palia (1995) are important works in this area.

Another part of this second strand of literature compares banking as a whole with nonbanks, taking advantage of the different legal and regulatory environments banks and nonbanks face. In particular, such studies attempt to see if the "substitution hypothesis" applies across industries, and uses the fact that federal regulation impedes takeover market activity in banking compared to nonbanking. It investigates whether corporate control mechanisms other than takeovers play a more important role in banks than in nonbanks. If so, then the governance problem in banks may not be substantially different than in nonbanks. If not, then banks may face a more severe governance problem than other firms. Prowse (1995b), Houston and James (1995) and Crawford, Ezzell and Miles (1995) are important works in this area.

The two strands of literature are largely complementary. While the first strand attempts to find evidence of a corporate control problem in banks in the 1980s, the second tries to identify the aspects of commercial banks' corporate control mechanism that may be deficient and why these deficiencies may occur. I look at each of these strands in turn.

Bank acquisitions, moral hazard and bank problems in the 1980s

There have been numerous studies since the mid-1980s which extended the question of whether corporate acquisitions are in the interests of shareholders to the banking industry. The studies that focus on the stock value performance of the bidder in the post-acquisition announcement period have mixed results. Some indicate bank acquisitions are value-enhancing, others indicate they are value-reducing, still others indicate they are value-neutral.³ However, a number of other studies provide evidence that at least some acqui-

³ See for example Bertin *et al.* (1989) for evidence that acquisitions are value enhancing, Cheng, Gup and Wall (1989) for evidence they are value reducing, and Neely (1987) for evidence they are value neutral.

sitions in banking are motivated by managerial preferences that are inconsistent with value maximization. For example, since managers, unlike shareholders, have an undiversifiable stake in the bank that employs them, they may wish to pursue non-value maximizing acquisitions in an effort to reduce risk. Beatty, Santomero and Smirlock (1987) find that prior to the acquisition, acquiring banks tend to be riskier than do targets, suggesting a risk reducing motive for bank mergers. Dubofsky and Fraser (1989) find evidence of overbidding in bank mergers. Finally, Allen and Saunders (1989) document a tendency for bank managers to pursue temporary increases in size even when contrary to shareholders' wishes.

In one of the most recent and accomplished studies, Allen and Cebenoyan (1991) examine the relationship between bank acquisition strategy and bank ownership structure. They model the incentives for bank managers to acquire other banks. Managers maximize a utility function subject to parameters set by shareholders, including the degree of ownership concentration by shareholders and the degree of management ownership in the bank. They find that banks with entrenched management (i.e. banks with low shareholder ownership concentration and high management ownership) tend to engage in the most active acquisition programs, consistent with the view that such programs are designed to increase the perquisites available to management (which vary directly with the size of the firm) rather than to increase profitability. They also find evidence of positive bidder returns only for those banks with management that is not entrenched. Their evidence suggests that a reason for the mixed results of those studies that investigate whether bank mergers are value-enhancing or reducing may be those studies' failure to take into account the degree of managerial slack in the bank.

The corporate control issue in banking is complicated by the moral hazard problem. The moral hazard view of banks assumes that all lending and borrowing decisions banks face are made in the shareholders' interests. Of course shareholders have incentives to maximize the value of the (fixed rate) deposit insurance subsidy provided by the government. They can do this by taking on excess risk. While the moral hazard view assumes that shareholders are making the decisions, in practice of course it is the managers of the bank who make the lending decisions, and they may act more or less in line with shareholders' wishes depending on the efficiency of the governance mechanism in existence. The moral hazard view of bank-

ing has dominated the academic literature for many years, but the recent rise of corporate control issues in banking has complicated its message somewhat. The empirical question that arises when corporate governance issues are introduced is how the shareholder-manager conflict in banks has manifested itself in the risk taking behavior of the bank.

Saunders, Strock and Travlos (1990) investigate the relationship between bank ownership structure and risk taking. They argue that banks with less managerial slack have greater incentives to take on risk than banks with greater managerial slack, owing to the incentives provided by fixed rate deposit insurance. They find that banks with a higher degree of management ownership – which they classify as banks with lower managerial slack – are somewhat riskier when risk is measured by various capital market measures. In addition they find that this relationship becomes stronger in periods of deregulation. The interpretation of their results is somewhat questionable however because they do not take into account the non-monotonic relationship between manager shareholdings and managerial slack that has been documented for banks and nonbanks.

Gorton and Rosen (1995) try to distinguish between the moral hazard and corporate control explanations for US banking problems in the 1980s. In particular, they try to explain why well-capitalized banks would take on excessive risk.⁴ They formulate a model where a corporate control problem is the primary reason for such behavior. In their model, when investment opportunities for the banking industry are declining (as they argue was the case for banking in the 1980s), bank managers may have incentives to take excessively risky actions in an attempt to persuade shareholders that they are good managers. They present evidence that entrenched managers may be a more important problem in banking than the moral hazard associated with deposit insurance. In a sample of well capitalized banks in the 1980s, the authors find that, after accounting for the non-monotonic relationship between insider ownership and managerial entrenchment, banks that are characterized as having managements that are relatively free from outside shareholder control make the riskiest and most unprofitable investments. These results are consistent with a

⁴ The authors do not take issue with the argument that when capital ratios are low, both managers and shareholders may have incentives to take risky actions under fixed-price deposit insurance. Gorton and Rosen focus on the question of whether such incentives also exist for well-capitalized banks.

corporate control problem being at the heart of bank behavior in the 1980s, but are not consistent with the moral hazard model, which would suggest that banks with the *least* amount of managerial slack should take on the riskiest projects. Gorton and Rosen conclude that for well capitalized banks the corporate control problem was a serious one in the 1980s and a proximate cause of banks becoming low-capitalized.

Houston and James (1995) provide additional evidence against moral hazard being a large problem in the 1980s. They find little evidence that compensation policies in banks were structured to promote excessive risk taking by managers. In a sample of banks in the 1980s, they find that factors influencing compensation policies did not differ markedly from nonbanks that were not subject to moral hazard incentives. Further they find that there were no significant differences in top management pay packages at troubled banks than at healthy banks. If moral hazard was a problem one would expect that troubled banks would have given their managers much more incentives to take on risk than healthy banks. Similarly, Crawford, Ezzell and Miles (1995; hereafter CEM) find that pay-performance sensitivities for top management did not differ between high and low capitalized banks in the 1980s. However, they also find that pay-performance sensitivities for top management increased significantly in the late 1980s.⁵ This is consistent with a moral hazard view if the value of the put option associated with deposit insurance increased in the late 1980s and led to shareholders providing CEOs with more equity-based incentives to encourage risk taking. However, an alternative explanation is that bank deregulation in the 1980s expanded banks' investment opportunity set and managerial discretion over what assets to invest in. If so, the appropriate response by shareholders would be to increase the use of equity incentives for management in order to mitigate the potentially greater discretion managers had to engage in non-value maximizing policies. CEM find that pay-performance sensitivities increased equally for low- and high-capitalized banks, suggesting that the purpose of such increases was to encourage wealth creating investment activity and to mitigate agency problems arising from increased discretionary power for management, rather than to encourage managers to take on excessive risk.

⁵ While Houston and James also found that the use of equity-based incentives for banks increased in the late 1980s compared to the early 1980s, they found this had no effect on pay-performance sensitivities between the early and late 1980s.

While much of the recent literature on this topic is still open to challenge, it has at least opened the following questions up for further research: *i*) Has moral hazard been overemphasized as an explanation of the complete story for the problems faced by banks in the 1980s? *ii*) Are corporate control problems a competing explanation for bank risk taking and bank merger activity? If so, then the question arises as to what specifically are the failings of the corporate governance mechanism in banking. This question is examined by the strand of literature that focuses on alternative methods of corporate governance in banks.

Alternative mechanisms of corporate control in banks

James (1984) was the first work in this area. He investigated the relative importance of the market for corporate control (the takeover market) as a governance device in banking, by looking at the effect of different legal restrictions on bank acquisitions in different states. A sample of banks from 1979 was divided into two groups: the first group consisted of banks in states where regulation largely precluded bank acquisition activity (nonacquisition states); the second group consisted of banks in states where a more active acquisition market existed (acquisition states). James then compared the performance of banks in these two groups. Following Edwards, James assumed that managerial slack manifested itself in excessive bank expenditures on salaries and wages and occupancy expenses. His results were a strike against the substitution hypothesis: James found that bank salary and occupancy expenses and total bank employment were *lower* in acquisition states than in nonacquisition states. James concluded that other mechanisms of corporate control did not substitute completely for the absence of a takeover market.

Brickley and James (1987) examined the relative importance of the market for corporate control, the independence of the board of directors and the degree of ownership concentration as governance devices in banking. They compared the composition of bank boards of directors in acquisition and nonacquisition states. They found that, contrary to the substitution hypothesis, bank boards were substantially *more* independent in acquisition states; further, that bank

ownership concentration was *no higher* in the nonacquisition states than in the acquisition states. However, in support of the substitution hypothesis, for banks in the nonacquisition states they did find an inverse relationship between the degree of ownership concentration and the independence of the board of directors. They found no such relationship for banks in the acquisition states. They in addition found that managerial consumption of perquisites displayed an inverse relationship with both ownership concentration and the independence of the board in banks in nonacquisition states. They concluded that the function of outsiders on the board of directors may vary systematically depending on the nature of the market for corporate control: where this market functions freely, outside directors may serve less of a governance role and more of a strategic planning or consulting role.⁶ Where this market does not function freely, then the concentration of ownership and the role of outside directors may play a substitute role in governance.

Schranz (1993) made similar findings. In a study of banks in the late 1970s and mid-1980s she found that banks in states with less burdensome takeover regulations were more profitable. In states where takeover activity was more restricted, Schranz observed the increased use of other corporate control mechanisms, such as concentrated equity ownership and management ownership of stock, but these alternative mechanisms appeared to have a smaller effect on profitability and therefore did not completely compensate for the more restricted merger environment. Similarly, Hubbard and Palia (1995) found that in states with a more competitive bank merger market, CEO pay was higher and more tightly related to performance, contrary to the substitution hypothesis.

All these studies suggest that the different elements of governance in banking, i.e. an active market for corporate control, direct monitoring by large stakeholders, an independent board and tight pay-performance relationships for managers are all important devices for controlling managerial behavior but are not perfect substitutes and may have complex relationships with each other. In particular, the substitution hypothesis does not appear to be the rule in banks.

⁶ See Fama and Jensen (1983).

Corporate control in banks *versus* nonbanks

A number of recent studies compare and contrast the governance mechanism in banks and nonbanks. In my 1995b article, I examined the relative importance of different methods of corporate governance in banks by recording how many bank holding companies (BHCs) in my sample underwent a change in corporate control by hostile takeover, friendly merger, management turnover by the board of directors, or intervention by regulators from 1987 to 1992.⁷ I found that the relative importance of these different methods differed dramatically with that of a sample of manufacturing firms in terms of the relative frequencies of the various control changes (Table 2). While the frequency of *total* corporate control changes were roughly similar across samples, *market-based* corporate control changes (excluding changes owing to regulatory intervention) were about two-thirds as frequent among BHCs as they were for manufacturing firms. While friendly mergers were slightly more frequent among BHCs, hostile takeovers and management turnover were markedly less frequent.⁸ Hostile takeovers were less than 20% as frequent among BHCs than among manufacturing firms. However, management turnover by the board was half as frequent in BHCs as in manufacturing firms. Thus the lower frequency of hostile takeovers among BHCs did *not* appear to be reflected in a greater tendency by boards to remove management at BHCs than at manufacturing firms. Indeed, boards at BHCs were *less* active in removing management for disciplinary reasons.

Why might this be the case? One reason may be because board outside directors appear to take larger stakes in nonfinancial firms than in banks.⁹ Thus boards conceivably may be weaker in banks

⁷ Regulatory intervention is a response to poor performance in some aspect of the BHC's operations, and involves a variety of actions, including directing current management to attain specific capital ratios, suspend dividends or rectify loan quality problems, or even replacing current management. Regulatory intervention can therefore be seen as a "last resort", non-market based, external mechanism of corporate control.

⁸ However, I found little evidence of the disciplinary role of friendly mergers, which appeared to take place primarily among BHCs that were performing well. I concluded that the main motivation for friendly acquisitions were for reasons other than corporate control, such as the desire to diversify operations or capitalize upon another bank's customer base.

⁹ Byrd and Hickman (1992) found the mean and median equity stake held by board outsiders in their sample of nonfinancial firms was 2.0% and 0.08% respectively, compared to 1.0% and 0.05% for my sample of BHCs.

TABLE 2
FREQUENCY OF ALTERNATIVE CORPORATE CONTROL CHANGES
(% of total sample)

	In 454 manufacturing firms	In 234 bank holding companies
Management turnover	20.5	10.3
Hostile takeover	8.8	1.7
Friendly merger	7.5	10.7
Market-based control changes	36.8	22.7
Regulatory intervention	—	19.2
Total control changes	36.8	41.9

Sources: Manufacturing firms: Morck, Shleifer and Vishny (1989). Bank Holding Companies: Prowse (1995b).

because outside directors hold less equity and are presumably less motivated to impose disciplinary measures on management. Whatever the reason for weaker boards among BHCs, when combined with the regulatory impediments on hostile takeovers, thus they may contribute to a corporate governance mechanism in banks that is not as efficient at disciplining managers as those mechanisms in nonbanks.

I of course did not look at all the potential elements of the governance mechanism. In particular I did not consider the strength of pay-for-performance management compensation packages. Consistent with the substitution hypothesis, it may be that banks have a much more sensitive pay-performance relationship for its top managers than do nonbanks. A number of studies have looked at the pay-performance relationship for top managers at commercial banks in the US, among them Barro and Barro (1990), Crawford, Ezzel and Miles (1995), Houston and James (1995) and Hubbard and Palia (1995). Their use of different methods, different sample periods and different measures of compensation make them hard to compare with each other and with other previous studies on nonfinancial firms. But the main theme coming from this research to date is that pay-performance sensitivity in banks does *not* seem to be too different from that in nonbanks. Barro and Barro (1990, p. 62) find that their estimated relation between growth in top management compensation and performance of the bank was "consistent in a general way with

Murphy's (1985) findings for top management in manufacturing firms". Houston and James (1995) explicitly compare management compensation packages between 134 commercial banks with 134 nonbank firms from 1980 to 1990. They found that on average there was little difference between the sensitivities of total compensation to firm performance for the two groups of firms. Both Hubbard and Palia (1995) and CEM report total compensation sensitivities that appear generally higher than those reported for the sample of nonfinancial firms in Jensen and Murphy (1990), but the methods and definitions of compensation are sufficiently different to make such comparisons unmeaningful. Overall, we are left with the impression that there is no hard evidence to suggest large differences in the pay-performance sensitivities of top management in banks as opposed to nonbanks.

Of course, the willingness of managers to follow shareholders' wishes depends in addition to potential rewards, on management-borne costs of poor performance such as dismissal. As discussed earlier, in my 1995b article, I found that management turnover by the board of directors in banks was markedly less frequent than in manufacturing firms. Houston and James (1995) find no difference in management turnover rates between banks and nonbanks.¹⁰ Thus it appears that management-borne costs of failure are at least no higher in banking than in nonfinancial firms.

How do we sum up what we have learned from recent research? Two points can be made. First, the simple interpretation of the Diamond (1984) model does not seem to be borne out by the empirical literature. From the earliest study on the corporate control mechanism in banking to the most recent, we have evidence of corporate control problems in banking, based on the fact that a number of corporate control mechanisms are not allowed to work freely and that other mechanisms do not compensate completely for this. However, how big a problem this is in practice is very hard to say. Second, the most important practical effect of any governance problem would appear to be on bank incentives to take risk, not on managers' tendency to spend more on perquisites. There in particular is quite a lot of evidence suggesting that moral hazard was not the

¹⁰ Houston and James define management turnover as *any* change in the CEO, whether it be voluntary resignation, or dismissal by either the board of directors or by regulators. Their results are therefore not necessarily in contradiction to those of my 1995b article.

primary cause of the initial bank problems in the 1980s. The role of the governance problem in explaining this phenomenon has been put forward as a tentative hypothesis and is worthy of further examination.

Research from other countries

There is very little academic research on the corporate governance mechanism in banks in other countries besides the US. However, we do know that the legal and regulatory environment of banks in many other countries is quite similar to that of the US in terms of the effect on particular corporate control mechanisms. In particular, the regulatory environment in most industrialized countries discourages hostile takeovers, and *de facto* deposit insurance schemes in most industrialized countries tend to relax depositors' incentives to monitor bank management and increase bank shareholders' incentives to take on added risk. Finally, even more so in non-US countries, banks are often placed at a competitive advantage relative to other corporate and consumer lenders such as nonbank intermediaries and corporate securities markets (see Prowse 1995a). While this does not guarantee that the governance mechanism in banks in other countries works identically to that in the US, it does make it likely that the gross nature of the corporate control problem faced by banks in other countries may be qualitatively similar.¹¹

One indication of this is that bank ownership structure appears similar across countries and is quite diffuse, at least relative to nonfinancial firms in the same country (Table 3). For example, the 5 largest shareholders of the largest 18 banks and bank trust companies in Japan hold on average only 15.7% of the outstanding shares of the bank, less than half what the largest 5 shareholders of the typical nonfinancial firm in Japan hold.¹² The pattern appears similar for

¹¹ I do not include here countries where the banking system is largely government owned.

¹² In 13 cases the largest shareholder is a life insurer. All life insurers in Japan are mutual organizations. Given mutual organizations may be particularly susceptible to corporate control problems (see, for example, Akella and Greenbaum 1988), this suggests that bank management may not have diligent shareholders expecting them to maximize value.

TABLE 3

OWNERSHIP CONCENTRATION IN BANKS AND NONFINANCIAL FIRMS
(% of the firm owned by the largest five shareholders)

	Banks	Nonfinancial firms
US	17.3	25.4
UK	15.5	20.9
Japan	15.7	33.1
Germany	27.0	41.5

Sources:

US: Banks: Allen and Cebenoyan (1991); nonfinancial firms: Prowse (1995a).

UK: Banks: calculated from the largest 5 UK banks' annual reports; nonfinancial firms: Prowse (1995a).

Japan: Banks and nonfinancial firms: Prowse (1995a).

Germany: Banks: calculated from the largest 3 German banks' annual reports; nonfinancial firms: Prowse (1995a).

US, UK and German banks – ownership is markedly more diffuse than their nonfinancial firm counterparts. This would appear to be *prima facie* evidence that, at least in these countries, the primary governance role in banks is not likely to be played by the direct monitoring of large active shareholders. In other words, the restrictions on the market for corporate control for banks is not being made up for by greater direct shareholder monitoring.

In one of the few studies of corporate control issues among non-US banks, Forbes and Molyneux (1994) examine the wealth effects of merger announcements of European banks from 1989 to 1992. They find significantly negative wealth effects for shareholders of bidding banks in such transactions, suggesting that much of the merger and acquisition activity over this period was not in the bidding bank's shareholders' best interests. In addition, they find that bank mergers initiated by continental European banks had significantly greater negative wealth effects than those initiated by UK banks. They suggest that the governance system operating in continental European banks is not as sensitive to shareholder interests as that operating in UK banks. If we assume that the governance mechanism in UK banks is closer to that of the US than is the governance system of continental European banks – which is certainly the case for nonfinancial firms (see Prowse 1995a) – then this suggests that corporate control problems may be even greater in non-Anglo-

Saxon country banks. However, until more empirical research is available on non-Anglo-Saxon country banks, this must remain largely conjecture.

Issues for future research and public policy implications

As mentioned previously, one obvious area for future research is more empirical analyses of non-US banks. Do the regulatory constraints on their corporate control mechanisms have the same impact on their governance system as in the US? Is there evidence of different behavior between non-US banks with different degrees of managerial slack? Another issue of topical interest is the increasing consolidation of banking, both in the US and Europe. To what extent is increased merger activity the result of managers seeking to maximize shareholder value or simply build empires for themselves? Finally, more analysis of the interaction of moral hazard incentives and corporate control issues is needed.

Of course, the results of the literature to date already have some lessons for policy-makers. First, it suggests that policy-makers should take corporate control issues seriously when considering legislative alternatives to the current system of bank regulation and organization. In particular, the relatively diffuse ownership concentration that appears to exist in banks as compared to nonfinancial firms in many countries is a potential cause for concern. A common theme of the empirical literature from Hannan and Mavinga (1980) to Prowse (1995b), is that ownership structure matters. In particular, poorly performing banks are often those with the lowest levels of ownership concentration. Higher ownership concentration among banks might improve performance by motivating greater oversight and monitoring by large stakeholders and their representatives on the board of directors. If so, the current restrictions on potential owners of banks that exist in a number of countries may have costs. In the US, some of the recently proposed banking legislation in Congress could also be evaluated in this light, since different proposals vary quite substantially in the degree to which they relax the current restrictions on permissible bank owners. In addition, regulators should take into account the ownership structure of the firm when

evaluating the safety and soundness of banking organizations, and be particularly wary of those banks that have diffuse outside ownership.

In addition, the absence of a credible takeover threat among banks appears to have a marked influence on the effectiveness of the corporate control mechanism operating in banks. This suggests that there may be benefits in reducing the regulatory impediments that bank mergers face in many countries. In the US in particular, while regulators have been careful not to discriminate actively against bank mergers on the basis of whether they are hostile or not, the long regulatory process that all bank mergers have to go through tends to make hostile takeovers much more difficult to achieve than friendly mergers. This suggests that there may be beneficial effects on the corporate control mechanism in banks from removing some of the more obvious obstacles to hostile takeovers in banking by, for example, relaxing interstate banking regulations and increasing the speed with which regulators process merger applications.

REFERENCES

- AKELLA, S. and S. GREENBAUM (1988), "Savings and loan ownership structure and expense-preference", *Journal of Banking and Finance*, 42, pp. 419-37.
- ALLEN, L. and A.S. CEBENOYAN (1991), "Bank acquisitions and ownership structure: theory and evidence", *Journal of Banking and Finance*, 15, pp. 425-48.
- ALLEN, L. and A. SAUNDERS (1989), "Incentives to engage in bank window dressing: manager vs. stockholder conflicts", *Working Paper*.
- ANDERSON, R. and D. FRASER (1995), "Managers, owners, and bank risk taking", Texas A&M University, College Station, TX, unpublished manuscript.
- BANK FOR INTERNATIONAL SETTLEMENTS (1993), *Annual Report*, Basle.
- BANK FOR INTERNATIONAL SETTLEMENTS (1995), "The structure of credit to the non-government sector and the transmission mechanism of monetary policy: a cross-country comparison", *BIS Working Paper*, no. 24.
- BARADWAJ, B., G. DONALD, R. FRASER and E.P.H. FURTADO (1990), "Hostile bank takeover offers: analysis and implications", *Journal of Banking and Finance*, 14, pp. 1229-42.
- BARRO, J. and R. BARRO (1990), "Pay, performance and turnover of bank CEOs", *Journal of Labor Economics*, 8, pp. 448-81.
- BEATTY R., A. SANTOMERO and M. SMIRLOCK (1987), "Bank merger premiums: analysis and evidence", in *Monograph Series in Finance and Economics*, vol. 3, Salomon Brothers Center for the Study of Financial Institutions, New York.
- BERLE, A. and G. MEANS (1932), *The Modern Corporation and Private Property*, Macmillan, New York.
- BERTIN, W., F. GHAZANFARI and K. TORABZADEH (1989), "Failed bank acquisitions and successful bidders returns", *Financial Management*, 18, pp. 93-100.
- BRICKLEY, J. and C.M. JAMES (1987), "The takeover market, corporate board composition, and ownership structure: the case of banking", *Journal of Law and Economics*, 30, pp. 161-80.
- BYRD, J. and K. HICKMAN (1992), "Do outside directors monitor managers?", *Journal of Financial Economics*, 32, pp. 195-221.
- CHENG, D., B. GUP and L. WALL (1989), "Financial determinants of bank takeovers", *Journal of Money, Credit and Banking*, 21, pp. 524-36.
- CRAWFORD, A., J. EZZELL and J. MILES (1995), "Bank CEO pay-performance relations and the effects of deregulation", *Journal of Business*, 68, pp. 231-56.
- COASE, R. (1937), "The nature of the firm", *Economica*, 4, pp. 386-405.
- DIAMOND, D.W. (1984), "Financial intermediation and delegated monitoring", *Review of Economic Studies*, 51, pp. 393-414.
- DUBOFSKY, D. and D.R. FRASER (1989), "The differential impact of two significant court decisions concerning banking consolidation", *Journal of Banking and Finance*, no. 13, pp. 339-54.
- EDWARDS, F.R. (1977), "Managerial objectives in regulated industries: expense preference behavior in banking", *Journal of Political Economy*, 85, pp. 147-62.
- FAMA E. and M.C. JENSEN (1983), "Separation of ownership and control", *Journal of Law and Economics*, 26, pp. 301-25.
- FORBES, W. and P. MOLYNEAUX (1994), "Corporate control and the restructuring of European banking", *Journal of International Financial Markets, Institutions and Money*, 3, pp. 101-16.
- GLASSMAN, C.A. and S.A. RHOADES (1980), "Owner vs. manager control effects on bank performance", *Review of Economics and Statistics*, 62, pp. 263-70.
- GORTON, G. and R. ROSEN (1995), "Corporate control, portfolio choice and the decline of banking", *Journal of Finance*, 50, pp. 1377-420.
- HANNAN, T.H. and F. MAVINGA (1980), "Expense preference and managerial control: the case of the banking firm", *Bell Journal of Economics*, 11, pp. 671-82.
- HOUSTON, J. and C.M. JAMES (1995), "CEO compensation and bank risk: is compensation in banking structured to promote risk taking?", *Journal of Monetary Economics*, 36, no. 2, pp. 405-32.
- HUBBARD, R.G. and D. PALIA (1995), "Executive pay and performance: evidence from the U.S. banking industry", *Journal of Financial Economics*, 39, pp. 105-30.
- JAMES, C.M. (1984), "An analysis of the effect of state acquisition laws on managerial efficiency: the case of banking", *Journal of Political Economy*, 95, pp. 355-70.
- JENSEN, M.C. and K.J. MURPHY (1990), "Performance pay and top-management incentives", *Journal of Political Economy*, 98, pp. 225-64.

- MORCK, R., A. SHLEIFER and R. VISHNY (1988), "Management ownership and market valuation: an empirical analysis", *Journal of Financial Economics*, 20, pp. 293-316.
- MORCK, R., A. SHLEIFER and R. VISHNY (1989), "Alternative mechanisms for corporate control", *American Economic Review*, 79, pp. 842-52.
- MURPHY, K. (1985), "Corporate performance and managerial remunerations: an empirical analysis", *Journal of Accounting and Economics*, 7, pp. 11-42.
- MURTO, R. (1994), "Finnish banking crisis: can we blame management?", *Finnish Economic Papers*, 7, pp. 56-68.
- NEELY, W. (1987), "Banking acquisitions: acquirer and target shareholder returns", *Financial Management*, Winter, pp. 66-73.
- OECD (1992), *Banks under Stress*, Paris.
- PROWSE, S.D. (1995a), "Corporate governance in an international perspective: a survey of corporate control mechanisms among large firms in the U.S., U.K., Japan and Germany", *Financial Markets, Institutions and Instruments*, 4, no. 1.
- PROWSE, S.D. (1995b), "Alternative methods of corporate control in commercial banks", *Federal Reserve Bank of Dallas Economic Review*, Third Quarter, pp. 24-36.
- SAUNDERS, A., E. STROCK and N. TRAVLOS (1990), "Ownership structure, deregulation, and bank risk-taking", *Journal of Finance*, 45, pp. 643-54.
- SCHRANZ, M.S. (1993), "Takeovers improve firm performance: evidence from the banking industry", *Journal of Political Economy*, 101, pp. 299-326.
- SCHUMPETER, J. (1939), *Business Cycles*, McGraw-Hill, New York.
- SMIRLOCK, M. and W. MARSHALL (1983), "Monopoly power and expense preference behavior: theory and empirical evidence to the contrary", *Bell Journal of Economics*, 14, pp. 166-78.
- STIGLITZ, J. (1985), "Credit markets and the control of capital", *Journal of Money, Credit and Banking*, 17, pp. 133-52.
- WILLIAMSON, O. (1963), "Managerial discretion and business behavior", *American Economic Review*, 53, pp. 1032-57.