Das Kapital: Solvency Regulation of the American Business Enterprise

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In this paper, I address the question of the legal regulation of corporate capital. This is a topic that cuts across a number of distinct areas of law, and that displays significant differences between the civil law used in Europe and elsewhere and the U.S. common law system. It is fundamental to the regulation of important economic institutions, notably banks, securities firms, and insurance companies. It is a question as well that lies at the core of the discipline of corporate finance. Surprisingly, however, scholars have not attempted to unify these disparate strands of theory and of legal regulation in a single analytical structure. In this paper I offer a preliminary attempt at such a unification.

I. Introduction

The attentive reader will not have missed the allusion to Karl Marx in the title. Capital is not only a basic organizing principle for law and theory in developed economic systems. It is also a subject that formed the central focus of Karl Marx's later work.[1] And, although Marx's predictions that capital would be increasingly concentrated in fewer and fewer hands turns out to have been erroneous, at least for modern industrialized nations, his insight that capital is fundamental was not. That the concentration of capital predicted by Marx did not happen is largely due to the fact that capital ended up being dispersed in the population: a rising middle class came to own much of the means of production, and social wealth began to be distributed to the needy through an increasingly active welfare state.

This triumph of capitalism may be something to celebrate, but it would be a mistake to view the dispersion of the means of production as costless in itself. On the contrary, as the means of production

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[1] Karl Marx, Capital: Volume I (1976).

became dispersed in the large industrial enterprise, a whole new set of problems arose which had their origin exactly in the fact that capital *was* dispersed. It turned out that as the number of owners of the business enterprise increased, and as their respective share in the total ownership decreased, it became more and more difficult for those who provided capital to the enterprise to control its behavior. Free-rider and collective action problems entered the picture with a vengeance.

The result was that effective control of the large-scale business enterprise became lodged in a managerial class who were not themselves the major owners of the firm. Adolph Berle and Gardiner Means recognized this fact in their classic 1932 book, *The Modern Corporation and Private Property*,[2] which identified the separation of ownership and control as the leading problem of the modern business enterprise. Berle and Means viewed the gap between ownership and control as a danger because corporate managers could abuse their trust and run the corporation to serve their own interests rather than the interests of those who provided capital to the firm.

The law and economics analysis of the corporate form, pioneered by Frank Easterbrook, Dan Fischel, Henry Manne, Ralph Winter, and others, in many respects adopts a stance antithetical to the pro-regulatory views of Berle and Means. Nevertheless, law and economics draws its central inspiration from the Berle and Means insight that ownership and control are separated in the large business enterprise. Law and economics has a different terminology from Berle and Means, of course: instead of managerial "abuse," law and economics prefers the ostensibly less value-laden term "agency costs." But, moral connotations aside, the fundamental insight is the same: the agents—that is, the managers of the large corporation—have interests which differ from those of the principals—that is, the providers of capital to the firm; and because effective control over the firm's actions lies in the agents, there is the danger that the agents will act in a self-serving fashion to the detriment of the owners. Many rules of corporate law, as well as many privately-negotiated contractual arrangements, are then

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[2] Adolph A. Berle and Gardiner C. Means, The Modern Corporation and Private Property (1932).

analyzed as means for limiting, although not eliminating these agency costs of management.[3]

At the same time, law and economics recognized, as the Berle-Means tradition did not, that the conflict of interest was not limited to discontinuities between capital providers and managers. There were also important conflicts between different classes of capital providers. Those who own corporate debt have a prior claim on the firm's assets and income stream, but only for the amount of principal and interest specified in the debt contract. This makes debt holders risk averse, to the point where debt holders would prefer that the firm not engage in risky ventures even when the profits expected from the venture if it succeeds are very high.

Those who hold the firm's equity—the legal owners—have a residual claim on the firm's assets and income stream, in an amount restricted, on the down side, only by the protection of limited liability. This makes equity holders risk-preferrers, in the sense that if the firm engages in a risky venture, the profits from the venture if it is successful, after debt service, are appropriated by the equity holders, while the losses if the venture is unsuccessful are shared by the debt holders if the firm becomes insolvent as a result.

These are significant differences between the law and economics and Berle-Means traditions. But each is based on the fundamental problem of conflicts of interest that result from the dispersal of the firm's capital among different investors. Notice further that both the Berle and Means and the law and economics traditions really grow out of this basic failure of Marx's theory, namely, that capital did not in the end become concentrated in a few hands, but rather became so widely dispersed that the owners of the means of production lost control over the ways in which the productive capacities of society were utilized.

II. THE (UNEASY) CASE FOR CAPITAL REGULATION

With this background, let us consider the possible reasons why the a legal system might elect to regulate capital structure. By capital structure regulation, I mean regulation that controls in some fashion

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[3] The most comprehensive analysis by two of the pioneers is Frank Easterbrook and Daniel Fischel, The Economic Structure of Corporate Law (1991).

the amount of *equity* capital in a firm. This is different from the economist's definition of capital, which includes all claims on the firm's assets and income stream, debt as well as equity. To avoid confusion in terminology, the term "capital" in American regulation refers, roughly, to equity capital only, not to equity and debt together.

The basic puzzle of capital regulation can be understood in light of the Modigliani-Miller (M-M) irrelevance hypothesis.[4] Modigliani and Miller demonstrated that under certain assumptions—such as ignoring tax consequences and assuming frictionless capital markets and perfect information—a corporation's capital structure is irrelevant to its value. In the world posited by M-M, a firm has precisely the same value whether it is financed 100% by debt, 100% by equity, or with any combination of debt and equity you choose.

In the M-M world, the question naturally arises: Why should we have any type of capital regulation? If capital structure is irrelevant to firm value, there would seem to be no reason at all to regulate the amount of equity capital in a firm.

Add to this another puzzle we can draw from basic economic theory. Ordinarily, in a capitalist economy, we think it is appropriate and necessary, even if unfortunate for the owners, that some firms should fail. Failure of some firms is the inevitable consequence of competition among many; and if we tried to prevent firms from failing by insisting that they remain solvent at all times, the fundamental economic benefits of competition might be jeopardized.

So is there any possible justification for capital regulation? To see the reasons for capital regulation, we must leave the perfect world of M-M and enter the world of taxes and transactions costs in which we live our imperfect lives. In the real world, we can posit at least four principal reasons for requiring corporations to establish or maintain certain levels of capital. These reasons may not be completely persuasive; indeed, the case for capital regulation is quite problematic. But the justifications for capital regulation are sufficiently plausible to be worth serious consideration.

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[4] Franco Modigliani and Merton Miller, The Cost of Capital, Corporation Finance, and the Theory of Investment, 48 American Economic Review 261 (1958).

The first, most obvious reason for capital regulation is that it protects a firm against insolvency and all the attendant costs of bankruptcy. If a firm's capital is effectively regulated, it will never become insolvent. Either the firm will earn a profit from its operations, which will be applied, in part at least, to increase its capital, or the firm will lose money and run up against its required capital ratios. When a firm has reached the point of legally inadequate capital, its managers face a choice of actions: they can seek to recapitalize the firm, say with a subscription offering to existing equity holders or by inviting a new investor to stake a claim; they can seek a merger partner with adequate capital; they can sell assets if doing so will enhance the firm's capital position; or they can arrange for the voluntary dissolution of the firm's affairs before the capital becomes impaired. Note that none of these actions necessarily represents a social cost aside from the transactions costs of organizing the transaction. Capital regulation does not require that inefficient firms remain in business; it is not the same, for example, as the conduct of business through a government-owned enterprise that can never become insolvent. Capital regulation simply shifts the point at which reorganization of a firm's capital structure is likely to occur, and this in itself has no obvious efficiency implications. Since under capital regulation reorganization occurs prior to bankruptcy, this administrative technique offers the potential to significantly reduce bankruptcy costs.

A second possible rationale for capital regulation is that it can protect investors, particularly debt holders, who are not well situated to protect themselves. In a world of high transactions costs, debt holders may not be able to safeguard their interests adequately against the threat that equity holders will take undue risks with the firm's assets and drive it into insolvency. Capital regulation might provide debt holders with some assurance that the firm is solvent, at least in its early days, and thus reduce the need for costly contracting and monitoring of management to guard against excessively risky ventures.

A third reason for capital regulation is that it can protect society against inefficient activities by corporations which reduce social wealth. We have noted that equity holders tend to be risk preferrers. And, while some risk is desirable, there comes a point as the firm's equity capital becomes thin—that is, as a firm approaches insol-

vency—when the equity holder would prefer almost any level of risk, even if the project in question is a loser for the firm on a present value basis. To take an extreme example, assume that the firm has already lost so much money that there is only one dollar left in net worth. At this point the equity holders have an incentive to take wild risks—even causing the firm to invest in lottery tickets—because they stand to lose, at most, only one dollar if the risks don't pan out, while if the unexpected happens and the firm wins the lottery, the equity holders get all the benefit of the payoff. Capital regulation tends to mitigate this problem of inefficient investment.

A final possible argument in favor of capital regulation is that, despite its shortcomings, it is arguably the best available strategy for accomplishing the social objectives of reducing bankruptcy costs, protecing debt holders, and policing against socially inefficient corporate behavior. We could, for example, imagine a system of command-and-control regulation under which the state scrutinizes the actions of corporate managers in order to ensure that they are not excessively risky. But command-and-control regulation arguably would be undesirable, since it would effectively substitute the state as corporate manager, and states have not shown themselves as particularly effective in managing business corporations. Capital regulation is a potentially better alternative to command-and-control regulation because it leaves the fundamental business decisions up to the professional managers of firms, subject only to the constraint that they must meet the applicable minimum capital rules.

Note that the case for capital regulation appears to be strongest in two situations: where dispersed debt holders lack the means or the incentive to protect their interests effectively; and where as a result of thin capital equity holders develop an extreme taste for risk. It turns out that these are indeed situations where we observe capital regulations having bite in the real world.

As will be seen, there are quite a variety of different sorts of capital regulation, but to simplify the analysis we can sort them into two general categories: ex ante regulations and ex post regulations. The distinction turns on how capital requirements are enforced. Imagine that the government wants a firm to maintain a specified level of capital. To enforce this requirement, the government has basically two choices. It can monitor the firm's capital on an ongoing basis and can regulate the firm's behavior that poses a potential threat to

the maintenance of adequate capital levels. This is ex ante regulation: the government monitors and regulates ex ante to ensure that capital does not become depleted.

Alternatively, the government can adopt a hands-off strategy, allowing the firm to make its own choices but imposing sanctions in the event that the firm's capital does fall below the specified levels. This is the ex post approach. Obviously, the ex ante and ex post approaches are not mutually exclusive: a state could impose a combination of both strategies if it so chose.

Both the ex ante and the ex post approaches have encountered serious obstacles in the American regulatory environment. Because it entails pervasive and continuous monitoring of a firm's affairs, the ex ante approach requires a well-funded, active, and powerful administrative agency to enforce it. The American system of corporate federalism, in which states compete to provide corporate charters and regulatory regimes for business enterprises, deters the creation of any such agency. There are no administrative agencies at the state level capable of undertaking the task of regulating firm capital, especially in a world in which business is increasingly conducted on an interstate and even global scale. The federal government would be equipped to handle the task; and it is no coincidence that most instances of ex ante regulation that are observed in the United States are administered by the federal government. But the American system has elected to retain substantive corporate law regulation at the state level, with only minimal federal involvement. Ex ante capital regulation, accordingly, is simply not feasible for the average American corporation.

The ex post approach generally requires that providers of equity capital to the firm stand ready to make good some or all of the shortfall, and thus it runs squarely into the basic rule of limited liability for corporate shareholders. If shareholder liability is to be limited, then holders of the firm's equity capital cannot be required to pay into the firm treasury additional amounts beyond their initial investments.

Both the ex post and the ex ante approaches, in short, face severe difficulties, and it is these difficulties that have prevented capital regulation from assuming a central a place in the American system.

III. TYPES OF CAPITAL REGULATION IN THE UNITED STATES

It turns out that capital regulation in this sense was an important form of social control of the business enterprise in the nineteenth century. During most of the twentieth century, however, capital regulation ebbed in importance and became nearly vestigial, although it has never disappeared entirely. More recently, capital regulation has experienced a resurgence of importance in financial services industries such as banking, insurance, and securities; and it has suddenly become an important topic of scholarly debate in the general corporate context as well. I will start with general corporate regulation and then turn to capital adequacy regulation in the financial services sector.

A. General Corporate Regulation

We do, in fact, have rules in corporate law regulating firm capital in the United States.[5] Examine a corporate law statute today and you will find provisions referring to the par value of stock—stating, however, that a stock can have a par value or no par as the organizers choose. Some states require that corporations start business with a minimum capitalization that must be paid in before the firm can commence business. And in disclosure statements under the securities law we routinely find the mysterious intonation that the shares being sold are "fully paid and nonassessable." These are vestiges of what in the nineteenth century was a leading, if not the dominant form of corporate law regulation in the United States: the par value system.

The par value system required that a corporation start business with an initial capitalization. There was a minimum, but the organizers of a corporation could establish any initial capitalization they chose above the minimum. The capitalization had to be embodied in par value stock, so if initial capital was set at $50,000,a firm would have to distribute stock with a total par value of $50,000—for example, 5,000 shares of $10 par value each.

The catch was that the initial capitalization had to be actually paid in. If stock was distributed without payment of the par value,

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[5] See, e.g., Bayless Manning, A Concise Textbook on Legal Capital 13-15 (2d ed. 1982); William A. Klein & John C. Coffee, Jr., Business Organization and Finance 210-15 (5th ed. 1992).

the holder of the stock was liable for assessment in the event of subsequent insolvency. A receiver in bankruptcy would sue the holder of the stock for the difference between the par value and what was actually paid in to the corporation for the stock. These par value rules were very important at the time—if you examine nineteenth-century reporters, you will discover literally thousands of assessment lawsuits based on the par value system.

It is easy to see that the par value system was a form of capital regulation. It required that firms have an initial capitalization and provided a system of penalties if the capitalization was not paid in. The purpose of the system was to protect creditors, who could look to the par value for some indication of the value of the firm. The system was also designed to protect members of the public who bought equity in firms by assuring them that their stock was not "watered"—that is, that the insiders who received the initial distribution had paid full price.

The par value system had many problems and ultimately failed. Its defects included the following:

- Par value rules never coped adequately with the problem of insiders purchasing stock in exchange for services or property as opposed to cash. The danger of insider manipulation in this setting is obvious, but the difficulty in valuing services or property made fraud difficult to establish. While the system could have simply prohibited the issuance of stock to insiders in exchange for property or services, this was not a realistic option because in practice it is necessary for corporate promoters to be compensated for their noncash contributions.

- The par value system provided very little information about the valuation of a firm after its initial capitalization, since profits or losses from operation were not reflected in the par value account. Thus the informational content of the system degraded quickly over time.

- The par value system impaired the marketability of stock since liability followed the holder; purchasers of stock faced the possibility of being assessed if the initial purchaser had failed to pay in the par value. Par value stock could even obtain a negative value when the value of the claim on the corporation's assets and income stream fell short of the assessment exposure. In such a setting, holders would try to foist stock off on impecunious persons in order to avoid their assessment obligations.

- Assessment litigation was time consuming and expensive, since holders had to be tracked down and assessed. Moreover, in many cases the holders of the par value stock were also officers or directors of the failed firms; these people were likely to be in personal financial distress when their firms failed, and therefore were often unable to pay out on assessments even if they were ordered.

Ultimately, business lawyers vitiated the par value system by developing low par and no par stock. The market price of such stock was far above the par value, so there was little or no danger that the holder of low par or no par stock would be assessed. Moreover, with no par or low par stock there was no real prospect that the insiders would be held liable for fraud in the public securities flotation, since the value of the shares being distributed was sure to be higher than the stated par value. These advantages came at the cost of eliminating any residual utility the par value system might have held as a mechanism for regulating corporate capital structure. With low par and no par stock, corporations operated free of any realistic requirements that they start with, or maintain, any particular level of capital. In place of par value, the legal system developed a philosophy of disclosure, both at the federal level and at the state level with the enactment of "blue sky" securities laws.

One important reason for the failure of the American par value system of capital regulation is the fact that there was no administrative agency in place capable of enforcing the system effectively. The secretary of state who issued the corporate charter did not monitor the corporate capital structure. The states had little incentive to take on the burden of regulating corporate capital structure. In the case of large corporations where the par value system was important, any attempt by the secretary of state to exercise a significant supervisory power would be met with a likely decision by the corporation to move to another, less restrictive jurisdiction. The result would merely be the loss of corporate franchise taxes for the state. It was simply not in a state's interest to administer an effective system of capital regulation.

We can usefully contrast the American experience with that of many European countries, where capital regulation of corporations is much more important. Because most European countries operate under unitary systems of corporate law where the competition for charters is not a factor, administrative agencies can police the capital

rules effectively. In Belgium, for example, a relatively stringent system of ex ante monitoring and enforcement ensures that minimum capital regulations remain effective throughout a corporation's existence. Formal appraisals are required for all insider transfers to ensure that capital is fully subscribed. If a corporation's equity becomes less than half the issued capital, the board of directors has the obligation to organize a shareholders meeting to discuss dissolution of the company or restoration of capital. The system is backed up by a system of supervision by powerful administrative officials.

In Switzerland, the law requires that corporations maintain capital stock and statutory reserves. If the annual balance sheet shows that half of the capital stock and reserves is no longer covered, the board of directors is obligated to call a meeting of shareholders and to propose measures for restructuring. Failure to comply with this law subjects the board members to personal liability. Moreover, it is a crime in Switzerland to go bankrupt either through fraud or carelessness, or to fail to keep accurate records.

Similar provisions for minimum capital exist in most European countries, as well as in countries elsewhere in the world. But a system such as that which exists in these countries could not exist in the United States under our current system of corporate law. The United States is actually an anomalous jurisdiction in this respect: the considerable majority of countries around the world maintain a level of capital regulation for their corporations that far exceeds that obtaining in the United States under the vestigial par value system.

However, par value is not the only form of capital regulation for corporations in the United States. We also have a number of explicit ex post remedies for capital shortfall. The most prominent of these remedies is piercing the corporate veil, a doctrine which allows creditors of a corporation to proceed against the shareholders notwithstanding the "veil" of limited liability. Veil-piercing is a form of ex post capital regulation, since it imposes liability after insolvency on the shareholders of a firm that has been operated with inadequate capital. Although the stated requirements for piercing the veil are complex and indeterminate, the central issue is capital adequacy. If a corporation is being run on inadequate capital, the likelihood that a court will hold its shareholders liable for the corporation's debts and torts is much higher than if capital is considered to be adequate. Note that while par value is a mixture of ex ante and ex post regula-

tion, albeit an unsuccessful one, veil piercing is purely ex post: there is no official monitor of a firm's capital and the sanction is administered only after insolvency.

The problem with veil piercing, of course, is that of determining how much capital is enough. Any firm that fails has by definition been run on inadequate capital at some point; but if this were enough to pierce the veil, we would not have a doctrine of limited liability at all. The legal decisions often refer to the fact that a corporation has been operated on insufficient capital, but never do the courts come up with any workable definition of how much capital is enough. Largely for this reason, the corporate veil is pierced only very rarely and in extreme circumstances in the United States. Veil piercing is not a particularly effective form of capital regulation.

In addition to veil piercing, capital adequacy is policed, to an extent, by bankruptcy rules that allow the trustee in bankruptcy to recapture certain transfers made to corporate shareholders in contemplation of or within a specific time before the insolvency. Other rules of equitable subordination in bankruptcy allow the bankruptcy judge to subordinate debt claims of shareholders to the claims of others in cases where the shareholder has used his or her insider status to obtain an inequitable position vis-à-vis other creditors. These bankruptcy rules are also a form of capital regulation, but, as in the case of veil piercing, they are limited in their application, largely because they are in tension with the general rule of limited liability for corporate shareholders.

Recently, corporate law scholarship has begun to revisit the basic question of limited liability. Professors Hansmann and Kraakman have written a controversial article in which they claim that the benefits of limited liability are overstated and recommend exploration of unlimited liability for corporate shareholders, at least for tort liability.[6] Note that, from the perspective of this lecture, Hansmann and Kraakman have recommended a form of capital regulation. For, to the extent that a firm's shareholders have unlimited liability, the firm's effective capital is greatly increased—to the point where the capital of a widely held firm, if such could exist under a regime of unlimited liability, would be virtually infinite.

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[6] Henry Hansmann and Reinier Kraakman, Toward Unlimited Shareholder Liability for Corporate Torts, 100 Yale Law Journal 1879 (1991).

Hansmann and Kraakman's argument for unlimited liability has not persuaded many in the academic community—and certainly very few outside the ivory tower—because of the perception that unlimited liability would be extremely disruptive to capital formation and quite expensive to administer.[7] Imagine a capital market where there is unlimited liability. Stock would be worth more in some hands than others. The rich might not want to buy stock at all. People would make efforts to disguise their ownership by vesting legal title in impecunious individuals while keeping some form of beneficial title for themselves. At some point, when a firm approached insolvency, its stock would actually take on a negative value—much as in the case of the old system of par value stock. People who held unlimited liability stock would be willing to pay others to take it off their hands. Those who were willing to hold the stock would not have the assets to pay on the assessments. The system appears so fraught with problems as to be nearly unworkable.

But, while unlimited, joint and several liability may not make sense, there are other ways to structure a liability regime to give shareholders some responsibility for a corporation's debts or torts. The most viable system is a form of multiple liability, where shareholders take on a liability for assessment when they purchase stock, but only up to a specific and defined amount. Such a system actually existed in the American banking industry for more than 75 years, prior to the Great Depression; similar rules obtained in England, Scotland, Australia, Canada, and New Zealand. This was a system of double liability, under which a bank shareholder would be liable for assessment for the benefit of creditors in the event the bank failed, but only up to the par value of the shareholder's stock.

Professor Macey and I have studied the operation of this system and found that, in general, it was a success.[8] About half the amounts assessed were actually collected, a good recovery figure given the fact that many bank shareholders became personally insolvent when their banks failed. Beyond this, the assessment remedy tended to discourage risk taking by bank managers at the point where the

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[7] For a justification of limited liability from the law-and-economics perspective, see Easterbrook and Fischel, supra note 3, at 40-62.

[8] Jonathan R. Macey and Geoffrey P. Miller, Double Liability of Bank Shareholders: History and Implications, 27 Wake Forest Law Review 31 (1992).

bank's capital became impaired: instead of becoming risk preferrers at this point, the shareholders became risk avoiders, because they knew that if the bank were to become insolvent, they would be personally liable for its debts. Thousands of banks voluntarily liquidated during this period, evidently because the owners recognized that the institution was in danger of failing and chose to wind up or sell its operations while it was still solvent rather than risk personal assessment liability. Some of the perverse effects of unlimited liability were observed: for example, when a bank was close to failure, people became extremely generous with their stock, foisting it off on their children or any impecunious person they could find; but the courts were very effective at tracking down these transfers and fixing the assessment liability on the prior holder. The system of double liability was vigorously enforced during this period. There are over 100 decisions by the United States Supreme Court on this topic, and thousands of cases in the lower courts. Ironically, Congress and the states repealed the double liability regime during the 1930s because of the belief that federal deposit insurance was a cheaper and preferable method for protecting bank creditors.

Although multiple liability would appear to be a potentially viable ex post system of capital regulation, one with good monitoring effects and a workable, if somewhat cumbersome, legal structure, the U.S. legal system has not opted for such a regime outside the financial services area. The general rule has been one of limited liability.

B. Regulation of Financial Firms

In general, therefore, the regulatory system in the United States has elected not to regulate firm capital, beyond the vestigial par value system, the specialized bankruptcy rules, and the doctrine of corporate veil piercing. There is one area, however, where far from being moribund, capital regulation is alive and growing: the financial services industry. Banks, savings and loans, broker-dealers, commodities brokers, and insurance firms are all required to meet minimum capital standards. These standards have not been losing force over time; on the contrary, capital regulation is increasingly viewed as an essential part of the regulatory landscape for these firms. Why is it that capital regulation has been so important in these industries, whereas it has been much less important elsewhere?

The significance of capital adequacy regulations in the financial services sector is largely due to the presence for each industry of regulatory bodies with sufficient powers and jurisdiction to impose a form of ex ante capital regulation—the federal and state banking regulators, the SEC, the CFTC, the state insurance commissioners. The American system of regulatory federalism which prevents effective capital regulation for corporations generally does not affect these financial service industries in the same way. Thus, these industries are regulated much more like the European system than the American one so far as capital adequacy is concerned.

Beyond this, financial services is a field where the justifications for capital regulation appear particularly strong. Creditors in such industries—bank depositors, private customers of securities firms, holders of insurance policies—are often dispersed and unsophisticated. They may lack effective means for protecting their own interests against expropriation by the equity holders. Further, creditors often lack the financial incentive to monitor against risk taking by corporate managers. Depositors in banks and savings and loans are protected by federal deposit insurance and accordingly have no incentive whatever to monitor their institutions (unless they are foolish enough to have more than the insurance ceiling on deposit at a bank). Insurance policy holders are protected by insurance guarantee systems, and securities customers are insured by the SIPC. These protections for creditors take them out of danger, but place the insurance funds at even more severe risk, because the insurance removes the marketplace discipline against excessive risk taking by corporate managers that would otherwise exist.

Moreover, some of these industries—banking and insurance are examples—operate at high leverage ratios relative to industrial firms. That is, a bank's equity capital is typically only a small percentage of its total capitalization. This means that there is a relatively thin margin against insolvency, so that if a bank suffers unanticipated losses, there is a serious risk that it will become insolvent. And, once a bank is insolvent, the risk taking incentives of its owners go wild; the owners will be willing to take on nearly any sort of risk in order to gamble on a possible return to solvency, knowing that if the risks do not pay off, others will pick up the tab.

This combination of factors—powerful regulators, unsophisticated and dispersed creditors, moral hazard created by insurance, and

highly leveraged capital structures—makes the financial services industry particularly suitable for capital regulation. In the banking area, capital regulation is now viewed in some quarters as nearly a panacea to all the problems which have afflicted that industry over the past ten years.

Although there is good reason to suppose that capital regulation may be beneficial in the financial services sector, those who view such a regulatory system as any sort of panacea are excessively optimistic. It is certainly true that capital regulation is preferable to command-and-control regulation because it leaves much greater room for entrepreneurship and private decision making. But capital regulation has in no way displaced command-and-control regulation for financial services firms; on the contrary, the enhanced capital rules have merely supplemented the existing regulatory framework. This is perhaps not so much a conceptual as a political point: Congress in its wisdom does not want to be criticized for failing to regulate the financial services industry in light of the catastrophe that happened in the banking and savings and loan industries. State regulators of insurance firms are equally averse to criticism for alleged shortfalls on their watch. Enhanced capital standards have not, in practice, led to any form of deregulation in the command-and-control system.

More fundamentally, the justifications for capital adequacy regulation mentioned at the outset of this paper may not be entirely persuasive. A fundamental problem with capital regulation is simply that we have no idea how much capital is enough. The rules we have in place for the banking industry now are not based on any kind of systematic analysis; they were adopted by bureaucrats in Basle, Switzerland, based on no discernible theory other than expediency. The rules largely reflect political tradeoffs among the signatories of the Basle accord rather than any sort of objective analysis.

Even if we assume that the rules now in place are roughly appropriate, there are serious questions as to the efficacy of capital regulation as a means of measuring insolvency risk. Capital tends to be a lagging indicator of insolvency: many banks and savings and loans that failed drastically had perfectly adequate capital ratios only a few months before the disaster. Capital regulation is inevitably built on accounting conventions that may be only a very imperfect indicator of true market values or business prospects.

Further, capital regulation is inevitably imperfect in its application and encourages all sorts of regulatory avoidance measures. For example, the rule used to be that banks had to hold a certain amount of equity capital as a percentage of their assets. This was a very ineffective way to deter risk taking, because any bank that wanted to achieve a given level of risk could simply step up the riskiness of its assets—a three percent capital ratio may be perfectly fine when held against a portfolio of treasury bonds, but not when offset against speculative derivative instruments. The new rules attempt to correct for this problem by weighting the assets according to risk, but to be administrable, the risk weightings have to be exceedingly gross. For example, nearly all unsecured private debt has a hundred percent risk weighting—so that an unsecured loan to a local dry cleaner has the same risk weighting as a loan to General Motors. A bank can easily arbitrage within asset categories in order to increase its level of risk.

Finally, there are real problems about what to do when there is a capital shortfall. The old rules gave the agencies a great deal of discretion about whether to shut down a capital-impaired bank or not. This resulted in fiascoes in which important politicians did political favors for friends by intervening with the regulators in order to keep insolvent institutions open. Congress reacted by adopting a regime of nondiscretionary administrative sanctions under which the agencies are required to take increasingly stringent steps to rectify capital impairment as an institution slides toward insolvency.

Although this system of prompt corrective action is nearly universally admired, there are obvious problems with it. How soon should an institution be closed? If you close it while it is still solvent, you are going to prevent losses to creditors, but there will be significant social costs because a potentially viable institution is being closed. If we look at private contracts, we do not see creditors automatically closing down debtors even on default. The creditor will renegotiate the debt if, in its judgment, the insolvency costs exceed the losses from renegotiation. But under our system of prompt correction action, the agencies have no power to act as private creditors would in a similar situation; they have to close the institution under penalty of law.

My own mind is still unsettled with respect to the value of solvency regulation. It is true that capital regulation can offer potential efficiencies to solve free-rider and collective action problems for

creditors and can mitigate problems associated with inefficiently risky investments and insolvency costs. On the other hand, capital regulation has significant problems and costs of its own. For the foreseeable future, we are unlikely to observe effective capital regulation much beyond the financial services area in the United States, although, as we have seen, capital requirements are a much more significant part of the regulatory landscape in Europe. But within the U.S. financial services sector, capital has become an important regulatory strategy. It is therefore appropriate that business lawyers and business law scholars begin to grapple intensively with the complex issues posed by this interesting and potentially far-reaching approach to the legal control of the American corporation.

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