Are the Distinctions between Debt and Equity Disappearing? An Overview

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During the 1980s, the proportion of business assets financed by debt exceeded that of any other period since World War II. Although much of this leverage accommodated new investment, during the last half of the decade corporations also replaced more than one-sixth of their outstanding stock with debt securities. Because of this surge in leverage, many analysts and policymakers are wary that businesses may have become too vulnerable, perhaps imperiling prospects for capital formation and employment opportunities.

As the financial structure of businesses changed during the past decade, the characteristics of financial securities also changed. Junk bonds, variants of preferred stock, yield enhancements, warrants, and other forms of mezzanine financing became more common in credit markets and in private loan contracts. Furthermore, the potential risks and returns offered by all securities have been altered as otherwise familiar financial instruments increasingly contain novel options (puts, indexed terms, resets, auctions, caps) and as derivative securities and various swap agreements are accepted as standard financial instruments.

These innovations have challenged the traditional financial and legal distinctions between debt and equity. Accordingly, public policy may need to adapt along with financial relationships, because income tax laws, regulations governing financial institutions, corporation law, and definitions of the legal rights and responsibilities of an enterprise's owners or creditors depend on clear boundaries to separate classes of creditors and equityholders. For example, if varieties of debt and equity instruments are more commonly regarded merely as alternative methods of financing businesses, both the bankruptcy law's distinctions among stakeholders and the income tax law's traditional distinction between interest payments (an expense) and profits (taxable income) may need to be amended. Similarly, many of the laws, regulations, and conventions that encourage financial intermediaries to hold debt rather than equity may require revision. Whether these distinctions account for the recent increase in leverage or not, if policymakers regard leverage as excessive, reforms of the appropriate laws and regulations could foster equity financing.

In the fall of 1989 the Federal Reserve Bank of Boston sponsored a conference of academics, lawyers, investment bankers, economists, and government officials to examine the changes in business financing, the reasons why these changes have occurred, and the implications of these changes for public policy. In general, the participants observed that no simple theory explains fully the recent trends in business finance. For example, tax laws alone do not determine a corporation's capital structure. A satisfactory explanation might also depend on agency costs, objectives of stakeholders, the importance of corporate control, financial regulations, the relative cost of funds, and the dynamic strategies of management. Consequently, an attempt to reduce leverage through a simple reform of tax law, financial regulations, or bankruptcy law may not succeed. Even if it were successful, the cost of reforming policy could exceed its benefits, especially if other objectives of these policies were compromised in order to regulate leverage. Many participants also questioned the threat posed by the recent surge in debt financing. Some thought that the trend toward greater leverage has run its course, and equity financing will become more prevalent.

The conference comprised three sections. The first section surveyed the financial and legal theories concerning an enterprise's choice of capital structure. The financial survey concluded that a promising financial theory is more likely to describe the optimal form of financial contracts, rather than confining itself to determining the optimal degree of leverage. The fundamental innovation is the recent change in the characteristics of contracts, rather than a simple increase in leverage. The legal survey found that, for solvent corporations, the distinction between the rights of creditors and those of shareholders is sharp. But for insolvent corporations the rights of various stakeholders are often negotiable, and this in time may erode the distinctions between the discrete contracts of debt instruments and the relational contracts of equity instruments.

The second section discussed the practical motives of savers and investors that might account for the recent increase in leverage. Corporations have demonstrated a preference for financing their assets with their own cash flow, and if external financing is necessary they favor debt over equity. Accordingly, a corporation has no fixed target for its leverage; when opportunities to expand assets are sufficiently inviting and when the cost of debt financing is relatively attractive, leverage will tend to increase. While the inclination to supply more debt has increased during the current economic recovery, the demand for debt instruments also may have increased as regulations and accounting conventions encouraged pension funds to match their assets to their sponsors' liabilities. Nevertheless, the substantial retirement of equity during the past five years remains a novel puzzle.

The last section examined the influence of income tax laws and financial regulations on leverage. Although the tax law encourages corporations to rely on debt financing, neither the timing nor the magnitude of recent changes in the tax law can explain the surge in debt financing. Popular proposals for reforming the tax code in order to remove this bias in favor of debt financing would either reduce revenues considerably or introduce new distortions into the income tax. Because the effects of tax laws on corporate financial decisions are poorly understood, conducting financial regulation through these laws may be costly. Instead, minimum capital requirements may be applied directly to corporations. In addition, the regulations that strongly encourage banking institutions and other financial intermediaries to hold debt rather than equity may be relaxed. Although these regulations were intended to make these intermediaries and the economy more stable, they can foster risky investments, making the economy less stable. Accordingly, the benefit from reforming financial regulations may be relatively great.

The Changing Nature of Debt and Equity

Why do businesses rely so greatly on debt financing? Why are debt instruments including more equity features? While biases in the income tax code are important determinants of capital structure, the first two sessions discuss other explanations. The participants in these sessions agreed that new views of financial instruments are becoming necessary as debt and equity contracts become less distinct. The members of the finance sessions examined the economic incentives for issuing a spectrum of securities, while those of the legal session discussed the rights and responsibilities of the investors who hold these securities.

The Finance Perspective

Franklin Allen, of the University of Pennsylvania, introduced several themes discussed throughout the conference: that financial innovation has introduced hybrid securities blending the characteristics of debt and equity, that the characteristics of these securities are not determined by tax laws alone, and that the incentives of stakeholders may better explain firms' financial structures. Financial theories focusing on tax burdens, the cost of bankruptcy, or asymmetric information among stakeholders do not explain either the rapid introduction of hybrid securities or the significant changes in leverage over the past ten years.

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The recent introduction of many hybrid securities suggests that financial theories defining optimal ratios of debt to equity are not as promising as those describing the optimal forms of securities. The diverse interests of heterogeneous stakeholders might be satisfied best by a variety of financial instruments. In the case of public corporations, pure debt and equity contracts are not necessarily best suited to the interests of management and the various providers of external financing. The optimal payments to "creditors" might depend on the performance of the corporation, and the optimal division of voting rights need not allow one vote per share and majority rule. Furthermore, the spectrum of securities that might best meet the needs of corporate stakeholders might not ensure efficient capital markets and, therefore, might not be optimal from a social point of view.

Oliver D. Hart, from the Massachusetts Institute of Technology, contended that the theory regarding the control of assets is more robust than Allen suggests. The major attribute of equity, according to Hart, is ownership. Owners of an asset not only hold a residual claim on its returns but also choose how to employ that asset. Even without differences in the tastes of stakeholders or difficulties in verifying a firm's performance, for example, equityholders differ from creditors because of their ability to control the enterprise.

Robert C. Merton, from the Harvard Business School, suggested that promising theories regarding the choice of capital structure appear not to depend on the demands of investors. Because investors are concerned with the risk of their portfolios rather than the risk of particular securities, firms need not issue a variety of securities, since intermediaries could repackage the financial claims issued by firms to create portfolios that are most appealing to investors. For example, if firms issued equity only, financial intermediaries could acquire these equities and issue the appropriate spectrum of securities backed by the firms' assets. In this case, the operation of the firms would be insulated from any defaults that might occur on "their" financial liabilities.

The Legal Perspective

Charles P. Normandin, from the Boston law firm of Ropes & Gray, observed that the traditional legal distinctions between the rights and responsibilities of shareholders and those of creditors have been strained. Management possesses broad fiduciary responsibilities that provide it with substantial discretion to operate the business in the best interest of shareholders. For solvent firms, the relationship of management to creditors is contractual, providing specific responsibilities defined by loan agreements. Despite challenges claiming that management's fiduciary responsibility should be extended to creditors, recent judgments have found that creditors cannot expect the courts to intervene in their contracts. Considerable problems may arise as firms seek financing from different sources at different times, but creditors must either protect themselves through appropriate contractual commitments or refuse to supply funding.

The insolvent corporation and its management owe fiduciary duties to the various classes of creditors as well as to stockholders, but the law gives only vague guidance for balancing these often incompatible responsibilities. In such cases, the classification of claimants will become more difficult, and the legal rules governing the concessions among claimants may become too restrictive to achieve an acceptable reorganization. Consequently, the traditional distinctions among stakeholders may blur, as the courts try to cope with financial innovations.

Robert E. Scott, from the University of Virginia School of Law, disagreed with Normandin's view that firms have a voluntary contractual agreement with creditors and a fiduciary responsibility to shareholders. Instead, the firm's relation with both creditors and shareholders is contractual. Two different contracts can apply to the firm. Discrete contracts provide detailed specifications that standardize the contract and simplify the monitoring of the contractual relation. Relational contracts are used when the uncertainty and complexity of the relationship prevent all contingencies from being specified, requiring a more general contractual commitment. While debt has been considered a discrete contract and equity a relational contract, these designations are being eroded by financial innovations. As debt instruments include characteristics of equity, they too must be considered relational contracts. When courts interpret these contracts they should promote value-maximizing transactions.

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Richard T. Peters, a partner in the Los Angeles law firm of Sidley & Austin, discussed the legal uncertainty surrounding the distinctions between debt and equity. Future litigation will focus on the standing of debt and hybrid securities used in highly leveraged transactions when a firm declares bankruptcy. Since many of these securities could be considered substitutes for existing capital, they may not be treated as traditional debt instruments in corporate reorganizations. Until the courts decide more cases involving leveraged buyouts, particularly how the instruments issued in leveraged buyouts are classified in a reorganization and how voting power and responsibilities of management should be allocated among the different classes of creditors, negotiating reorganizations will remain difficult.

Why Debt and Equity Have Changed

Why are businesses now relying on debt financing more than in the past? The next two sessions discussed the motives of businesses and institutional investors that may account for this surge in leverage. The first session examined the firm's motivations for issuing debt, discussing the influence of external financing and conflicts among stakeholders on a firm's choice of capital structure. The second session discussed how the goals, traditions, and regulations governing pension funds may have increased the demand for debt relative to that for equity.

The Firm's View of Debt and Equity

Stewart C. Myers, from the Massachusetts Institute of Technology, surveyed the evidence for three theories of capital structure: the trade-off theory, the pecking order theory, and the organizational theory, and concluded that some combination of the pecking order theory and the organizational theory best fits recent trends in capital structure.

The trade-off theory contends that firms issue debt until the value of the tax shield on debt equals the expected costs of bankruptcy. Myers observed that this simple model cannot explain two empirical regularities. First, stock prices rise for firms announcing actions that will increase their leverage, while stock prices fall for firms announcing actions that will reduce their leverage. The trade-off theory predicts that stock prices should increase with any change in leverage, because managers should always be approaching, rather than retreating from, the optimal capital structure. Second, the most profitable firms in an industry borrow less. The trade-off theory predicts that they should borrow more, because firms with higher profits have more taxable income to shield by issuing debt.

The pecking order theory is not consistent with a static optimal capital structure. Firms prefer internal to external financing, and if external financing is necessary they prefer debt to equity. Managers will never issue shares when the firm is undervalued; knowing this, investors will always view a new equity issue as bad news. The pecking order theory predicts that the issuing of new equity is bad news, while the retirement of equity is good news. It also predicts that profitable firms will tend to have low leverage.

The organizational theory assumes that management maximizes assets under its control rather than shareholders' wealth. Accordingly, management maximizes the value of equity and employee surplus, which includes perks, overstaffing, and above-market wages. Issuing new debt is good news, because it increases the value of the tax shield while diminishing employee surplus by increasing the burden of interest payments. Management prefers to rely on internal financing, so more profitable firms will have lower leverage. Myers believes that the pecking order theory and the organizational theory explain patterns of corporate finance better than the trade-off theory, and that a promising theory of corporate finance would appear to require more study of the conflicts between management and investors.

Myers proposed an organizational theory of capital structure that assumes that management maximizes assets under its control rather than shareholders' wealth.

O. Leonard Darling, of Baring America, predicted that most companies will be reducing their debt. Lower leverage is necessary because the costs of financial distress now exceed the benefit of debt's tax shield for many firms. Reducing leverage will tend to create conflicts among management, shareholders, and creditors, and each firm's strategy for reducing leverage will depend on whether the firm is privately or publicly held. Publicly held companies will adopt strategies that maintain the value of equity in order to deter hostile takeovers. Privately held companies may be more willing to force transfers from creditors to equityholders by threatening creditors with bankruptcy.

Robert A. Taggart, Jr., from Boston College, contended that the recent increase in corporations' leverage at a time when internal funds were plentiful poses a problem for most traditional theories of finance. The surge in debt financing was used to retire outstanding equity, a fact that neither the trade-off theory nor the pecking order theory can explain adequately. Although the organizational theory might complement the pecking order theory to explain this change in capital structure, the organizational theory needs further development in order that we may understand better how shareholders' valuations can influence managers' behavior.

The Lender's View of Debt and Equity

Zvi Bodie, from Boston University, contended that recent financial innovation can be attributed partly to changes in the demand for securities by lenders. He illustrated this argument by discussing how regulations and accounting requirements have influenced the recent behavior of the pension fund industry.

The investment policies of pension funds, which hold 25 percent of outstanding common stock and 39 percent of outstanding corporate bonds, are guided by government regulations and sponsors' needs to meet their obligations to their plans' beneficiaries. Regulations and accounting conventions increasingly have encouraged pension funds to "immunize" their portfolios by matching their assets to their sponsors' liabilities. This demand has fostered the development of derivative securities such as index options and futures contracts. It has also encouraged pension funds to hold fixed-income securities whose duration matches that of their liabilities more closely than do the durations of stock or floating-rate bonds. Thus, both the increase in leverage and the introduction of new securities can be attributed partly to the demands of investors such as pension funds.

Peter L. Bernstein, from Peter L. Bernstein, Inc., was skeptical that the recent increase in corporate leverage might be explained by pension funds' needs to run a matched book. Pension funds, like the many other investors who purchased debt, were attracted by the high real returns on debt available in the early 1980s. Pension funds purchased much of the corporate debt even though these securities were not as appropriate as government debt for immunization strategies because government debt, unlike corporate debt, cannot be called when interest rates fall. To a

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degree, the pension funds' demand for corporate debt was fostered by the equity features of these securities.

Benjamin M. Friedman, from Harvard University, also was not convinced that hedging by investors such as pension funds could explain the increase in corporate leverage. While pensions may wish to hedge their liabilities, derivatives of government securities would be more suitable than corporate debt. Junk bonds, the fastest growing component of corporate debt, are not appropriate for hedging because of their relatively short durations and because of their substantial risk of deferred repayments, diminished repayments, conversion to equity, or outright default.

Implications for Public Policy

The final two sessions examined the effects of public policies on the capital structure of businesses. The first session considered whether the recent reforms of the income tax code encouraged businesses to rely on debt financing more than they had in the past. This session also discussed the potential problems of using the tax codes to regulate the capital structures of businesses. The second session considered how the regulation of financial intermediaries, such as banks, fosters debt financing. This session also discussed whether new banking regulations might promote more equity financing without necessarily making financial intermediaries less secure.

Taxation of Debt and Equity

Alan J. Auerbach, from the University of Pennsylvania, questioned the importance of taxation in explaining the recent increase in leverage. Neither the timing nor the magnitude of tax changes can account for nonfinancial corporations' recent reliance on debt. The recent revisions of the tax law have had mixed effects; for some investors the relative advantage of holding debt has increased, for others equity has become more attractive.

Although changes in the tax law are not clearly responsible for the recent increase in leverage, for decades the tax law has encouraged firms to rely on debt financing, by imposing a lower tax burden on corporate assets financed by debt than on assets financed by equity. Auerbach considered several proposals that either would integrate corporate and personal taxes or would tax corporations on their cash flow. These proposals entail a large loss of tax revenues or introduce new complications and distortions into the tax code. Given the uncertainty about the causes and costs of increased leverage, it is not clear that the benefits of these tax changes would exceed their costs.

David F. Bradford, from Princeton University, reemphasized that the effects of tax laws on corporate financial decisions are still poorly understood. For example, why do corporations pay dividends rather than repurchase their stock, given that stock repurchases would increase most shareholders' net returns? Until we better understand the effects of taxation, we should be very cautious about using the tax code to regulate business capital structures.

Auerbach stated that neither the timing nor the magnitude of tax changes can account for nonfinancial corporations' recent reliance on debt.

Emil M. Sunley, from Deloitte Haskins & Sells, agreed that changes in tax laws do not explain the increase in corporate borrowing and that the social costs of increased leverage may have been overstated. He also was skeptical of proposals to eliminate the tax bias favoring income accruing to corporate assets financed by debt. Integration of corporate and individual taxes would redistribute tax burdens unevenly across industries and across firms within industries. Furthermore, some technical problems with integration remain unresolved, such as the proper treatment of holding companies or multiple classes of stock. Cash flow taxes also have problems concerning the proper treatment of investments and debt undertaken before the tax reform and the proper division of tax revenues between the United States and countries that tax corporate income.

Regulation of Debt and Equity

Richard W. Kopcke and Eric S. Rosengren, from the Federal Reserve Bank of Boston, contended that the regulation of financial intermediaries can affect corporate capital structure. Household portfolios have been shifting from equity toward the liabilities of financial intermediaries. In turn, the assets of these intermediaries are invested mostly in debt instruments. Consequently, this shift in household portfolios has tended to increase the supply price of equity financing relative to that of debt.

This bias in favor of debt financing may be attributed partly to the regulations that govern financial intermediaries. While "deposit insurance," explicit or implied, attracted households' funds, government regulations had not allowed intermediaries such as banks and insurance companies to purchase equities. Contracts governing pension funds' investments also constrained their holding equities, to a degree. Although these regulations were intended to make intermediaries, financial markets, and the economy more stable and secure, they might foster relatively risky investments. Instead of restricting the assets that intermediaries may purchase, often favoring debt over equity, regulations should control risk by enforcing substantial minimum capital requirements, to be funded by common stock.

Ben S. Bernanke, from Princeton University, was skeptical that savers' preferences could explain the increase in leverage over the past twenty years. He noted that pension funds, the fastest growing intermediary, hold a larger share of their assets in equity than do households. The decisions of firms, rather than those of investors, would appear to be responsible for the recent increase in leverage. Although the motivation for financial regulation is weak, he agreed that such regulation should emphasize capital requirements rather than asset restrictions.

Kopcke and Rosengren contended that the regulation of financial intermediaries can affect corporate capital structure.

Albert M. Wojnilower, from The First Boston Corporation, criticized the recommendation that asset restrictions be reduced. Allowing depository institutions to hold equity and requiring them to value their assets using current market prices would destabilize the financial system. He agreed that binding capital requirements would make the economy more stable. Moreover, extending capital requirements to large nonfinancial corporations would reduce the systemic risk stemming from the failure of highly leveraged businesses. Violation of these requirements could entail a loss of tax benefits on excessive debt and, potentially, the dismissal of senior management.

Conclusion

During the past decade, firms have significantly increased their reliance on debt that frequently possesses some of the features of equity. Although the prevailing income tax laws have encouraged firms to issue debt, the timing and magnitude of the changes in leverage do not coincide with changes in the tax code.

Many of the conference participants discussed how the conflicting interests of diverse stakeholders may have encouraged the recent increase in corporate leverage. For example, disagreements among investors, management, and employees regarding the control and use of assets increasingly result in takeovers financed substantially with debt.

Several participants emphasized the importance of financial intermediaries for financing business investments. Intermediaries issue liabilities that are most appealing to savers, using the proceeds to purchase the securities issued by businesses. As intermediaries have become more important, binding financial regulations, which generally restricted their ability to purchase equity, may have fostered greater leverage by increasing the relative supply price of equity.

Participants agreed that traditional distinctions between debt and equity will be challenged by the introduction of new hybrid securities. Legal, tax, and regulatory policies, which may have fostered these financial innovations, must themselves change in order to cope with emerging patterns of business financing. Promising revisions of public policy would foster financial contracts that minimize the social costs of resolving conflicts among a business's stakeholders, while promoting a relatively efficient and stable flow of resources from savers to investors.

Are the Distinctions between Debt and Equity Disappearing?

At the Federal Reserve Bank of Boston's most recent economic conference, on October 4, 5, and 6, 1989, a group of academics, lawyers, investment bankers, economists, and government officials convened to examine the recent changes in business financing, why these changes have occurred, and the implications of these changes for public policy. The conference agenda is outlined below.

The Changing Nature of Debt and Equity: A Financial Perspective
Franklin Allen, The Wharton School, University of Pennsylvania
Discussants: Oliver D. Hart, Massachusetts Institute of Technology
Robert C. Merton, Graduate School of Business Administration, Harvard University

The Changing Nature of Debt and Equity: A Legal Perspective
Charles P. Normandin, Ropes & Gray
Discussants: Robert E. Scott, University of Virginia School of Law
Richard T. Peters, Sidley & Austin

Why Have Debt and Equity Changed? The Firm's View
Stewart C. Myers, Massachusetts Institute of Technology
Discussants: O. Leonard Darling, Baring America Asset Management Company, Inc.
Robert A. Taggart, Jr., Boston College

The Lender's View of Debt and Equity: The Case of Pension Funds
Zvi Bodie, Boston University School of Management
Discussants: Peter L. Bernstein, Peter L. Bernstein, Inc.
Benjamin M. Friedman, Harvard University

Implications for Public Policy: Tax Policy and Corporate Borrowing
Alan J. Auerbach, University of Pennsylvania
Discussants: David F. Bradford, Woodrow Wilson School of Public and International Affairs, Princeton University
Emil M. Sunley, Deloitte Haskins & Sells

Implications for Public Policy: Regulation of Debt and Equity
Richard W. Kopcke and Eric S. Rosengren, Federal Reserve Bank of Boston
Discussants: Ben S. Bernanke, Princeton University
Albert M. Wojnilower, The First Boston Corporation

The proceedings of Conference Series No. 33 will be available later this year without charge on request to the Research Library—D, Federal Reserve Bank of Boston, Boston, Massachusetts 02106.