Are the Distinctions between Debt and Equity Disappearing? An Overview

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 lever-
age or not, if policymakers regard leverage as exces-
sive, 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, law-
yers, investment bankers, economists, and govern-
ment officials to examine the changes in business
financing, the reasons why these changes have oc-
curred, 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 manage-
ment. Consequently, an attempt to reduce leverage
through a simple reform of tax law, financial regula-
tions, 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 con-
tacts of debt instruments and the relational contracts
of equity instruments.

The second section discussed the practical mo-
tives 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’ liabili-
ties. Nevertheless, the substantial retirement of eq-
uity during the past five years remains a novel
puzzle.

The last section examined the influence of in-
come tax laws and financial regulations on leverage.
Although the tax law encourages corporations to rely
on debt financing, neither the timing nor the magni-
tude of recent changes in the tax law can explain the
surge in debt financing. Popular proposals for re-
forming 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 corpo-
rate financial decisions are poorly understood, con-
ducting 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 in-
tstitutions and other financial intermediaries to hold
debt rather than equity may be relaxed. Although
these regulations were intended to make these inter-
mediaries and the economy more stable, they can
foster risky investments, making the economy less
stable. Accordingly, the benefit from reforming finan-
cial regulations may be relatively great.

**The Changing Nature of Debt and Equity**

Why do businesses rely so greatly on debt fi-
nancing? Why are debt instruments including more
equity features? While biases in the income tax code
are important determinants of capital structure, the
first two sections 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 eco-
nomic 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.

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.

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

Normandin observed that management has broad fiduciary responsibilities to shareholders, but creditors must protect themselves through appropriate contractual commitments.

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.

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.

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
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 inves-
tors such as pension funds could explain the increase
in corporate leverage. While pensions may wish to
hedge their liabilities, derivatives of government se-
curities would be more suitable than corporate debt.
Junk bonds, the fastest growing component of corpo-
rate 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 de-
fault.

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 re-
forms 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 prob-
lems of using the tax codes to regulate the capital
structures of businesses. The second session consid-
ered 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 neces-
sarily making financial intermediaries less secure.

Taxation of Debt and Equity

Alan J. Auerbach, from the University of Penn-
sylvania, 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 advan-
tage 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 pro-
posals 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 distor-
tions 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 repur-
chases would increase most shareholders' net re-
turns? 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 over-
stated. 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 un-
evenly 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.

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.