

Entity Theory, Modern Capital Structure Theory, and the Distinction Between Debt and Equity

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SYNOPSIS: The recent discussion memorandum on distinguishing between liability and equity instruments addresses the issue of whether to continue the sharp distinction between debt and equity. Paton's entity theory is cited as a potential basis for recasting the balance sheet as assets = equities. According to this theory, substituting one form of capital for another does not affect operations, because debt and equity providers are virtually indistinguishable.

A review of the financial economics literature provides a basis for concluding that alternatives to equity financing affect future cash flows. Hence, the distinction between debt and equity should continue. Moreover, preferred stock and financial option contracts affect firm value differently from common equity. Support is found for viewing both as liabilities. Finally, because individual fundamental financial instruments have information content, the components of compound financial instruments should be disclosed.

Data Availability: All data used are publicly available.

In their discussion memorandum (DM) on distinguishing between liability and equity instruments, the Financial Accounting Standards Board (FASB) raised the issue: "Should the present sharp distinction between liabilities and equity be effectively eliminated?" (FASB 1990, par. 219). This question addresses the fundamental nature of financial instruments. Primary concerns include how to treat securities that derive their values, at least in part, from the enterprise's own stock and whether certain securities that have traditionally been accounted for as equity are in essence corporate liabilities. The DM asks whether financial instruments, such as preferred stock and options written on an enterprise's own stock, are debt or equity, and how securities that combine two or more fun-

damental financial instruments should be treated.

Accountants have an obligation to disclose the nature of the elements of a firm's capital structure in a manner that allows users to assess how debt and equity instruments will impact the availability and distribution of company resources and thereby enable them to evaluate the impact of risk and uncertainty on firm value (FASB 1978). Accounting theory and practice present opposing views of the nature of debt and equity.¹ One view holds that debt and equity are indistinguishable. This view is based on the "entity theory" as proposed by Paton in 1922. Paton depicted the accounting equation as Assets = Equities.

¹These views are addressed and discussed in the DM.

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Under entity theory, both creditors and stockholders provide capital, in return for which they receive compensation. The sources of capital funding neither affect, nor are affected by, the ongoing operations of the business enterprise. Therefore, the question of debt versus equity financing is not relevant. Conversely, present accounting practice presumes that the amount of debt relative to equity is relevant in assessing firm value. Proponents of this view believe that the sharp distinction between debt and equity should be continued.

In the financial economics literature, capital structure theorists attempt to explain how alternative sources of capital affect cash flows, firm value, and risk. They analyze whether the addition of financial instruments to a simple capital structure or the substitution of one financial instrument for another affects resource flows. Hence, capital structure theory can provide insights for evaluating alternative methods and theories of accounting for financial instruments.

A review of the financial economics literature provides a basis for the following conclusions:

1. Capital structure affects future cash flows; therefore, the distinction between debt and equity is important to investor decision-making.
2. Options on an enterprise's own stock are liabilities.
3. Preferred stock, in most cases, is a liability.
4. Separating compound instruments into fundamental financial components has information content.

The conclusions reached hinge upon a large body of literature. The consensus in the recent literature is that capital structure impacts a firm's future resource flows and risk. The addition of financial instruments to a simple capital structure affects the amount and timing of future cash flows. Hence, the separation of equity from other capital structure components conveys relevant information to readers of published financial statements. The distinction between debt and equity should be continued.

Finance theorists view alternatives to common stock as providing leverage. Their analyses imply that bonds, preferred stock, options and warrants convey signals that are not only different from common stock but uniquely different from each other. Because a compound financial instrument comprises two or more fundamental financial instruments, each having unique information content, the individual components of compound financial instruments deserve separate disclosure.

The first part of this paper evaluates the importance of the distinction between debt and equity to investor decision-making. Two models are presented and discussed vis-a-vis the financial economics literature. Exhibit 1 contains a summary of this literature. For ease of exposition, this section models claims which comprise single fundamental financial instruments. Next, the issue of whether financial instruments that derive their values from the enterprise's own stock are debt or equity is discussed. Then, the topic of compound financial instruments is addressed in light of the conclusions reached regarding individual fundamental financial instruments.

DEBT VS. EQUITY IS IRRELEVANT

The Entity Theory

Paton described the entity theory long before the development of modern capital structure theory, the seeds of which are generally attributed to Modigliani and Miller (MM) (1958). Both Paton and MM reached a similar conclusion — corporate capital structure is irrelevant. The Paton/MM model relied upon two basic assumptions: (1) investment and financing decisions are independent and (2) the value of the firm is unaffected by the type, or types, of capital employed in its capital structure. Paton argued that the particular source, or sources, of capital have no effect on company performance. If debt is substituted for stock, the cost of factors of production remains the same. Operating profits are unaffected by the amount of leverage in the corporate capital structure. As a result, a firm's leverage ratio does not impact firm value and is therefore irrelevant for investor decision-making.

EXHIBIT 1
Capital Structure Literature

Literature that Supports — Leverage is Irrelevant
(The Paton/MM Model)

Assuming Independence Between Real and Financial Variables

Paton (1922)	Leverage does not impact the cost of factors of production; hence, bonds and stock are alternative, indistinguishable sources of capital.
Modigliani and Miller (1958)	Without taxation, assuming perfect capital markets and no bankruptcy, the cost of capital for a firm is independent of its capital structure; thus, debt can be freely substituted for equity without cash flow consequences.
Modigliani and Miller (1961)	Dividends are merely distributions of profits already reflected in the stock price; thus, dividend policy and financial policy are independent.
Stiglitz (1969)	The MM irrelevance theorem holds under a more general set of assumptions requiring no taxation, equivalent interest rates for corporations and individuals, and no bankruptcy.
Miller (1977)	With taxation, leverage clienteles will insure that the level of debt which a firm selects will not impact the market price of common shares.

Literature that Supports — Leverage is Relevant
(The Decision-Useful Model)

Assuming Independence Between Real and Financial Variables

Modigliani and Miller (1963)	Ignoring bankruptcy, the tax deductibility of interest payments positively impacts future cash flows, resulting in a preference for debt financing over equity.
Robichek and Myers (1966)	Leverage has a negative impact when bankruptcy is probable and/or when it affects future investment and growth; thus, firms have optimal debt-to-equity ratios.
Hamada (1969)	Combining the MM formula with the capital asset pricing model, the return to common equity is linearly related to the debt-to-equity ratio.
Kraus and Litzenberger (1973)	Adding bankruptcy penalties to the MM framework, the amount of leverage employed in a firm's capital structure determines whether the firm will be solvent or insolvent.
Rubinstein (1973)	Decomposing total risk into operating risk and financial risk, systematic risk (beta) of the levered firm is a linear function of operating risk (unlevered beta) and of the debt-to-equity ratio.
Scott (1976)	A firm's debt capacity, the cost of debt financing, and the optimum debt-to-equity ratio are affected not only expected future earnings and by firm size, but because in bankruptcy productive assets are sold in imperfectly competitive markets, by the liquidation value.

EXHIBIT 1 (Continued)
Literature that Supports — Leverage is Relevant
(The Decision-Useful Model)

Assuming Independence Between Real and Financial Variables

DeAngelo and Masulis (1980)	Tax law changes which affect the level of available investment-related tax shields will induce a "substitution effect" wherein firms will substitute interest tax shields for lost investment-related tax shields and vice versa.
Brick and Fisher (1987)	Preferential capital gains treatment provides disincentive for a firm to issue bonds. The 1986 tax act should induce firms to issue debt under open indenture and thereby result in a tendency for firms to have multiple debt classes.
Emery and Gehr (1988)	Because complex capital structures afford tax timing options, they provide flexibility to manage future cash flows; thus, the value of the firm is higher by the difference between the value of the portfolio of options and the value of the options on the portfolio.
Lewellen and Mauer (1988)	Because the investor has differing tax timing options available for different types of securities, companies with complex capital structures would, in general, be more attractive than companies with simple capital structures.
Givoly et al. (1992)	This empirical study documents a positive association between leverage changes and tax rate changes and a substitution of debt for lost nondebt tax shields.

Literature Which Supports — Leverage is Relevant
(The Decision-Useful Model)

Assuming Interdependence Between Real and Financial Variables

Gordon (1963)	Under uncertainty, investors weigh dividend payments against price appreciation, taking into consideration, expectations regarding future corporate investment, future debt expansion, and attendant interest payments.
Stapleton (1972)	Because investors evaluate future prospects and resultant future cash flows, firm value is affected by growth, and growth would be associated with debt expansion. Due to fixed interest payments and the riskiness of projecting future decision-making, dividend policy is affected by financial policy and vice versa.
King (1974)	Present and future expectations regarding tax rates impact investment and financial policy. At the same time, leverage affects the cost of capital, which, in turn, impacts selection of investment alternatives.
Jensen and Meckling (1976)	Corporate managers attempt to control, or balance, agency costs related to debt and equity by making a series of tradeoffs which result in the selection of a debt-to-equity ratio which minimizes total agency costs.
Hite (1977)	Leverage decisions are affected by investment, which, in turn, is affected by interest payments and consequent tax effects.
Ross (1977)	Because of the attractiveness of debt financing associated with the tax deductibility of interest payments, managers whose salaries are a function of share prices would issue debt to signal potential future positive cash flows.

EXHIBIT 1 (Continued)**Literature Which Supports — Leverage is Relevant
(The Decision-Useful Model)****Assuming Interdependence Between Real and Financial Variables**

Taggart (1977)	Using the sources and uses of funds identity, evidence was gathered which indicates that firms appear to base their stock and bond issuance decisions on the need for permanent capital (coupled with constrained debt capacity). Liquid assets and short-term borrowing are used, while capital structure adjustments are taking place.
Arditti and Pinkerton (1978)	Future projects affect the cost of capital and thus the present value of the firm through their expected rate of return and increased debt capacity.
McCabe (1979)	Empirical observations indicated that firms strive toward long-run investment and dividend targets. New investment is funded with long-term and short-term debt financing, while taking into consideration competing needs for funds.
Jalilvand and Harris (1984)	This study used simultaneous equations to model empirical observations. Firms appear to time long-term debt and stock issuances as they strive toward long-term financial targets.
Guerard and Stone (1987)	Empirical evidence is cited which documents interdependent relationships between investment and dividends and between investment and debt (net of liquid assets).
Prezas (1987)	Changes in interest and thus the cost of capital affect earnings and thus both the degree of operating leverage and the degree of financial leverage. The direction of the impact on each depends on the elasticity of the contribution margin with respect to debt and invested capital.
Choi (1988)	Tax rates and the timing of debt issuance and repayment affect the expected rate of change in debt cost, which, in turn affects the cost of capital. At the same time, the cost of capital affects decisions regarding investment.
Dammon and Senbet (1988)	In addition to the DeAngelo and Masulis substitution effect, increases in investment related tax shields induce firms to take advantage of investment opportunities, which, in turn, require additional debt ("income effect").
Crutchley and Hansen (1989)	Empirical evidence indicates that firms with greater earnings volatility use less leverage and that leverage is affected by managerial ownership, dividends, and firm size.

The MM Irrelevance Theorem

For the entity theory to be valid, a firm's investment decisions must be exogenous to decisions regarding the level of debt to employ relative to common stock. Like Paton, early capital structure theorists presumed independence between real (investment and production) and financial variables. In 1958, MM proposed that in a world devoid of taxes,

the market value of the firm is independent of its capital structure and is equal to the capitalized stream of future cash flows to corporate investors — bondholders and stockholders. This premise is consistent with the entity theory and follows from the argument that because the total market value of the firm is equal to the sum of the market values to all suppliers of capital, it is unaffected by the rela-

tive size of each. Hence, the amount of debt included in a firm's capital structure is a matter of indifference, and leverage is irrelevant.²

In 1963, MM demonstrated that the tax deductibility of interest payments enhances the value of the firm and results in a preference for debt over equity financing. Under the assumption of no bankruptcy, a firm will always substitute debt for common stock. Incorporating bankruptcy into the analysis, an optimal corporate leverage strategy has been shown to occur where the marginal advantage of debt financing is offset by the marginal disadvantage associated with bankruptcy or reorganization.³ These analyses refuted the irrelevance theorem. From the perspective of the investor, debt increases, up to some optimal level, signal good news, but excessive levels of debt financing may signal pending cash flow problems or even insolvency.

However, the MM tax induced debt preference theory ignored the potential impact of asymmetric tax treatments. The expected gain from corporate leverage may be reduced by personal taxation (Brennan 1970), and individuals may substitute personal borrowing for corporate borrowing (Stiglitz 1973). Thus, the return to the firm from borrowing is the difference between the corporate tax savings and the tax savings that would accrue to individuals if they had borrowed instead. In addition, Miller (1977) argued that the bond interest rate is set at the macro level, resulting in a marketwide equilibrium level of debt and a corporate sector equilibrium debt-to-equity ratio. Yet, no matter what level of leverage the individual firm selects, there is a natural clientele for its securities. Investors with low tax brackets purchase stocks of highly levered firms, and the stocks of firms with low debt-to-equity ratios are purchased by investors with high tax brackets. Because of the balance between the type of investor and the corporate debt level, firm value is not affected by capital structure. That is, Miller's arguments provide a basis for reestablishing the MM irrelevance proposition and are therefore consistent with Paton's theory. If Miller is correct, the amount of debt employed in a firm's capital structure does not impact the value of the firm. Users

would not utilize debt-to-equity ratios to evaluate future cash flows, and the present sharp distinction between liabilities and equity has no meaning.

Financial Reporting

The Paton and MM theories are consistent. Financial reporting would give all providers of corporate capital similar treatment. Under the Paton/MM model, corporate assets belong to the corporate entity, not to its stockholders. Corporate income is the income generated by those assets and is unaffected by the claims of, or distributions to, suppliers of capital. The income statement reflects income to the corporate entity. The retained earnings statement depicts how that income is allocated among the various capital providers. The statement of cash flows shows interest expense and taxes⁴ as financing activities. Because there is no fundamental distinction between debt and equity,⁵ the balance sheet need only array the claims of "equity" holders.

For comparative purposes, financial statements for Theoretical Company, cast in the traditional format, are shown in Exhibit 2. Exhibit 3 contains financial statements consistent with the Paton/MM model.⁶ The bottom line in Ex-

²Subsequent theorists have shown that the MM proposition is valid under a variety of circumstances. See for example, Robichek and Myers (1966) and Stiglitz (1969).

³For models which explicitly recognize bankruptcy costs, see for example, Robichek and Myers (1963), Kraus and Litzemberger (1973), and Scott (1975). Nevertheless, the expected value of bankruptcy costs is probably insignificant, at least for the typical accounting entity. See for example, Miller (1977).

⁴The typical interpretation of the entity theory is that taxes are a distribution to the government, and not an expense. See for example, FASB 1990, Par. 222.

⁵Paton recognized that there are differences of degree between bonds and stock, but he argued that they are by nature alternate forms of equity sources.

⁶The Paton/MM model and finance theory in general, support market valuation as the basis for measurement of items presented in published financial statements. Moreover, the FASB's definition of comprehensive income also implies a market, or current, value approach. The topic of market value versus historical cost is beyond the scope of this paper. For simplicity, the financial statements presented here are constructed under the assumption that historical cost equals current market value.

EXHIBIT 2
A Set of Traditional Financial Statements
Accounting Equation: Assets = Liabilities + Owners' Equity

Theoretical Company Income Statement
For the Year 1992

Sales	100,000
Cost of Sales	<u>55,000</u>
Gross Margin	45,000
Operating Expenses	<u>22,000</u>
Operating Income	23,000
Interest Expense	<u>8,000</u>
Income Before Tax	15,000
Income Tax	<u>4,100</u>
Net Income	10,900

Statement of Retained Earnings
For the Year 1992

Beginning Balance	26,200
Net Income	10,900
Dividends:	
Preferred Stock	1,000
Common Stock	<u>3,000</u>
Ending Balance	<u>(4,000)</u> 33,100

Balance Sheet
December 31, 1992

Assets	
Current Assets	89,000
Long-Term Assets	<u>171,000</u>
Total Assets	260,000
Liabilities & Owners' Equity	
Current Liabilities	31,900
Long-Term Liabilities	<u>85,000</u>
Total Liabilities	116,900
Preferred Stock	10,000
Common Stock	100,000
Retained Earnings	<u>33,100</u>
Total Owners' Equity	<u>143,100</u>
Total Liabilities & Owners' Equity	260,000

Debt/Equity Ratio = $116,900 / 143,100 = 0.82$

hibit 3 (Net Income) represents income to the corporate entity. The retained earnings statement shows how corporate net income is distributed among the four types of capital providers — the government, creditors, preferred stock-

holders, and common stockholders. The balance sheet arrays the "equities," but does not subtotal liabilities and common equity. In this model, there is no distinction between debt and equity, and no debt-to-equity ratio to compute.

EXHIBIT 3
Paton Entity Theory Model
Accounting Equation: Assets = Equities

Theoretical Company Income Statement
For the Year 1992

Sales	100,000
Cost of Sales	<u>55,000</u>
Gross Margin	45,000
Operating Expenses	<u>22,000</u>
Net Income	23,000

Statement of Retained Earnings
For the Year 1992

	Equities	=	Taxes	+	Creditors	+	Preferred Stock	+	Common Stock
BB	32,050		4,900		950		-0-		26,200
+	23,000		4,100		8,000		1,000		9,900
-	<u>(16,200)</u>		<u>(4,900)</u>		<u>(7,300)</u>		<u>(1,000)</u>		<u>(3,000)</u>
EB	38,850		4,100		1,650		-0-		33,100

Note: The equity income claim for taxes (4,100) and creditors (1,650) would be included in current liabilities.

Balance Sheet
December 31, 1992

Assets	
Current Assets	89,000
Long-Term Assets	<u>171,000</u>
Total Assets	260,000
Equities	
Current Liabilities	31,900
Long-Term Liabilities	85,000
Preferred Stock	10,000
Common Stock	100,000
Retained Earnings	<u>33,100</u>
Total Equities	260,000

Debt/Equity Ratio - Not Relevant

DEBT VS. EQUITY IS RELEVANT
Capital Structure, Risk, and Returns

Recent analytic and empirical work demonstrates that the Paton/MM assumptions may be invalid. The consensus in the literature is that leverage impacts risk and returns to common stockholders. The return to security holders and the firm's systematic risk are linearly related to the amount of leverage

employed by the firm (Hamada 1969; Rubinstein 1973). The higher the debt level relative to equity, the greater is the level of risk associated with the ownership of common shares, and the greater is the expected return on the firm's stocks.

Researchers have effectively utilized these relationships to test a number of hypotheses concerning market perceptions of balance sheet items that are currently reported as li-

abilities⁷ and to make risk evaluations, such as bankruptcy predictions.⁸ Moreover, book values perform as well as market values of debt when preferred stock is included in the numerator of the debt-to-market-value-of-common-equity ratio (Bowman 1980a; Mulford 1985). Nevertheless, similar analyses have shown that off-balance sheet items are often perceived as debt,⁹ indicating that the subtotal now reported is adjusted for disclosures in the notes. Hence, the market appears to evaluate debt versus common equity when valuing firm shares and to make adjustments to reported subtotals when relevant items are excluded or when reported equity values are perceived as actually liabilities.

Taken together, these findings imply that debt levels relative to equity seem to convey signals regarding the cash flow consequences to the investor of investing in a particular stock. The distinction between debt and common equity contain important information that should be supplied to readers of financial statements so that they can make informed judgments regarding the financial status and promise of a given firm.

Capital Structure, Investment, and Production

The debt versus equity irrelevance argument relies on the presumption that alternatives to equity financing have no impact on corporate resource flows. Paton/MM argue that the form of financing does not affect operating costs. Investment and production decisions are presumed independent of capital structure. Alternatively, if real and financing decisions jointly impact one another, then the level of debt versus equity impacts future operating cash flows, returns, and the value of the firm.

Recent capital structure theories demonstrate that real and financial variables may be interrelated and therefore jointly impact cash flows. The Paton/MM model only measures the pure leverage effect that occurs when debt is substituted for common stock. If financing decisions do impact operating cash flows and vice versa, then the total leverage

effect which occurs when real and financial variables adjust optimally¹⁰ is not captured in the Paton/MM model. Such interactions imply that the degree of operating leverage and the degree of financial leverage may be functionally related to changes in real capital and the contribution margin (Prezas 1987). If so, simultaneous decisions to change investment, production, and leverage may impact the market's perception of risk. Further, the cost of capital may be dependent on the expected rate of change in debt costs (Choi 1988). Thus, the timing of cash flows, which Paton/MM have segregated and presumed independent, may actually interact, indicating that real and financial corporate decisions are made giving consideration to the resulting simultaneous effects.

From the investor's perspective, these interactive theories imply that the components of capital structure impact the cost of capital, which is simultaneously impacted by income flows resulting from capital investment decisions made by the firm. As a result, capital structure may have a long-run effect on future cash flows to the firm and thus on distributions to investors. Since the value of the firm's market shares is assessed in light of future cash flows, the level of debt relative to equity provides relevant information for investors, creditors, and other users of published financial statements.

Capital Structure and Alternative Tax Shields

Theoretical research has shown that the irrelevance theorem may be sensitive to the

⁷See for example, Givoly and Hayn (1992) and Lukawitz et al. (1992).

⁸See for example, Beaver et al. (1970) and Zavgren (1985).

⁹See for example, Bowman (1980b), Dhaliwal (1986), and Comiskey et al. (1987).

¹⁰According to Hite (1977), leverage and investment and production decisions have interrelated cash flow effects. That is, the total effect of leverage includes not only the change in resource flows caused by a substitution of debt for equity, but also additional resource flows which result from consequent impacts on investment and production levels, which, in turn, affect leverage, and so on.

existence of non-debt corporate tax shields, such as depreciation and investment tax credits. Tax policy which increases or decreases investment-related tax shields may induce changes in corporate leverage ratios (DeAngelo and Masulis 1980). Debt tax shields may be substituted for lost investment-related tax shields, and vice versa. When tax shields are exhausted, increases in debt must be accompanied by increased debt prices to compensate for the lack of a marginal tax advantage. When this occurs, changes in leverage are associated with changes in the relative market values of debt and equity. Capital structure decisions do affect firm value and are therefore relevant.¹¹

In addition, tax policy induced changes in investment may also impact the level of corporate income (Dammon and Senbet 1988). A consequent change in income may generate additional investment changes which require expansion or contraction of capital derived from corporate financial instruments. Investment strategies affect debt capacity, and due to the attractiveness of debt, there may be a tendency for growth opportunities to be debt financed (Arditti and Pinkerton 1978). If so, there would be a positive relationship between growth, the debt to equity ratio, and risk.¹² Thus, finance theory indicates that changes in the tax law may induce increases (decreases) in leverage, but may still positively (negatively) affect investment and future resource flows. That is, investment and leverage decisions may be linked through corporate tax rates and tax law incentives, such as investment tax credits — i.e., investing and financing strategies are not independent.

To measure the strength of these relationships and thereby evaluate the potential impact on share prices, investors must be provided with the separate components of a firm's capital structure, to enable them to properly assess alternative capital sources utilized by the firm. In general, when debt is not excessive, the tax shield provided by interest payments should make it a more attractive financing alternative than equity. When comparing two firms with equivalent productive capac-

ity and risk, the one with the higher leverage ratio should be associated with higher total firm value. Thus, for the typical case, increasing the debt level provides positive signals to market participants.

Capital Structure and Dividends

Another element which MM explicitly and Paton implicitly assumed to be unrelated to financial policy is dividend strategy. In 1961, MM argued that a stock's price is not only independent of its capital structure, but also of its dividends. Accordingly, the price of a share of stock reflects the expected return to stockholders. Since a dividend payment is a distribution of the stockholder's share of company profits, a stock's ex-dividend price should decrease in direct proportion to a dividend payment. This argument relied on the same assumptions which supported MM's irrelevance proposition. Capital structure does not affect the income of the corporation and, hence, the amount distributed to the various suppliers of capital.

Subsequent researchers have countered, stating that dividend policy is directly affected by corporate financial policy. Gordon (1963) argued that the discount rate employed by investors to discount dividend expectations is an increasing function of the firm's growth rate. If growth is linked to leverage decisions, then growth, investment, and dividend policy are functionally interrelated. Because financial policy affects cash flows, it would also affect the firm's ability to pay dividends (Stapleton 1972). Moreover, if tax policy affects leverage and investment, then present and expected tax rates, dividend policy, finan-

¹¹Such effects may be evident following the Tax Reform Act of 1986. Investment incentives were reduced or removed, and debt levels and the incidence of bankruptcy have risen (see Kopche 1989).

¹²Alternatively, agency costs associated with debt financing may induce management to prefer equity financing. Thus, the exact relationship between growth and leverage remains unclear. Nevertheless, a preference for either debt or equity financing would be inconsistent with the Paton/MM indifference assertion. For a comprehensive discussion of capital structure and agency theory, see Harris and Raviv (1991).

cial policy, and investment strategy would interact (King 1974), and thereby impact the cost of capital, and in turn, firm value.

Empirical Support

To date there is no conclusive evidence that such interactive effects do in fact exist, but there are some empirical observations which are consistent with the pro interactive theories. If capital structure is irrelevant, then there should be no observable patterns in debt-to-equity ratios either over time or across industry groups. Moreover, there should be no consistent reactions in terms of debt-to-equity changes in response to changes in factors such as investment and to changes in tax law. Yet, Taggart (1977) found that firms tend to adjust to long-term debt-to-equity targets. McCabe (1979) and Guerard and Stone (1987) observed apparent changes in new debt in response to investment, research activity, and dividend payments. Jalilvand and Harris (1984) determined that the ability of firms to make debt substitutions may be affected by firm size. Additionally, Givoly et al. (1992) documented a positive association between changes in debt-to-equity ratios and tax rate changes. They also observed substitution of debt for lost investment-related tax shields.

These results indicate that corporate financial policy would make a difference to readers of published financial statements. The needs of investors, creditors, and other users would not be met by obscuring the distinction between liabilities and stockholders' equity.

Financial Reporting

The above analysis of financial policy implies that the distinction between debt and equity is important to investor decision-making. Recent analytical and empirical evidence demonstrates that the addition of financial instruments to a firm's capital structure has an impact on firm value. The following financial reporting is suggested by the decision-useful model.

Capital structure theorists, past and present, perceive bondholders and stockholders as suppliers of corporate capital for which

they receive compensation. Bondholders are paid interest. Preferred stockholders receive dividends. Common stockholder compensation is a function of residual corporate income. Models, formulated to support and demonstrate leverage theories, show that interest payments, corporate taxes, and preferred dividends reduce the return to common equity. Claims of preferred stockholders are seen as debt, but subordinate to bondholders.¹³ Because these models portray the impact of leverage decisions on the value of the firm, a consistent accounting model would be useful for investor decision-making.

Exhibit 4 provides financial statements prepared for Theoretical Company under this approach and displays the decision-useful debt-to-equity ratio. The income statement shows income available to cover debt service, then, after subtracting interest and taxes, income available for dividends, and finally income to common stockholders. The retained earnings statement accumulates undistributed earnings for common equity only. The statement of cash flows is similar to the Paton/MM model, except taxes are operating cash flows. Since the bulk of capital structure theory indicates that the amount of debt relative to common equity is important, the right side of the decision-useful balance sheet is divided between debt, including preferred stock, and common equity. Because each type of security has a different claim to corporate assets, the current/noncurrent categories should continue, and the long-term debt should be ordered from senior to subordinate claims.

THE APPROPRIATE REPORTING MODEL

Two opposing models have been explored to shed light on the issue of debt vs. equity. Paton's entity theory proposition was clearly ahead of the development of modern capital

¹³See for example, Merton (1974), Ingersol (1977), and Emanuel (1983). Emanuel argues that in the general case, preferred stock is a form of debt, but that convertible and participating preferred stock is common stock in disguise.

EXHIBIT 4
Decision-Useful Financial Statements
Accounting Equation: Assets = Debt + Common Equity

Theoretical Company Income Statement
For the Year 1992

Sales	100,000
Cost of Sales	<u>55,000</u>
Gross Margin	45,000
Operating Expenses	<u>22,000</u>
Income Before Interest	23,000
Interest Expense	<u>8,000</u>
Income Before Tax	15,000
Income Tax	<u>4,100</u>
Income to Stockholders	10,900
Income to Preferred Stockholders	<u>1,000</u>
Net Income	9,900

Statement of Retained Earnings
For the Year 1992

Beginning Balance	26,200
Net Income	9,900
Dividends	<u>4,000</u>
Ending Balance	33,100

Balance Sheet
December 31, 1992

Assets

Current Assets	89,000
Long-Term Assets	<u>171,000</u>
Total Assets	260,000

Liabilities & Common Equity

Current Liabilities	31,900
Long-Term Liabilities	85,000
Preferred Stock	<u>10,000</u>
Total Liabilities	126,900
Common Stock	100,000
Retained Earnings	<u>33,100</u>
Total Common Equity	<u>133,100</u>
Total Liabilities & Common Equity	260,000

Note: In this model preferred stock is generally considered a part of long-term debt. It is listed separately in this exhibit to highlight its placement.

$$\text{Debt/Equity Ratio} = 126,900 / 133,100 = 0.95$$

structure theory. Yet, it rested upon the presumption that leverage does not impact operating cash flows. Given the mounting body of literature which supports the notion that financing activity does impact the cash flow from operations and vice versa, corporate financial policy does appear to affect firm value. Although this does not invalidate the idea that both bondholders and stockholders supply capital to the firm, it does raise doubts that debt can be viewed in the same light as equity.

Leverage is considered an important indicator of risk. Risk assessment is needed by present and prospective investors to properly evaluate and determine the amount and timing of future cash flows. Hence, accountants should continue to provide readers of financial statements with a means to separately identify the components of debt-to-equity ratios.

Present finance theory depicts capital structure in terms of debt versus common stock. Because debt-to-equity ratios are correlated with market risk, the amount of total debt versus common equity is an important ratio in the eyes of investors. In addition, the consensus in the finance community is that the return to corporate stockholders is income, net of interest and corporate taxes. Because the return to other security holders is also of vital importance, the format of the income statement could be changed to better disclose corporate income available to each capital provider. Thus, the decision-useful model would provide users with the means to assess effects of capital structure on company performance and financial position. Admittedly, the measurement and reporting methods are not perfect, and off-balance sheet financing remains a problem. But, the distinction between debt and equity has information content.

FINANCIAL OPTION CONTRACTS

Given the conclusion that the present sharp distinction between debt and equity should not be eliminated, it is important to determine whether a given financial instrument is debt or equity. According to the DM,

the most fundamental issue raised is: "What characteristics distinguish an enterprise's liability instruments from its equity instruments?" (FASB 1990, par. 56).

Fundamental financial instruments entail one-way transfers of financial assets from one entity to another or the future exchange of financial instruments between entities. Financial instruments that obligate the enterprise to make one-way transfers of financial assets represent debt instruments for which transfer may or may not be conditioned on the occurrence of future events. Examples include trade payables, bonds, and term life insurance. Financial instruments which involve future exchanges comprise conditional exchange contracts, such as financial guarantees and financial option contracts, and financial forward contracts.

Conditional exchange contracts are of particular concern "...because of uncertainty about whether the exchange will be required to take place" (FASB 1990, par. 51). Also, there is a lack of consensus between practice and what some feel to be the economic substance of these contracts. In present practice, financial option contracts which obligate the enterprise to issue its own stock are considered equity. Proponents of this view argue that exercise of an option involves a nonreciprocal transfer wherein the enterprise receives an asset but gives up nothing of value to the enterprise in return (FASB 1990, par. 116). Opponents counter that the obligation is a liability because delivery of the financial instrument occurs on unfavorable terms to the enterprise's preexisting stockholders, and thus to the enterprise itself (FASB 1990, par. 128).

Finance-based research provides valuable insights for determining the economic substance of financial option contracts. Capital structure makes a difference when a given financial instrument impacts firm cash flows. Complex capital structures offer an array of investing choices. Because different types of corporate securities have different tax impacts, complex capital structures afford the investor a variety of tax option strategies (Emery and Gehr 1988). Both individuals and the

corporation may time the recognition of capital gains and losses. The ability to control the amount and timing of tax impacts has value. As a result, complex capital structures may be viewed as bundles of securities, each with its own specific tax options. Since option theory predicts that the value of such a bundle is at least as great as the sum of the individual tax options, complex capital structures in and of themselves have value.¹⁴ This conclusion applies to capital structures comprising straight debt and common equity only and to capital structures containing financial option contracts, such as put and call options written on an enterprise's own stock, and compound financial instruments, such as convertible bonds and puttable common stock.

The tax option argument holds when the return on the financial instrument is not perfectly correlated with common equity. Accountants have traditionally viewed options written on a corporation's own stock as equity because they derive their value from the market price of the stock. Although the option price is a function of expected stock price, its value is also affected by the probability that it will not be exercised. Thus, an option's value is more volatile than the value of the underlying stock. Black and Scholes (1973, 638) describe the market value of the option as a concave function of the market price of the underlying stock. The value of the option is influenced by expectations regarding the stock price less the present value of the exercise price. When the exercise period is long, the value of the option approaches the value of the stock. At the other extreme, the value of the option is equal to the market price of the stock minus the exercise price. Other factors that influence the option price include the risk-free interest rate used to discount the exercise price, dividends paid on the stock, and transaction costs. Merton (1973, 145) shows that the market price of a call option is an increasing function of the interest rate. At the limit, the value of the option would equal the value of the stock. Black (1975, 41) argues that "An option on a stock that pays a dividend is worth less than an option on an identical stock

that pays no dividend." Moreover, the probable date of exercise may be just prior to the ex-dividend date. Finally, the transaction costs for option trades are often lower than the costs of making an equivalent trade in the underlying stock (Black 1973, 61). Taken together, these analyses imply that the return to a financial option contract holder is not perfectly correlated with the return on common stock, and a financial option contract would affect firm value.

Because financial option contracts give the holder the right to exchange financial instruments on specified terms, they may be considered corporate liabilities (Black and Scholes 1973, 648). The corporation may satisfy that liability at any time before exercise by buying the options at the current market price. The option contract entails a contractual obligation of the corporation to deliver financial instruments on potentially unfavorable terms (FASB 1990, par. 114). The actual exercise of an option results in the corporate entity receiving less than it would have received had the stock transaction occurred at its market price. The corporation exchanges equity securities with a given fair value for a financial instrument, cash. Because the corporation could have sold the securities at market value, the securities exchanged represent compensation for the cash received. That is, the equity securities are used in lieu of cash.¹⁵ Therefore, the conditional obligation to issue the stock is essentially the same as a conditional obligation to issue cash, or other assets. The current market price of the option measures the market's perception of the value of the corporation's obligation to deliver equity securities, conditioned upon the probability of exercise. In essence, it measures the enterprise's present liability.

Exercise occurs when the market value of the stock is greater than the exercise price.

¹⁴See for example, Brick and Fisher (1987), Emery and Gehr (1988), and Lewellen and Mauer (1988).

¹⁵Current financial accounting practice already recognizes certain transactions as though stock is issued in lieu of cash. For example, this treatment occurs when stock is issued to acquire assets or services.

Hence, the decision to allow the exercise to occur causes the corporate entity to suffer a loss. The DM calculates the loss in market value per share that results from exercise. This loss reflects an opportunity cost and its consequent effect on the financial performance of the enterprise. It "is financed by diluting the preexisting stockholders' wealth" (FASB 1990, par. 134).

If the options are not exercised, then equity securities are never issued. Therefore, even though the amount of capital received by issuing the options was related to the market price of firm shares, it did not result from the issuance of stock. Although the price of the options, while they were outstanding, fluctuated in response to expectations regarding the eventual price of the stock, and those expectations are a function of enterprise performance, the option holders did not transact business with the enterprise in the role of owner. They gambled that they could earn a profit at the expense of preexisting stockholders and the business entity itself. Moreover, no distributions were made to the option holders at the discretion of owners. That is, option holders were neither entitled to nor did they receive dividends. Thus, the value of financial option contracts is affected by expectations regarding the underlying equity securities, but they do not themselves possess the characteristics of those equity securities. In the decision-useful model, options on an enterprise's own stock would appear as liabilities.

COMPOUND FINANCIAL INSTRUMENTS

A third issue raised by the DM is whether compound financial instruments should be separated into component financial instruments. According to the DM, this issue is relevant when one component is debt and another is equity. However, the results of financial economics analyses indicate that relevant information is lost when the individual financial instruments comprising a compound financial instrument are not separately disclosed, regardless of the nature of each indi-

vidual component. This conclusion is based on research (cited above) which relies upon option pricing theory that evaluates the impact of complex capital structures on firm value.

Multiple classes of securities represent differing competing claims on the firm. Their values are affected differently by management decisions and by changes in the business environment. The market values of the firm's common shares reflect the inherent multiple trading opportunities (Lewellen and Mauer 1988, 389). For the investor, this means that each and every element in the capital structure mix has decision-usefulness and that the distinction between debt and equity and between fundamental financial instruments is important.

Because a compound financial instrument comprises two or more fundamental financial instruments and each fundamental financial instrument represents a different tax option, its value reflects the composite value of each available option, which, in turn, impacts the market value of the firm. Therefore, even though two or more fundamental financial instruments which comprise a given compound financial instrument may be liabilities, disclosure of the value and status of each fundamental financial instrument has information content.

For example, convertible preferred stock comprises two fundamental financial instruments — straight debt and the option to convert. Both would qualify as liabilities under the decision-useful model. Nevertheless, since each has a unique impact on firm value, each should be afforded separate disclosure.

CONCLUDING REMARKS

It is vital that analysts be able to assess how each element of a corporation's capital structure may affect firm value, given present and proposed tax legislation and the general economic environment. Published financial statements are intended to enable each type of interested reader — investors, creditors and other users — to assess the impact of firm cash flows on the wealth of owners of individual types of securities. The investor in each type

of corporate security should be able to assess how firm investment and financial decisions will affect return on investment.

The consensus in the financial economics literature is that the amount of debt included in a firm's capital structure is correlated with risk. Leverage does affect future cash flows which, in turn, impact firm value. Debt versus equity is relevant. Hence, the current sharp distinction between debt and equity should be continued.

In addition, the total value of the firm is affected by the particular combination of alternate forms of debt financing utilized. Bonds, stocks, and other financial instruments

are traded separately. Each conveys a unique legal claim to assets of the enterprise. Furthermore, fundamental financial instruments provide valuable options with individual characteristics and cash flow impacts, even when combined with other financial instruments. Therefore, it would be difficult for a prospective investor to value a given security without having information regarding other securities with senior or subordinate claims. To properly evaluate a firm's future cash flows, investors, creditors, and other users should be given information regarding the nature of each fundamental element of a firm's capital structure.

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