Topics In Finance
Part IV—Valuation

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ABSTRACT

This article looks at security valuation from the perspective of the financial manager, accenting the relationships to stockholder wealth maximization (SWM), risk and return, and potential agency problems. It also covers some of the pertinent literature related to how investors and creditors price the stocks and bonds of corporations.

Keywords: Stock valuation, Bond valuation, Financial instruments, Financial management

INTRODUCTION

In the spirit of aiding students in the introductory corporate finance course to connect valuation models and their associated measurement issues to wealth maximization, the risk-return relationship, and ethical challenges, the current article first revisits the models for valuing bonds and stocks. It then discusses some of the challenges to those theoretical models appearing in the literature and offers some candid advice for the financial manager. Questions addressed include the following:

- How are debt and equity securities valued, in theory? What contractual features pertain, and how do these influence valuation?
- Do investors play by the theoretical rules?
- On which ratios and measures should financial managers focus to enhance valuation?
- Do accounting choices, disclosure, or transparency matter?
- Do external analysts influence valuation?
- What role, if any, does information asymmetry play?
- Does timing matter? Is there a best time to issue debt or equity?
- How important are bond ratings (and changes in them)?
- Can wealth transfers among stakeholders occur?
- Does managerial risk taking or avoidance play a role in the valuation of stocks and bonds?
- Do misinformation and valuation errors really matter?

The valuation of stocks and bonds, while modeled simply in the beginning managerial finance course, poses a variety of challenges to the financial manager, as demonstrated in the following sections.

THEORETICAL AND CONCEPTUAL FOUNDATIONS FOR VALUING FINANCIAL INSTRUMENTS

To maximize stockholder wealth, managers must comprehend the mechanics and idiosyncrasies of valuation—how present and potential owners and creditors value the firm's stocks and bonds, as well as how market conditions and participants can influence that process. The mechanics illustrated in managerial finance textbooks provide a theoretical model for valuing bonds and stocks. Bond valuation models accent discounted cash flows, setting the price of a bond at the present value of the cash flow promises (semiannual interest payments and face value at maturity), using the market rate of return (the investors'—bond buyers'—required rate of return, in the aggregate). Common stock valuation models include a clear preference for the dividend discount model, and typically textbooks at least mention the price-earnings ratio approach. Both models rely on comparison to the stocks of other companies considered to be comparable in some way. In the first case, the discount rate at which future cash flows will be

reduced to present value (the price) relates to the risk class of the stock; in short, all securities in the same risk class should be priced to generate the same expected return. In the P/E approach, investors look at the earnings per share of a company and, based on their optimism about the company in comparison to its competitors, determine the price they should pay. Excellent coverage of valuing preferred stock appears in Miller [2007].

Drawbacks exist to the models above. First they relate only to the simplest of debt and equity instruments and fail to address the myriad features that might apply, such as convertibility and call features. Convertibility adds value for the investor, raising the price and lowering the cost to the company; the call feature, which confers on the company the right to buy back the security, has the opposite effect. The textbook coverage of valuing such properties is scant, however. As the marketplace continues to invent increasingly esoteric financial instruments, valuation—even in theory—becomes more and more problematic. In "Back-Door Equity Financing: Citigroup's $7.5 Billion Mandatory Convertible Issue," Arzac offers good coverage of why firms might issue mandatory convertibles ("to obtain equity financing on a deferred basis while reducing the negative price reaction typically associated with common stock offerings," pp. 136-37), how difficult they are to value, and the potential costs associated with such offerings. In addition, contrary to what the textbooks teach, professional investors value stocks differently. In a survey of 43 professional investors, Dukes, Peng, and English [2006] find that "practitioners commonly use multiple valuation techniques but rely heavily on multiplier approaches and on techniques that estimate expected returns rather than discounted cash flow models…in stark contrast to the techniques advocated in the academic environment" (p. 90). Finally, while these economic models rely primarily on discounted cash flows, the time value of money, and the risk and return connection, real-world inspections suggest that complexities interfere with that conceptual view. While risk and return are positively related, in general, arbitrage does not occur instantaneously to correct mispricing; both traditional and contrarian strategists claim above-average risk-adjusted returns; and behavioral finance is the new kid on the block. Overreaction, representativeness, anchoring, conservatism, noise trading, contagion theory, herding behavior, and a number of other valuation "ailments" conspire to interfere with the beauty of the purist valuation models. A number of these appear in the literature and are discussed in the next section.

CHALLENGES TO THE THEORETICAL VALUATION MODELS

A number of studies investigate the propensity of investors to color outside the lines, eschewing the fundamental trade-off between risk and return in valuing stocks and bonds. In their 1990 study, De Long et al. address the volatility associated with noise traders, those irrational, uninformed, uneducated, non-diversifying investors who create risk and obtain higher returns from doing so. Economists ignore these malcontents, theorizing that arbitrageurs take care of them, driving prices to their fundamental values, and that noise traders will lose money and die out. The authors, however, argue that arbitrageurs have short time horizons, are risk averse, and have little willingness to take positions against noise traders, in part because they don't know how long it will be before the prices revert to their fundamental values. Thus, noise traders are able to disrupt valuation. In a similar vein, Baker and Wurgler [2007] contend that arbitrageurs are not effective at keeping markets efficient. This article offers good insight on investor sentiment, including a number of sentiment proxies used in the literature. De Bondt [1993] chides the "non-experts" because they "… expect the continuation of apparent past 'trends' in prices. Thus, they are optimistic in bull markets and pessimistic in bear markets..." (p. 355). Investors bet on trends, using "anchoring-and-adjustment" and hedging, in short, exacerbating market inefficiencies. Lakonishok, Shleifer, and Vishny [1994] contend that value strategies ("buying stocks that have low prices relative to earnings, dividends, book assets, or other measures of fundamental value") "yield higher returns because these strategies exploit the suboptimal behavior of the typical investor…not because these strategies are fundamentally riskier" (p. 1541). Investors consistently overestimate the future growth rates of glamour stocks (past winners) relative to value stocks, and institutional investors choose glamour stocks because they appear "prudent," safer and not likely to run into financial problems (p. 1576), again driving up prices and generating unjustified returns.

Barberis, Shleifer, and Vishny [1998] look at investor sentiment using a psychological-based model to explain under-reaction to earnings per share announcements and overreaction to good and bad news. They find under-reaction in the short run but overreaction in the long run, so that prices get inflated, though valuations return to the mean (p. 308). This opens the door for superior returns. The behavioral explanations include representativeness (the tendency to "view events as typical or representative of some specific class and to ignore the laws of probability,"

p. 308) and conservatism ("slow updating of models in the face of new evidence," p. 309).

Still, many studies tout the ability of financial statement information to enable accurate valuation of stocks and bonds, a body of literature much too extensive to cite here. Nissim and Penman [2001] use just three common measures—sales, asset turnover, and financial leverage—to predict future equity payoffs. In his attempt to examine whether financial statement analysis can generate excess returns, Mohanram [2005] generates a "GSCORE" to separate winners from losers, based on book-to-market (BM) ratios, finding that a short strategy based on portfolios formed with low GSCORE firms could be very profitable. The author gives a great (and brief) review of the BM effect, fundamental analysis, and growth/conservatism literature (pp. 135-37). The literature abounds with studies suggesting that analysts rely on a number of financial ratios that, empirically, demonstrate relationships with earnings and returns and are used as signals to drive investment postures. The measures and ratios Mohanram [pp. 138-40] believes hold meaning for investors in valuing stocks include the following: Return on assets (both cash-based and income-based), earnings and variability in earnings, cash flows from operations, stability of growth, and conservative accounting choices (such as expensing research and development, capital expenditures, and advertising). Obviously, for this author, accounting choices matter in valuation. Mohanram concludes that "the stock market does not understand the hidden reserves caused by conservative accounting for items such as R&D and advertising, which leads to excess returns in the future" (p. 137), yet another mark against the power of theoretical valuation models.

Three articles investigate the role of analysts and their forecasts in asset pricing, finding potential obstacles to accurate valuation. In "The Relation between Corporate Financing Activities, Analysts' Forecasts and Stock Returns," Bradshaw, Richardson, and Sloan [2006] find that financing activities demonstrate a negative relationship to both future stock returns and future profitability. They believe that analysts are too optimistic in their forecasts, leading to overvaluation and spurring firms to seek external financing to "exploit the temporary misvaluation of their securities in capital markets" (p. 55). Chang, Dasgupta, and Hilary [2006] claim that managers issue equity when they view shares as overvalued, a tactic that requires information asymmetry to succeed. Thus firms that are more susceptible to information asymmetry (i.e., those with little analyst coverage) are more likely to time the market and to issue more equity (pp. 3010-11). "Do Analysts Influence Corporate Financing and Investment?" Doukas, Kim and Pantzalis [2008] answer the question in the affirmative. They find that "firms with high…analyst coverage consistently engage in higher…external financing [and] firms with excessive analyst coverage overinvest and realize lower future returns" (p. 303). The authors contend that analysts tend to follow firms with the greatest potential to generate investment banking business, setting in motion the following chain reaction. When analysts cover a firm more extensively, this enhances the credibility and affects investment decisions by making investors "feel that they know more about a firm than they actually do, thus developing a sense of overconfidence about that firm's prospects" (p. 306). The end result is overvaluation.

Is there a "best time" to issue equity? Empirical studies indicate that managers take advantage of the overvaluation just discussed, offering relatively more equity just before market returns decline. Baker and Wurgler [2000] sum it up: "In terms of sheer univariate predictive power, the equity share in new issues is a stronger predictor of one-year-ahead returns than the dividend-to-price ratio or the book-to-market ratio" (p. 2220). No efficient market explanations are acceptable; "managerial timing of an inefficient equity market is the most credible explanation of our results" (p. 2221). Similarly, one could ask, "Is there a best time to issue debt?" Kliger and Sarig [2000] examine price reactions to a refinement of the Moody's bond rating system (which included no fundamental changes in the issuers' risks, required no announcement, and was enforced for all simultaneously). They found that, when Moody's announces better-than-expected ratings, debt values rise, while equity values fall. Wealth is transferred from stockholders to bondholders, although the overall firm value remains unchanged (p. 2881).

The potential for wealth transfer lies at the core of two studies that investigate the risk postures of managers and the possible effects on financing decisions. In their 1990 work, "The Effect of Executive Stock Option Plans on Stockholders and Bondholders," DeFusco, Johnson, and Zorn find: "Executive stock option plans have asymmetric payoffs that could induce managers to take on more risk" (p. 617). After the approval of an executive stock option plan, stock return variance increases, "accompanied by a significant positive stock and a negative bond market reaction" (p. 617). Thus they find support for the proposition that executive stock options might lead to wealth transfers from bondholders to stockholders. According to Ortiz-Molina [2006], bondholders are wise to the danger of such transfers and price new debt issues "using the information about a firm's future risk choices contained in

managerial incentive structures" (p. 317). Bond investors adjust their required yields upward for both managerial stock ownership and stock options, viewing the latter as instilling in managers more risk-taking behavior and requiring significantly higher yield spreads as compensation.

Managers, too, play games to disguise risk in an attempt to contain the cost of debt. Gramlich, McAnally, and Thomas [2001] and Gramlich, Mayew, and McAnally [2006] study the effects of debt reclassification on the capital markets. In the first, the authors "document that firms use the flexibility afforded by SFAS 6 ["Classification of Obligations Expected to Be Refinanced"] to smooth key liquidity and leverage ratios toward both industry benchmarks and prior-year levels" (as summarize in the 2006 work, p. 1189). The subsequent study reveals that "reclassification increases the likelihood of a subsequent debt-rating downgrade… that market value decreases with increases in the amount reclassified, and that equity value is higher after firms cease reclassifying short-term obligations as long-term debt" (p. 1189). They levy the following, rather damning, charges:

[S]ome of the motivation is apparently driven by the desire to portray the firm as healthier than it actually is. We provide empirical evidence economically linking firms' debt classification decisions to stakeholder wealth. …The evidence indicates that firms with lower leverage, current ratio, and operating cash flows more frequently reclassify short-term debt as long-term. This suggests that managers reclassify to obscure the firm's true financial condition… (p. 1190)

Once again, accounting choices, disclosure, and transparency matter in the valuation game.

So, why should we be concerned that analysts, investors, and managers take measures to distort economic reality? Isn't that just a natural outcome of the profit-seeking and shareholder wealth maximization motives? Michael Jensen, in his keynote address to the 2002 European Financial Management Association meetings, captures much of the essence in some of the subheadings to the address: "The current malaise in corporate finance;" "Paying people to lie;" "Managerial heroin and the agency costs of overvalued equity;" "Analysts, managers and the earnings management game" [Jensen, 2004]. When firms become seriously overvalued, managers cannot meet the expectations in the long run. The house of cards builds through the following sequence of events. Cheap equity (and debt, in short, below-market cost of capital) generates easy credit, over spending, wealthy managers, favorable media, easy hiring, and cheap equity to make acquisitions. These good times always come to an end, and firms that really do have some value (albeit, value that lies far below that attributed to them by the market) end up failing, culminating in more losers than winners, as value is destroyed. He warns, "Get this: the market *will* find out that you are overvalued. That is predetermined." He then advises managers of seriously overvalued firms to "manage the price" down. In the end, however, he recognizes that "asking managers and boards to voluntarily make such decisions to incur costs now to avoid larger costs in the future, flies in the face of everything we now know about human beings" (p. 562). The later article describes Jensen's clear distain for earnings management:

[W]hen managers smooth earnings to meet market projections, they are not creating value for the firm; they are both lying and making poor decisions that destroy value. …[W]hen numbers are manipulated to tell the markets what they want to hear (or what managers want them to hear) rather than the true status of the firm—it is lying, and when real operating decisions that would maximize value are compromised to meet market expectations real long-term value is being destroyed. [Jensen, 2005, p. 8]

So we have come full circle. The theories do not hold, but even if they did, the various players would shackle these valuation models in their efforts to dupe the competition. What is a financial manager to do? The following section offers some guidelines.

THE BOTTOM LINE—ADVICE FOR THE FINANCIAL MANAGER

If the financial manager wishes to maximize long-run value, sage advice might include the following:

- Smooth earnings when appropriate, without violating GAAP or creating fictitious reserves. But allow earnings to fluctuate if the underlying economics indicate variability exists. Then be willing both to offer an explanation and, if necessary, suffer the short-term consequences.

- Be transparent; fess up; don't let the world believe businesses can be run without surprises.
- Track your firm's free cash flows and economic value added; don't be guilty of making investments that earn less than the true economic weighted average cost of capital; pay dividends or buy back stock, if necessary.
- Time security issuance, but beware of wealth transfers; they will catch up with you (future bond buyers and investors will get even, driving up the long-run cost of capital and driving down long-run firm value).

Each of these recommendations poses a real challenge to the financial manager. In the aggregate, they represent a difficult path to follow. But, we all know, the journey of a thousand miles begins with a single step. This truism does not just relate to the good journeys. It applies equally well to the path to self-destruction.

THIS SERIES CONTINUES

The current article has presented some of the theory and literature related to valuation, with explicit connections to stockholder wealth maximization, risk and return, and managerial (and market participants') behavior. The next article in the series will address capital structure, investigating these same aspects as the financial manager tackles the question of how to finance the assets of the firm.

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