



Financing decisions: who issues stock? ☆

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Abstract

Financing decisions seem to violate the central predictions of the pecking order model about how often and under what circumstances firms issue equity. Specifically, most firms issue or retire equity each year, and the issues are on average large and not typically done by firms under duress. We estimate that during 1973–2002, the year-by-year equity decisions of more than half of our sample firms violate the pecking order.

Introduction

The modern corporate finance literature focuses on two competing models to explain the financing decisions of firms. In the tradeoff model, firms identify optimal leverage by weighing the costs and benefits of an additional dollar of debt. The benefits of debt include, for example, the tax deductibility of interest and the reduction of free-cash-flow agency problems. The costs of debt include potential bankruptcy costs and agency conflicts between stockholders and bondholders. At the leverage optimum, the benefit of the last dollar of debt just offsets the cost.

Myers (1984) advocates an alternative theory, the pecking order model. The pecking order arises if the costs of issuing risky securities—transactions costs and especially the costs created by management's superior information about the value of the firm's risky securities—overwhelm the costs and benefits proposed by the tradeoff model. The costs of issuing risky securities spawn the pecking order: firms finance new investments first with retained earnings, then with safe debt, then risky debt, and finally, but only under duress, with outside equity.

The pecking order sequence for financing decisions leads to a prediction about capital structures. Specifically, variation in a firm's leverage is driven not by the tradeoff model's costs and benefits of debt or equity, but more simply, by the firm's financing deficit (dividends plus investment outlays minus earnings). Quoting Myers (1984), "The crucial difference between this and the static tradeoff story is that, in the

modified pecking order story, observed debt ratios will reflect the cumulative requirement for external financing—a requirement cumulated over an extended period”.

In short, Myers (1984) presents the pecking order model as a theory both about how firms finance themselves and about the capital structures that result from pecking order financing. Subsequent tests of the model follow these two routes. For example, Shyam-Sunder and Myers (1999), Fama and French (2002), and Frank and Goyal (2003) test the model's predictions about the securities firms issue to cover financing deficits, while Titman and Wessels (1988), Rajan and Zingales (1995), Shyam-Sunder and Myers (1999), Fama and French (2002), and Huang and Song (2003) test the model's predictions about capital structures.

This earlier work mainly uses cross-section regressions to test the pecking order model. Cross-section regressions measure average responses of financing decisions and capital structures to variables such as growth and profitability (the ingredients of the financing deficit). But average responses may conceal important details relevant for judging the model. We take a more direct approach. We test pecking order predictions about financing decisions by examining how often and under what circumstances firms issue and repurchase equity. We uncover what seem to be pervasive contradictions of the model.

The first important result is striking evidence against the pecking order prediction that firms rarely issue stock. As motivation for the pecking order, Myers (1984) emphasizes that aggregate net new issues of equity are small relative to net new debt. It is also well-known that seasoned equity offerings (SEOs) are rare. But the aggregate level of equity financing and the scarcity of SEOs are misleading. In addition to SEOs, firms issue equity in mergers and through private placements, convertible debt, warrants, direct purchase plans, rights issues, and employee options, grants, and benefit plans. During 1973 to 1982, on average 67% of our sample firms issue some equity each year, and the proportion rises to 74% for 1983 to 1992 and 86% for 1993 to 2002. During much of the sample period, however, repurchases by some firms offset the equity issues of others, and aggregate annual net new equity is small. This result, along with the low frequency of SEOs, leads to the misleading impression that new issues of stock are rare.

In fact, most firms issue, repurchase, or do both every year. And our examination of the firms that issue or retire equity shows that equity decisions often violate the pecking order. Thus, equity issuers are not typically under duress; net issues are common among firms with moderate leverage and financing surpluses (earnings exceed the sum of dividends and investment). Also in violation of the pecking order, repurchases are not limited to firms with low demand for outside financing; many firms with financing deficits repurchase stock. We estimate that during 1973 to 2002, the year-by-year equity decisions of more than half of our sample firms contradict the pecking order.

Moreover, annual net issues of equity are material. For example, on average 61.5% of small firms (total assets below the NYSE median) make net issues of stock each year from 1983 to 1992, and the average rises to 73.7% for 1993 to 2002. These annual net stock issues average 6.0% of assets during 1983 to 1992 and 12.6% for 1993 to 2002, both larger than the annual net new debt of these firms, which averages 5.2% and 6.4% of assets for the two periods. On average 66.5% of big firms make net stock issues each year of the 1993 to 2002 period, and their net equity issues are about the same magnitude, 7.5% of assets, as their net issues of debt, 7.9%.

The fact that equity issues and repurchases are commonplace and commonly not in line with the pecking order seems like a telling blow to the argument of Myers (1984) and Myers and Majluf (1984) that asymmetric information problems drive the capital structures of firms. Myers (1984) and Myers and Majluf (1984) do not allow for equity issues that do not have an asymmetric information problem. One story for our results is that there are important ways to issue equity that avoid this problem. If so, the pecking order, as

the stand-alone model of capital structure proposed by Myers (1984), is dead: financing with equity is not a last resort, and asymmetric information problems are not the sole (or perhaps even an important) determinant of capital structures. This does not mean the asymmetric information problem disappears. But its implications become quite limited: firms do not follow the pecking order in financing decisions; they simply avoid issuing equity in ways that involve asymmetric information problems.

Our measure of equity issues is all encompassing, including any transaction that increases the number of (split-adjusted) shares outstanding. This leads some readers to argue that our results say nothing about the pecking order because we include stock issues that do not have asymmetric information problems. But again, the pecking order is proposed by Myers (1984) and Myers and Majluf (1984) as a complete model of capital structures, so our broad measure of equity issues is relevant for analyzing its predictions about how capital structures are determined. For example, issues of stock to employees via options and grants play a big role in our results on the frequency of equity issues. Stock issues to employees may not have an asymmetric information problem. A firm nevertheless alters its capital structure when it compensates employees with stock instead of cash—and chooses not to offset the stock issues with repurchases. In short, if the pecking order model can only handle ways of issuing equity that involve large asymmetric information problems, it is not a model of capital structure.

The breakdown of the pecking order does not require that equity can be issued with minor asymmetric information problems. Anything that produces the result that equity is not a last resort will do. For example, agency problems may sometimes lead managers to ignore the costs of issuing equity (Jung et al., 1996). It is also likely that some equity issues have benefits that outweigh their costs, i.e., tradeoff effects. For example, getting stock in a merger can have tax benefits for shareholders of the acquired firm that lead them to accept a lower price for their shares. Similarly, stock issued to employees may have motivation benefits that outweigh any asymmetric information costs. The important point is that any forces that cause firms to deviate systematically from pecking order financing (retained earnings, then debt, and equity only as a last resort) imply that the pecking order model, on its own, cannot explain capital structures.

Our story proceeds as follows. Section 2 outlines the pecking order model. Section 3 documents how the profitability and growth characteristics of firms, which are important for understanding financing decisions, change through time. Our main empirical results are in 4 The market, 5 Who issues stock?, 6 How do firms issue equity?. The theme of these sections is that violations of the pecking order become more evident when financing decisions are examined at more disaggregated levels. Section 4 examines financing decisions at the level of the market, where we find little evidence against the pecking order model, except later in the sample period. Section 5, the paper's centerpiece, disaggregates firms into 12 groups formed on size, profitability, and growth, and examines in detail how equity issuers in the 12 groups differ from repurchasers. Here we find widespread evidence of pecking order violations. Section 6 provides evidence on the mechanisms firms use to issue equity. The concluding section discusses the implications of our findings.

Section snippets

The pecking order model

Myers (1984) uses Myers and Majluf (1984) to motivate the pecking order. In Myers and Majluf (1984), managers use private information to issue risky securities when they are overpriced. Investors are aware of this asymmetric information problem, and the prices of risky securities fall when new issues are announced.

Managers anticipate the price declines, and may forego profitable investments if they must be financed with risky securities. To avoid this distortion of investment decisions,...

The characteristics of sample firms

The profitability and growth characteristics of firms are central in evaluating their financing decisions. Thus, we begin the empirical work with a brief description of the changing characteristics of listed firms. The data are from CRSP and Compustat, the period is 1973 to 2002 (when Compustat's coverage of listed firms is fairly complete), and the sample includes NYSE, AMEX, and Nasdaq firms. We exclude financial firms and utilities. Financial intermediaries do not seem relevant for testing...

The market

Table 2 summarizes the aggregate financing decisions of all sample firms, the market. The variables in Table 2 (and in later tables) are ratios, and the denominator is total assets. Specifically, the variables are book leverage (total liabilities over total assets, L/A), the market-to-book ratio for total assets (V/A , a proxy for Tobin's Q), profitability (E/A), asset growth (dA/A), net debt issues (dL/A), the change in balance sheet retained earnings (dRE/A), and two measures of net equity...

Who issues stock?

In the pecking order model, transactions costs and asymmetric information problems lead firms to finance first with internal funds and then with debt. Equity is issued only under duress or when investment so far exceeds earnings that financing with debt would produce excessive leverage. Since pecking order predictions about when firms issue equity are the lynchpin of the model, this section examines the evidence in detail...

How do firms issue equity?

The results above raise an obvious question: given that most firms issue some equity every year, what mechanisms do they use? We offer two types of evidence, (i) incomplete results for all sample firms for 1983 to 2002, and (ii) complete results for a sample of big firms (the S&P 100) for three years....

Discussion and conclusions

The presumption of the pecking order model of Myers (1984) and Myers and Majluf (1984) is that the costs of issuing equity—transactions costs and especially the costs arising from asymmetric information problems—are high. This is what gives rise to the pecking order itself. Specifically, because the costs of issuing equity are high, investments are financed first with retained earnings, then debt, and with equity only as a last resort. Because debt capacity is valuable for avoiding the costs of ...

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